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Knowledge and Attitude towards Contraceptive Use among Female University Students in a Higher Institution in Northern Mindanao, Philippines

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ABSTRACT

Background: The rate of unwanted pregnancies among university students is increasing each year, despite extensive public awareness of and access to contraceptives. The study is centered on women since, historically, when it comes to contraception, women have borne a disproportionate share of the burden, and if birth control fails to work, their bodies will be the ones to bear the consequences. **Objective:** The objective of this study is to assess the knowledge and attitude of female undergraduate students of a higher institution in Northern Mindanao, Philippines, towards contraceptive use. The results of the study may be utilized as a guide to formulate effective health education strategies for university health nurses for this vulnerable population. **Methods:** A quantitative correlational design was used in this study, which utilized Google Forms to collect data from four hundred fourteen (414) respondents selected through purposive sampling at a higher education institution. The researchers utilized a researcher-made questionnaire to assess general awareness, knowledge, and attitude toward contraceptive use. **Results:** The study revealed that most of the respondents are generally aware of the proper usage of contraceptives, highly knowledgeable, and have a positive attitude towards contraceptive use. Most of the respondents obtained this knowledge from media sources. Apart from the relationship status, other demographic factors have no significant correlation with the knowledge and attitude towards contraception of the respondents. Notably, results show that there is a significant relationship between knowledge and attitude towards contraceptive use among undergraduate female students. **Conclusion:** The research indicates that a knowledge-rich community can have an impact on attitudes toward contraceptive use. The researchers recommend extensive and comprehensive sexual education programs in academic institutions to address this reproductive health concern among university students.

Keywords: Birth Control; Contraceptive Use; Female; Safe Sex

INTRODUCTION

The Philippine government is aligned with the United Nations in its global commitment to the 2030 Agenda and 17 Sustainable Development Goals, in particular SDG 3, "Good Health and Well-being," which aims to reduce global mortality rates and ensure overall well-being for all through universal access to sexual and reproductive healthcare services. Efforts to achieve these goals through the Department of Health (DOH) have been exhausted, and measures have been implemented through different health programs. Despite all the efforts, a study by the Commission on Population and Development showed that the Philippines has the second-highest adolescent birth rate in Southeast Asia. Furthermore, only 43 percent of young women aged 15 to 24 have a broad knowledge of contraception (Songco, 2023).

The Philippines is a nation that promotes chasteness before marriage (Reyes, 2022). But even if premarital sex is an unacceptable norm in society, it is still commonly practiced (Kim, Huh, & Yoo, 2023). According to

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the results of the Young Adult Fertility and Sexuality study, 32% of Filipinos aged 15–24 have already engaged in premarital sexual activity (Demographic Research and Development Foundation, 2023). Among the 17 regions of the Philippines, Northern Mindanao had the highest percentage of women aged 15 to 19 who have ever been pregnant (National Demographic and Health Survey, 2023). The locale of this study is a university located in Northern Mindanao, Philippines.

Despite the widespread awareness of and access to contraceptives in the general population, the global rate of unintended pregnancies among university students continues to climb each year. This alarming trend underscores the need for a deeper examination of the issue (Gbagbo & Nkrumah, 2019; Hayudanti *et al*., 2022). Globally, female university students fall under the population that is prone to neglected sexual risk behavior, which can result in unplanned pregnancies and other sexually transmitted diseases (STIs), both of which are pressing public health concerns that must be urgently addressed (Ashari, 2021; Diana & Veronica, 2022; Marwiyah, 2020). With the abundance of information on contraception available for women of childbearing age, there still seems to be an be an inadequacy of this information in higher institutions (Bertotti, Mann, & Miner, 2021), a gap that the current study aimed to fill. It is crucial to highlight that nurses in school settings can aid in developing and implementing sex education programs (Jonas *et al*., 2019). But even if adolescents can access contraceptives, they might not have the authorization or financial means to do so, as well as the awareness needed to locate them and use them properly (Habito *et al*., 2024). However, it is important to note that men do not share equal responsibility for the consequences of unwanted pregnancies, despite having equal responsibility for preventing them. Historically, the physical and emotional consequences are often shouldered by women (Bado, Badolo, & Zoma, 2020).

