

Gaps in domain-specific reproductive health knowledge and attitudes among female college students in Basrah city

Attarid Abulmajeed Mohammed^{1,*} and Amall Y. AIMulla²

Abstract

Background: Reproductive health is a fundamental component of overall health and well-being throughout a woman's life, encompassing key stages such as marriage, pregnancy, childbirth, and menopause. Adequate awareness of reproductive health supports family stability and contributes to healthier communities. **Objectives:** This study aimed to identify the gap in the knowledge and attitudes of female university students toward reproductive health domains and to detect associated sociodemographic factors. **Methodology:** A descriptive cross-sectional study was conducted among 387 female students aged 18–24 years from five colleges at the University of Basra, Iraq. Data were collected through face-to-face interviews using a validated and reliable questionnaire between October 2024 and February 2025. Statistical analysis was performed using SPSS. **Results:** The mean age of participants was 20.82 ± 1.63 years. Most students lived in urban areas and resided with their families. The majority belonged to middle socioeconomic status families, with relatively large household sizes. Parental education levels were moderate, and most mothers were housewives. Overall, students demonstrated poor knowledge across all reproductive health domains, with family income status significantly influencing knowledge levels. Attitudes toward reproductive health were predominantly neutral and showed little variation across most sociodemographic factors. **Conclusions:** Female university students exhibited inadequate knowledge and mainly neutral attitudes toward reproductive health domains.

Keywords: knowledge, attitudes, reproductive health domains, college students

1 Introduction

According to the World Health Organization (WHO), "Reproductive health is a state of complete physical, mental, and social well-being, rather than merely the absence of reproductive illnesses or diseases [1].

Young people often receive inadequate sexual and reproductive health education, as school curricula are limited and discussions are frequently avoided by both educators and parents due to cultural or knowledge barriers. As a result, many youths rely on peers or media rather than formal sources for information [2].

Reproduction is a lifelong process that affects multiple stages of human development, not only women's childbearing years or men's fertility. Neglect at any stage can harm health. Limited reproductive health knowledge among women increases the risk of unintended pregnancies and sexually transmitted diseases [3].

Raising women's awareness of risk factors and prevention can reduce reproductive health problems, leading to healthier pregnancies and better child outcomes [4].

Young female students are an important demographic group for which the knowledge in the field of human fertility is essential, for two important reasons. Firstly, many of them are going to have children shortly. Secondly, they will soon graduate, which means that they are about to be among the best-educated young people in the community [5].

Reproductive health rights ensure individuals' autonomy over reproductive decisions, including access to family planning and safe pregnancy and childbirth [6]. Therefore, to assess the level of knowledge and attitudes among young people, it is essential to conduct a comprehensive study of their attitudes toward reproductive health [7].

1.1 Objective of the study

The objectives of this study are:

¹DCM, Diploma in Community Medicine, College of Medicine, University of Basrah, Iraq

²PhD, Community Medicine, College of Medicine, University of Basrah, Iraq

Attarid Abulmajeed Mohammed (pgs.atirid.mohammed@uobasrah.edu.iq)

Received: 01/01/2026 - Approved: 01/03/2026 - Published 11/03/2026

1. To identify gaps in knowledge of reproductive health domains among female college students in Basrah city.
2. To identify gaps in the attitudes towards reproductive health domains among female college students in Basrah city.
3. To determine the social and demographic factors of the female students that may be associated with their knowledge and attitudes.

2 Methodology

A descriptive cross-sectional study was carried out in Basrah City from February 2024 to October 2025 among female students from five non-medical colleges at the University of Basrah. Unmarried or engaged students aged 18–25 years in the first to fourth academic years were included. Medical and health-related students, as well as married, divorced, and out-of-age-range students, were excluded to avoid bias. Participation was voluntary, and informed consent was obtained. A sample size of 387 respondents was estimated using Daniel's formula, which is suitable for cross-sectional studies, as follows:

$$n = \frac{Z^2 \times p \times (1 - p)}{d^2},$$

$$n = \frac{3.8416 \times 0.25}{0.0025} = 386.1.$$

From the total of 21 colleges, those with medical and health-related specialties were first excluded, leaving 16 colleges eligible for selection. These colleges were arranged alphabetically, and a systematic random sampling method was applied to select five colleges. The sampling interval was calculated by dividing the number of eligible colleges by the required number of colleges ($\frac{16}{5} \approx 3$). A random starting point was chosen, after which every third college was selected until five colleges were included in the study.

Eligible students were selected using systematic random sampling across academic years to ensure a representative and unbiased sample, with a low non-response rate that did not affect the final sample size.

The questionnaire consisted of two sections: socio-demographic characteristics and assessment of knowledge and attitudes toward reproductive health domains. Content validity was confirmed through expert evaluation in obstetrics, gynecology, and community and family medicine, with minor modifications incorporated. The tool showed acceptable reliability (Cronbach's alpha = 0.71). Participants' responses were evaluated using a predefined scoring system. One point was awarded for each correct answer, while zero points were assigned for incorrect answers and "I don't know" responses. Each determinant consisted of several items related to the subject. The total score was then converted into a percentage of the maximum possible score. Based on this percentage, knowledge was categorized into three levels: poor (<50%), moderate (50% to < 75%), and good/high ($\geq 75\%$). This classification method was adopted based on evidence from the scientific literature and findings from previous studies in the field of reproductive health. Attitudes were evaluated using 5 Likert-scale items and classified as negative, neutral, or positive based on standardized percentage cutoffs [8, 9].

Official approval was obtained through a formal letter from the College of Medicine in Basra outlining the study title, objectives, and setting, granting permission to collect data from the faculties of the University of Basra during the 2024–2025 academic year.

2.1 Statistical analysis

Completed questionnaires were checked, coded, and analyzed using SPSS version 26.0. Data were presented as frequencies and percentages, with chi-square, t-test, ANOVA, and logistic regression analyses applied. Statistical significance was set at $p < 0.05$, and ethical and legal standards were maintained.

3 Results

The study included 387 female undergraduates aged 18–24 years (mean 20.82 ± 1.63) from different faculties. Over half (57.4%) lived in central areas, most (85.8%) lived with their families, and 70.8% perceived their socioeconomic status as moderate or sufficient. The largest proportions came from families, and most lived with both parents.

Most fathers (60.4%) and mothers (56.9%) had secondary or university education, while higher education was uncommon. The majority of mothers were housewives (71.8%), with employed mothers mainly working in the government sector (Table 1).

Table 1: Sociodemographic characteristics of study participants

Variables	NO	%
Age	Mean \pm SD	20.82 \pm 1.63
College type	Arts	76 19.6
	Marine Sciences	72 18.6
	Education	68 17.6
	Fine Arts	82 21.2
	Engineering	89 23
Year of Study	First Year	79 20.4
	Second Year	115 29.7
	Third Year	92 23.8
	Fourth Year	101 26.1
Residence Address	center	222 57.4
	periphery	165 42.6
Family income	Poor	60 15.5
	Moderate	274 70.8
	High	53 13.7
Family Size	<5	43 11.1
	5<7	141 36.5
	7 < 9	144 37.2
	ge9	59 15.2
Household composition	Living with both parents	332 85.8
	Living with one parent only	45 11.6
	Living with a relative	10 2.6
Father's Education	Illiterate	25 3.9
	Primary School	69 17.9
	Intermediate School	43 11.1
	Secondary School	117 30.2
	University Degree	117 30.2
	Higher Education	26 6.7
Mother's Education	Illiterate	13 3.4
	Primary School	80 20.6
	Intermediate School	63 16.3
	Secondary School	111 28.7
	University Degree	109 28.2
	Higher Education	11 2.8

Variables	NO	%	
Mother's Employment Status	Housewife	278	71.8
	Government Employee	80	20.7
	Private Sector Employee	29	7.5

3.1 Knowledge of respondents about premarital screening in relation to socio-demographic characteristics

Students' knowledge of premarital screening was associated with college type, family income, parental education, and mother's occupation, with higher knowledge seen among Arts and Marine Science students, those from higher-income families, and those with educated or employed mothers. Overall knowledge levels were generally poor, highlighting the important role of socioeconomic and parental factors in shaping students' awareness (Table 2).

Table 2: The relationship between respondents' levels of Knowledge about premarital screening and socio-demographics