The primary objective of this study was to gain a deeper insight into the knowledge and attitudes regarding contraceptive use that are contributing to the rising rates of unintended pregnancies among university female students. The findings of this study will contribute to the development of health education initiatives led by university health nurses. The factors and variables identified in this research can serve as a valuable resource for enhancing awareness among women in this demographic. Identifying the variables that contribute to female university students' lack of knowledge about contraceptive use can help create a roadmap for increasing awareness and knowledge among women. This knowledge can empower women to make informed decisions about their reproductive health. In particular, this study aimed to explore various facets of undergraduate female students' perceptions and awareness of contraceptive methods. First, identify the socio-demographic characteristics of the respondents and their general awareness of contraceptives. Secondly, the knowledge held by undergraduate female students toward contraceptive use. Finally, to determine any significant relationships between the respondents' sociodemographic profiles of these students and their knowledge about contraceptive use and their attitudes regarding contraceptive use, Lastly, this research endeavors to determine the significant relationship between knowledge and attitude towards contraceptive use. Most of the participants in our study have education up to college or university level. The analysis of the result generated a strong statistically significant association between knowledge on contraception and the level of education among women (Nachimuthu, Devi, & Karunanithi, 2022).

METHODOLOGY

A quantitative correlational design was used in this study. The independent variables are the sociodemographic factors such as: age, family residence, religion, educational year level, relationship status, family size, family income, and family structure. Dependent variables include knowledge and attitude toward contraceptive use among female undergraduate university students in MSU-IIT. Relationships between and among the multitude of elements were sought and understood in this type of design. This study also identified trends and patterns in data, but it did not go so far as to show causation for these observed patterns in its analysis.

The respondents are the female undergraduate MSU-IIT students enrolled in the first semester of SY 2022-2023. The duration of data collection was from January to March 2023. The total number of respondents were 414 female university students. The instrument utilized was a researcher-made questionnaire containing four parts which are: the socio-demographic characteristics of the respondents; their general awareness of contraception such as basic information and sources of information; knowledge of contraceptive methods and; the attitude affecting the preferences on contraceptive use/methods, such as fear of complications, ease of use,

wide availability, cost, husband/partner decision, dislike of foreign body, medically safe, high effectiveness, long duration of action, other demographic factors and economic factors. Internal consistency was assessed with the result of Cronbach alpha 0.869, indicating the results from the pilot testing were acceptable. Furthermore, content validity testing by Maternal and Child Nursing experts to assess whether each question targets the characteristics that the instrument is designed to cover.

Online questionnaires were distributed to bonafide female undergraduate university students of MSU-IIT selected through purposive sampling. Survey questionnaires were sent to email addresses through google forms and responses were organized using Microsoft Excel. Collected data was then consolidated and analyzed for interpretation and analysis. The data were analyzed using SPSS v20. Statistical treatment such as Descriptive analysis on the frequency and percentage of responses per variable and Kendall's Tau to identify the correlation between the socio-demographic factors of the respondents and their knowledge and attitude towards contraceptive use. Moreover, Pearson Correlation was used to find a significant relationship between the knowledge and attitude of the respondent towards contraceptive use.

Ethical Consideration

This study received ethical approval from MSU-IIT, College of Health Sciences, Philippines with Reference No. CHS-2023-03 and Code No. E-2023-03 on 13th February, 2023.

RESULTS

Table 1 provides comprehensive information about the respondents, encompassing their biological information, socioeconomic status and family profile.

Table 1: Sociodemographic Profile of the Respondents

Age	**Frequency**	**Percentage**
21-23 years old	286	69.10%
18-20 years old	123	29.7
24-26 years old	5	1.20%
Family Residence Urban	266	64.30%
Rural	148	35.70%
Religion		
Roman Catholic	276	66.70%
Islam	56	13.50%
Born Again Christian	22	5.30%
Others	45	10.90%
Educational Year Level		
Fourth Year	193	46.60%
Second Year	103	24.90%
Third Year	94	22.70%
First Year	24	5.80%
Relationship Status Single	295	71.30%
In a Relationship	116	28.00%
Married	3	0.70%
Monthly Combined Family Income		
Php 10,001-40,000	219	52.90%
Less than Php10,000	89	21.50%
Php 40,001_50,000	70	16.90%
> Php 70,000	36	8.70%