Variables		Poor knowledge N=311	Moderate knowledge N=72	Good knowledge N=4	p-value
Age	Mean \pm SD	20.87 \pm 1.6	20.84 \pm 1.6	20.44 \pm 1.6	0.263*
College type	Arts	50 (65.7)	10 (13.2%)	16(21.1%)	0.018**
	Marine Sciences	47 (65.3)	14(19.4%)	11(15.3%)	
	Education	56 (82.4%)	7 (10.2%)	5 (7.4%)	
	Fine Arts	65 (79.3%)	12 (14.6%)	5 (6.1%)	
	Engineering	60 (67.4%)	21 (23.6%)	8 (9.0%)	
Year of Study	First Year	56 (70.9%)	10 (12.6%)	13(16.5%)	0.395**
	Second Year	87 (75.7%)	20 (17.3%)	8 (7.0%)	
	Third Year	61 (66.3%)	18 (19.6%)	13(14.1%)	
	Fourth Year	74 (73.3%)	16 (15.8%)	11(10.9%)	
Residence Address	center	159 (71.6%)	37 (16.7%)	26(11.7%)	0.994**
	periphery	119 (72.1%)	27 (16.4%)	19(11.5%)	
Family income	Poor	51 (85.0%)	6 (10.0%)	3 (5.0%)	0.001#
	Moderate	201 (73.4%)	47 (17.1%)	26 (9.5%)	
	High	26 (49.1%)	11 (20.7%)	16(30.2%)	
Family Size	<5	35 (81.4%)	5 (11.6%)	3 (7.0%)	0.337#
	5<7	94 (66.7%)	26 (18.4%)	21(14.9%)	
	7 < 9	104 (72.2%)	22 (15.3%)	18(12.5%)	
	ge9	45 (76.3%)	11 (18.6%)	3 (5.1%)	
Household composition	Living with both parents	238 (71.7%)	53 (16.0%)	41(12.3%)	0.658#
	Living with one parent only	32 (71.1%)	10 (22.2%)	3 (6.7%)	
	Living with relative	8 (80.0%)	1 (10.0%)	1 (10.0%)	
Father's Education	Illiterate	11 (73.3%)	3 (20.0%)	1 (6.7%)	0.004#
	Primary School	55 (79.8%)	11 (15.9%)	3 (4.3%)	
	Intermediate School	33 (76.7%)	6 (14.0%)	4 (9.3%)	
	Secondary School	86 (73.5%)	25 (21.4%)	6 (5.1%)	
	University Degree	77 (65.8%)	14 (12.0%)	26 (22.2%)	
	Higher Education	16 (61.5%)	5 (19.3%)	5 (19.2%)	

Variables		Poor knowledge N=311	Moderate knowledge N=72	Good knowledge N=4	p-value
Mother's Education	Illiterate	11 (84.6%)	2 (15.4%)	0 (0.0%)	0.001#
	Primary School	67 (83.7%)	8 (10.0%)	5 (6.3%)	
	Intermediate School	43 (68.3%)	14 (22.2%)	6 (9.5%)	
	Secondary School	90 (81.1%)	15 (13.5%)	6 (5.4%)	
	University Degree	62 (56.9%)	22 (20.2%)	25 (22.9%)	
	Higher Education	5 (45.5%)	3 (27.2%)	3 (27.3%)	
Mother's Employment Status	Housewife	212 (76.3%)	44 (15.8%)	22 (7.9%)	0.005**
	Government Employee	48 (60.0%)	15 (18.7%)	17 (21.3%)	
	Private Sector Employee	18 (62.1%)	5 (17.2%)	6 (20.7%)	

3.2 Knowledge about pregnancy in relation to socio-demographic characteristics

Knowledge about pregnancy showed no significant variation by age, college type, year of study, place of residence, family structure, or parental characteristics, indicating generally similar knowledge levels across these groups. However, family income was a significant determinant (Table 3).

Table 3: The relationship between respondents' levels of Knowledge about pregnancy and socio-demographics

Variables		Poor knowledge N=311	Moderate knowledge N=72	Good knowledge N=4	p-value
Age	Mean \pm SD	20.73 \pm 1.55	20.99 \pm 1.74	20.72 \pm 1.61	0.263*
College type	Arts	36 (47.4%)	31 (40.8%)	9 (11.8%)	0.184#
	Marine Sciences	39 (54.2%)	28 (38.9%)	5 (6.9%)	
	Education	42 (61.8%)	22 (32.3%)	4 (5.9%)	
	Fine Arts	42 (51.2%)	31 (37.8%)	9 (11.0%)	
	Engineering	60 (67.4%)	20 (22.5%)	9 (10.1%)	
Year of Study	First Year	48 (60.8%)	27 (34.1%)	4 (5.1%)	0.548#
	Second Year	68 (59.1%)	36 (31.3%)	11 (9.6%)	
	Third Year	45 (48.9%)	35 (38.1%)	12 (13.0%)	
	Fourth Year	58 (57.4%)	34 (33.7%)	9 (8.9%)	
Residence Address	center	121 (54.5%)	76 (34.2%)	25 (11.3%)	0.279**
	periphery	89 (59.4%)	56 (33.9%)	11 (6.7%)	
Family income	Poor	34 (56.7%)	23 (38.3%)	3 (5.0%)	0.007#
	Moderate				
	High				
Family Size	<5	26 (60.5%)	13 (30.2%)	4 (9.3%)	0.596#
	5 < 7	74 (52.5%)	50 (35.5%)	17 (12.0%)	
	7 < 9	84 (58.4%)	47 (32.6%)	13 (9.0%)	
	≥ 9	35 (59.3%)	22 (37.3%)	2 (3.4%)	