Family Size		
4-5 members	263	20.80%
6-7 members	104	63.50%
> 7 members	102	24.60%
2-3 members	49	11.90%
Family Structure Nuclear	272	65.70%
Extended	87	21.00%
Single Parent	39	9.40%
Others (Blended, Foster)	16	3.90%
TOTAL	414	100%

Table 2 shows the respondents' general awareness of contraceptive use. The overall interpretation of respondents' perceptions of contraceptive use is affirmative, indicating awareness of proper usage. Most respondents are familiar with contraception, primarily gaining information from sources like journals, articles, the Internet, and classmates. The respondents, mainly, display a general awareness of contraceptive use, with an overall mean of 1.23 and a standard deviation of 0.320. The low standard deviation means that the responses of the respondents are closely grouped together and somewhat consistent.

Table 2: General Awareness on the Use of Contraceptives

Indicators	Mean	SD	Verbal Interpretation	Mean Score
Have you ever heard of contraception?	1.03	0.168	Yes	1
Have you obtained information about sex and contraception from the following? (i.e., journals, articles)	1.16	0.369	Yes	1
Have you obtained information about sex and contraception from the following? (i.e., Newspaper and Magazines)	1.48	0.500	No	0
Have you obtained information about sex and contraception from the following? (i.e., Internet)	1.01	0.098	Yes	1
Have you obtained information about sex and contraception from the following? (i.e., Radio and TV)	1.26	0.438	No	0
Have you obtained information about sex and contraception from the following? (Classmates and Friends)	1.06	0.238	Yes	1
Have you obtained information about sex and contraception from the following? (i.e., Course education)	1.21	0.406	Yes	1
Have you obtained information about sex and contraception from the following? (i.e., Family)	1.43	0.496	No	0
Have you obtained information about sex and contraception from the following? (i.e., medical health provider)	1.35	0.478	No	0
Have you obtained information about sex and contraception from the following? (i.e., Lectures and Academic)	1.26	0.437	No	0
Have you obtained information about sex and contraception from the following? (i.e., social media)	1.02	0.138	Yes	1
Have you heard of the following modern contraceptives? [Condoms]	1.00	0.000	Yes	1
Have you heard of the following modern contraceptives? [Pills]	1.00	0.049	Yes	1
Have you heard of the following modern contraceptives? [Injectable]	1.35	0.478	No	0
Have you heard of the following modern contraceptives? [Implants]	1.17	0.377	Yes	1
Have you heard of the following modern contraceptives? [Intrauterine Device]	1.50	0.501	No	0
Have you heard of the following modern contraceptives? [Tubal ligation]	1.34	0.474	No	0

Have you heard of the following modern contraceptives? [Vasectomy]	1.17	0.377	Yes	1
Have you heard of the following modern contraceptives? [female condom]	1.41	0.492	No	0
Have you heard of the following modern contraceptives? [spermicide]	1.75	0.436	No	0
Have you heard of the following modern contraceptives? [Withdrawal]	1.05	0.215	Yes	1
Have you heard of the following modern contraceptives? [Abstinence]	1.20	0.401	Yes	1
Have you heard of the following modern contraceptives? [Calendar Method]	1.11	0.318	Yes	1
Have you heard of the following modern contraceptives? [Lactational amenorrhea]	1.81	0.392	No	0
Do you consider the following reasons when choosing contraceptive methods? [Contraceptive effectiveness]	1.02	0.154	Yes	1
Do you consider the following reasons when choosing contraceptive methods? [The convenience of buying or using contraceptive tools]	1.07	0.256	Yes	1
Do you consider the following reasons when choosing contraceptive methods? [The safety of contraceptive methods]	1.02	0.129	Yes	1
Who do you think should be responsible for contraception? [Woman]	1.11	0.312	Yes	1
Overall Awareness	**1.23**	**0.320**	**Yes**	**18**
Mean Score Interpretation	**Highly Aware**			

Table 3 shows the respondents' general knowledge of the usage of contraceptives. The average mean score of 0.47 and the standard deviation of 0.419 show that the respondents' answers were not that different from each other, leading to a minimal variety of answers. The average mean score of the respondents was 20, implying that they are highly knowledgeable about contraception and its usage. Possessing comprehensive knowledge and awareness regarding family planning is likely to result in higher contraceptive adoption rates. This, in turn, can decrease the occurrence of unintended pregnancies and the associated complications often linked to the improper use or non-use of contraceptives among young individuals (Agbo *et al*., 2020).

Table 3: General Knowledge on the Use of Contraceptives

Indicators	Mean	SD	Verbal Interpretation	Mean Score
Contraception is 100% effective.	0.17	0.379	False	1
Prolonged use of contraception results in sterility.	0.35	0.478	False	1
Irregular usage of contraception will not cause pregnancy.	0.07	0.247	False	1
Birth control can cause abortions.	0.35	0.478	False	1
It's possible for a woman to get pregnant without having any penetrative sex	0.45	0.498	False	0
Wearing two latex condoms will provide extra protection.	0.30	0.458	False	1
Condoms have an expiration date.	0.95	0.215	True	1
It is OK to use a condom more than once.	0.14	0.345	False	1
Oral contraceptives contribute to some health benefits.	0.57	0.496	True	1
Pills are effective even if a woman misses 0–3 days in a row.	0.11	0.318	False	1
If a woman stops taking pills, she cannot get pregnant for >0 months.	0.09	0.292	False	1
Abstinence works as an effective form of birth control by eliminating all chances of sperm fertilizing an egg.	0.76	0.427	True	1
Abstinence is the most effective form of birth control.	0.71	0.453	True	1
In abstinence, pregnancy is still possible even without penetration if semen is near the vagina.	0.44	0.497	False	0
In the withdrawal method of contraception, if a man withdraws before ejaculation, the woman won't get pregnant.	0.36	0.479	False	1

The withdrawal method works by lowering the chance of sperm entering the vagina when ejaculation (cumming) occurs outside of the vagina.	0.78	0.415	True	1
The risk of pregnancy when using withdrawal is higher than with many other types of contraception.	0.83	0.379	True	1
Using the calendar method, the woman subtracts 18 from the length of her shortest recorded cycle.	0.68	0.466	True	1
Before using the calendar method as birth control, you need to keep track of the length of your menstrual cycles for 1 period.	0.77	0.421	True	0
The calendar method can tell exactly when you're fertile.	0.52	0.500	True	0
Taking emergency Contraceptives is the same as having an abortion.	0.24	0.427	False	1
Emergency Contraceptives can be used more than once.	0.43	0.495	False	0
Emergency Contraceptives only work the morning after.	0.35	0.477	False	1
Vasectomy blocks sperm from getting to the semen when ejaculating. And with no sperm leaving the body, a man can't get a woman pregnant.	0.86	0.350	True	1
	0.47	**0.419**	**False**	**20**
Mean Score Interpretation Overall Level of Knowledge	**Highly Knowledgeable**			

Table 4 shows the respondents' attitude toward using contraceptives. Since the standard deviation is minimal, the data are centered around the mean. On average, the respondents tended to express favorable or supportive opinions, beliefs, or behaviors related to the use of contraceptives. The results show an average mean of 3.473 and a standard deviation of 0.973, indicating that respondents shared a similar positive attitude toward contraceptive use.

Table 4: Attitude on Contraceptive Use

Indicators	**Mean**	**SD**	**Verbal Interpretation**
I support those who engage in premarital sex because it is acceptable.	3.11	1.243	Neutral
I take into consideration my religious beliefs in choosing and using contraceptives.	2.93	1.277	Neutral
I advocate using contraceptives since the increasing birth rates in the Philippines are a problem.	4.62	0.713	Strongly Agree
I do not advocate the idea that couples should live together before marriage.	2.91	1.278	Neutral
I advocate the dissemination of contraceptive knowledge to university students.	4.61	0.773	Strongly Agree
I do not participate in the dissemination of contraceptive knowledge since it will lead to more sexual behavior.	1.76	0.942	Disagree
I find it complicated to use contraceptive methods.	2.61	1.087	Neutral
I will not engage in sexual activities with strangers because it increases the risk of acquiring STDs.	4.64	0.723	Strongly Agree
I won't discuss the use of contraceptives in public since it is inappropriate and a private matter	2.23	1.115	Disagree
It is necessary for me to know contraceptive knowledge.	4.75	0.578	Strongly Agree
It is my responsibility to make decisions about birth control.	4.70	0.584	Strongly Agree
If I were to buy contraceptives, I will choose those at a low cost.	2.53	1.036	Neutral
If I were to choose contraceptives, I prefer those that are easy to use.	3.67	0.959	Agree
If I were to choose contraceptives, I prefer to use contraceptives that don't contain hormones.	3.38	0.882	Neutral
If I were to choose contraceptives, I will take into consideration my partner's preferences as well.	3.79	1.071	Agree
If I were to choose contraceptives, I will prefer a contraceptive that doesn't interfere with sex.	3.34	0.971	Neutral
If I were to choose contraceptives, I will prefer to use a condom as a contraceptive since it prevents HIV/STIs during sex.	3.88	0.901	Agree
If I were to use birth control, I would need to feel more responsible than my partner.	3.41	1.183	Neutral
If I were to engage in sexual activities, I will not use condoms, pills, or any modern contraceptives because I think it brings more damage than benefit to health.	1.88	1.070	Disagree

If I were to engage in sexual activities, I will use condoms, pills, or any modern contraceptives because I am not ready to have a baby at my age.	4.38	0.931	Agree
If I were to engage in sexual activities, I will use traditional or modern contraceptive methods.	3.61	1.110	Agree
If I were to engage in sexual activities, I will not use birth control because I believe that this is morally wrong.	1.95	1.046	Disagree
If I were to engage in sexual activities, I will use contraceptives because it reduces pregnancy-related morbidity and mortality, the risk of developing certain reproductive cancers, and can be used to treat many menstrual	4.23	0.914	Agree
If I were to buy modern contraceptives from pharmacies such as condoms or pills, I need to have the courage to do so.	4.11	0.922	Agree
If I were to engage in sexual activities, the use of contraceptives will make me feel inspired to pursue higher education as it delays pregnancy and aids in gaining measure of economic security.	3.80	1.026	Agree
Overall	**3.473**	**0.973**	**Agree**
Average Attitude Level	**Positive**		

Table 5 shows the correlation analysis results revealing a low negative correlation between socio-demographic factors, including age, family residence, family income, family structure, and knowledge about contraceptives. This indicates that as one independent variable increase, the other variable tends to decrease.

Table 5: Correlation of Demographic Profile and Knowledge of Contraceptive Use

Independent Variable	Correlation Coefficient	Sig. Value	Interpretation
Age	-0.015	0.697	Not Significant
Family Residence	-0.021	0.616	Not Significant
Religion	0.011	0.782	Not Significant
Educational Year Level	0.012	0.766	Not Significant
Relationship Status	**-0.134**	**0.001**	**Significant**
Family Size	0.034	0.364	Not Significant
Family Income	-0.031	0.409	Not Significant
Family Structure	-0.032	0.422	Not Significant

In Table 6, the table illustrates the respondents' attitude towards contraceptive use. Socio-demographic factors including age, religion, educational year level, relationship status, family size, and family structure exhibit a positive correlation with the attitude towards contraceptive use. Conversely, family residence and family income show a weak negative correlation.

Table 6: Correlation of Demographic Profile and Attitude on Contraceptive Use

Independent Variable	Correlation Coefficient	Sig. Value	Interpretation
Age	0.041	0.275	Not Significant
Family Residence	-0.065	0.113	Not Significant
Religion	0.030	0.432	Not Significant
Educational Year Level	0.045	0.244	Not Significant
Relationship Status	0.069	0.091	Not Significant
Family Size	0.019	0.615	Not Significant
Family Income	-0.045	0.210	Not Significant
Family Structure	0.007	0.852	Not Significant

The correlation analysis between respondents' knowledge of contraceptives and their attitude towards contraceptive use yielded a significant result (p-value = 0.001) with a correlation coefficient of 0.117. This indicates a weak positive correlation between respondents' knowledge and attitude.

Table 7: Correlation between Respondents' Knowledge and Attitudes on Contraceptive Usage

		Attitude	Interpretation
Knowledge	Correlation Coefficient	0.117**	
	Sig. (2-tailed)	0.001	**Significant**

** *Correlation is significant at the 0.01 level (2-tailed)*

DISCUSSION

The respondent's general awareness of the use of contraceptives reveals a low standard deviation, which means that the data cluster closely around the mean, indicating that the responses are comparable. Although it indicates a basic level of awareness and understanding, it also suggests the need for further exploration to assess the depth and accuracy of this knowledge. The overall verbal interpretation "yes" of how respondents perceived the use of contraceptives means that respondents were aware of what contraceptives are and how to use them properly. Information about sex and contraception was obtained from internet sources like journals, articles, or social media, as well as from course education and through informal discussion with their social circle, including classmates and friends. The common contraceptives they know are condoms, pills, implants, vasectomy, and natural methods such as withdrawal, abstinence, and the calendar method. Although condoms and oral contraceptives were frequently mentioned, their actual usage remained relatively limited (Bekele *et al.*, 2020). A study in Ghana by Fred Yao Gbagbo and Nkrumah (2019) suggests that public universities should consider the possibility of revising their curricula to incorporate the most recent information regarding contraceptive usage. Raising awareness about the advantages of using contraceptives has the capacity to enhance both community and national progress (Alano & Hanson, 2018). To enhance sexual and reproductive health literacy among students, it's essential to offer comprehensive sexual education and accessible information and services. This empowers adolescents to acquire, understand, assess, and use accurate sexual education, promoting their overall well-being.

Regarding the respondents' general knowledge of contraceptive usage, they are more familiar with modern methods such as condoms and oral contraceptives and less with natural methods like the calendar method and abstinence. A study conducted by Sharma *et al*. (2021) had similar results, revealing that the majority of their adolescent respondents were knowledgeable about various modern contraceptive methods, including condoms, injectables, pills, vaginal rings, and intrauterine devices. Implementing educational interventions can help individuals increase their knowledge of available contraceptive methods, enabling them to make informed choices on the appropriate contraceptives to use and their proper usage (Pazol *et al*., 2018). Additionally, a minimal standard deviation suggests that respondents have comparable answers, which means that their knowledge levels are mostly similar. Women who had completed secondary education were four times as likely to utilize contraceptives in comparison to women who had not received any formal education (Abdulai *et al*., 2020). This emphasizes education's essential role in promoting reproductive health and family planning. Education empowers women and significantly boosts contraceptive adoption.

In terms of the respondents' attitude towards contraceptive use, results show an average mean of 3.473 and a standard deviation of 0.973, indicating that respondents shared a similar positive attitude toward contraceptive use. Additionally, the overall verbal interpretation "AGREE" of the respondents' attitudes indicates that the respondents agreed with the proper use of contraceptives. They strongly agree on the significance of advocating the dissemination of contraceptive knowledge to universities, especially with the increasing birth rates in the Philippines. The respondents also showed a neutral attitude towards premarital sex and cohabitation. However, they disagree on not discussing contraceptives in public and not using contraceptives. In a study by Kakar *et al.* (2022), most sexually active female university students say they consistently use contraception, and its regular use is considered an essential public health issue.

Demographic Profile Correlation with Knowledge and Attitude Regarding Contraceptive Use

The results of the correlation analysis showed that there is a low negative correlation between socio-demographic factors such as age, family residence, family income, and family structure and knowledge of

contraceptives. Low negative correlation means that, as one independent variable increase, the other tends to decrease.

On the contrary, there is a positive correlation with religion, educational level, and family size. The correlation coefficient of relationship status is -0.134, which shows a negative correlation with general knowledge. Among the variables, the independent variable, which is relationship status, is the only one that denotes a significant value of 0.001, which is less than the *p*-value of 0.05. This suggests that there is a significant relationship between the respondents' relationship status and their knowledge of contraceptives, which means that the majority of the single (71.3%) respondents have decreased knowledge of contraceptive use, while the minority, which are those who are married (3%), showed increased knowledge of contraceptive use. The study by Ali Musfer *et al*. (2023) supports this finding when they reveal that married women have high perceptions and knowledge of contraception. In addition, in a study in South Nigeria, the multivariate data showed that women were more likely to use any form of contraception if they had knowledge of contraception, were married or living with partners, were older, had post-primary education, or had partners who had post-primary education (Ukoji, Anele, & Imo, 2022).

The most significant values are greater than alpha; therefore, there is no significant relationship between the demographic profile of the respondents and their knowledge about the use of contraceptives. This finding supports the results of the study by Ngoc & Sen (2022), where it was found that there was no significant association between sociodemographics and knowledge about contraceptive methods with their chosen respondents.

Furthermore, socio-demographic factors such as age, religion, educational level, relationship status, family size, and family structure show a positive correlation with the attitude towards contraceptive use. Meanwhile, the variables family residence and family income have a weak negative correlation with the attitude towards contraceptive use. In totality, there is no significant relationship between the demographic profile and the attitude of the respondents towards the use of contraceptives, which means that the socio-demographic factors do not affect their attitude towards contraceptive use in any way possible.

This finding contradicts El Ansari *et al.* (2023) study, which revealed that socio-demographic factors like education and employment influence differences in contraceptive habits and attitudes between Eastern and Western regions. Western women, who are typically more educated and employed than their Eastern counterparts, tend to use contraception more frequently. However, this contradicts the findings of the study by Passah (2020), where it was revealed that women's use of contraceptive methods was improved by increasing their socioeconomic status. The study also shows that variables such as present age, age at marriage, the number of live births, family type, and a mother's education level have a significant impact on how often women use contraceptive methods.

Correlation between Knowledge and Attitude Towards Contraceptive Use

In terms of the correlation between the respondents' knowledge of contraceptives and their attitude towards contraceptive use, a significant value (*p* value = 0.001) with a correlational coefficient of 0.117 suggests that there is a positively weak correlation between respondents' knowledge and attitude; thus, with increased knowledge of contraceptives, respondents will also exhibit a positive attitude towards contraceptive use. This result is similar to the study of Wani *et al*. (2019), which reveals that attitudes about contraceptive methods and knowledge of such methods were closely associated. Despite the numerous studies, few people know much about family planning and have a favorable view of it but seldom use it. Moreover, highly educated women are more inclined to use modern contraception, as indicated by Aviisah *et al*. (2018). This trend is supported by earlier research in Senegal and Nigeria (Ukoji, Anele, & Imo, 2022), emphasizing the empowerment and decision-making capabilities that education provides. There is a positive association between knowledge scores and educational level (Sheng *et al*., 2024).

These results may aid in improving sex education policies and programs, offering significant guidance for nursing practice. Nurses can utilize this data to adapt educational interventions specific to enhancing contraceptive knowledge and promoting positive attitudes towards contraceptive use among undergraduate students to prevent unplanned pregnancies. Additionally, nurses can play a crucial role in providing health

education and support to empower women in deciding about contraception, therefore contributing to improved reproductive health outcomes.

CONCLUSION

The highlighted result of the study showed a significant relationship between knowledge and attitude regarding contraceptive use among undergraduate female students acquiring their knowledge and relevant information regarding contraceptive methods mostly in the media rather than the educational institution. The knowledge and attitude of an individual have a big impact on their health promotion habits. Women who possess a higher understanding of contraceptives tend to hold more positive attitudes compared to those with limited knowledge (Bekele *et al*., 2020). Contraception is a form of health promotion since it decreases rates of unplanned pregnancies, which also decreases the need for hazardous abortions and the spread of HIV from mothers to neonates (Hanyala, 2020; Mushalpah, 2021; Sunartono, 2021). Additionally, it can help girls' education and the chance to take part in society more fully, particularly through salaried employment. By empowering individuals with accurate information and support, women are given more opportunities and allowed to engage more fully in society, while maternal ill-health, unintended pregnancies, and pregnancy-related deaths are continuously significantly reduced, enabling them to have greater autonomy over their own bodies and more chances for success in their chosen careers.

Interventions that facilitate the translation of knowledge into appropriate sexual and reproductive health behaviors are of great importance. Despite obtaining positive results, establishing advancement and improving efforts regarding the promotion of effective use of contraceptives are still highly advocated due to the observed trend of increased pregnancy among female students of higher education. Collaboration of university health nurses with institutions and student organizations can be done to develop and carry out comprehensive sexual education programs, emphasizing the discussion on natural methods like the calendar method and abstinence since the study reveals that respondents demonstrate lower knowledge of these natural methods.

Nurses and other healthcare providers may provide counselling sessions, distribute low-cost or free contraceptives, and disseminate information on where to seek reproductive medical services. Partnerships with different sectors of the community and society, educators, and other healthcare professionals can also be done to reach a wider audience and address cultural, religious, and social barriers. Furthermore, future researchers may explore and conduct further studies regarding knowledge and attitude toward contraceptive usage using the qualitative method to study accurately, analyze the relationship between each variable, and draw a significant conclusion.

Conflict of Interest

The authors declare that they have no competing interests.

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