Variables		Poor knowledge N=311	Moderate knowledge N=72	Good knowledge N=4	p-value
Household composition	Living with both parents	187 (56.3%)	113 (34.1%)	32 (9.6%)	0.496#
	Living with one parent only	28 (62.2%)	13 (28.9%)	4 (8.9%)	
		4 (40.0%)	6 (60.0%)	0 (0.0%)	
Father's Education	Illiterate	10 (66.7%)	5 (33.3%)	0 (0.0%)	0.097#
	Primary School	42 (60.9%)	24 (34.8%)	3 (4.3%)	
	Intermediate School	27 (62.8%)	11 (25.6%)	5 (11.6%)	
	Secondary School	64 (54.7%)	47 (40.2%)	6 (5.1%)	
	University Degree	60 (51.3%)	37 (31.6%)	20 (17.1%)	
	Higher Education	16 (61.5%)	8 (30.8%)	2 (7.7%)	
Mother's Education	Illiterate	10 (76.9%)	3 (23.1%)	0 (0.0%)	0.757#
	Primary School	47 (58.8%)	28 (35.0%)	5 (6.2%)	
	Intermediate School	38 (60.3%)	20 (31.8%)	5 (7.9%)	
	Secondary School	63 (56.8%)	38 (34.2%)	10 (9.0%)	
	University Degree	56 (51.3%)	38 (34.9%)	15 (13.8%)	
	Higher Education	5 (45.4%)	5 (45.5%)	1 (9.1%)	
Mother's Employment Status	Housewife	159 (57.2%)	96 (34.5%)	23 (8.3%)	0.830#
	Government Employee	43 (53.8%)	27 (33.7%)	10 (12.5%)	
	Private Sector Employee	17 (58.6%)	9 (31.1%)	3 (10.3%)	

3.3 knowledge about family planning

Knowledge about family planning varied significantly with age, college type, and family income, with higher knowledge observed among younger students, certain colleges, and those from higher-income families. In contrast, year of study and place of residence showed no significant associations (Table 4).

Table 4: The relationship between respondents' level of Knowledge about family planning and their socio-demographic

Variables		Poor knowledge N=311	Moderate knowledge N=72	Good knowledge N=4	p-value
Age	Mean \pm SD	20.94 \pm 1.59	20.33 \pm 1.69	19.75 \pm 0.5	0.007*
College type	Arts	56 (73.7%)	19 (25.0%)	1 (1.3%)	0.027#
	Marine Sciences	50 (69.4%)	20 (27.8%)	2 (2.8%)	
	Education	58 (85.3%)	9 (13.2%)	1 (1.5%)	
	Fine Arts	73 (89.0%)	9 (11.0%)	0 (0.0%)	
	Engineering	74 (83.1%)	15 (16.9%)	0 (0.0%)	
Year of Study	First Year	65 (82.3%)	12 (15.2%)	2 (2.5%)	0.164#
	Second Year	94 (81.7%)	21 (18.3%)	0 (0.0%)	
	Third Year	67 (72.8%)	23 (25.0%)	2 (2.2%)	
	Fourth Year	85 (84.2%)	16 (15.8%)	0 (0.0%)	
Residence Address	center	173 (77.9%)	46 (20.7%)	3 (1.4%)	0.342#
	periphery	138 (83.6%)	26 (15.8%)	1 (0.6%)	

Variables		Poor knowledge N=311	Moderate knowledge N=72	Good knowledge N=4	p-value
Family income	Poor	56 (93.3%)	4 (6.7%)	0 (0.0%)	0.012#
	Moderate	219 (79.9%)	52 (19.0%)	3 (1.1%)	
	High	36 (67.9%)	16 (30.2%)	1 (1.9%)	
Family Size	<5	35 (81.4%)	7 (16.3%)	1 (2.3%)	0.947#
	5<7	115 (81.6%)	25 (17.7%)	1 (0.7%)	
	7 < 9	114 (79.2%)	29 (20.1%)	1 (0.7%)	
	≥9	47 (79.7%)	11 (18.6%)	1 (1.7%)	
Household composition	Living with both parents	265 (79.8%)	64 (19.3%)	3 (0.9%)	0.639#
	Living with one parent only	37 (82.2%)	7 (15.6%)	1 (2.2%)	
	Living with a relative	9 (90.0%)	1 (10.0%)	0 (0.0%)	
Father's Education	Illiterate	14 (93.3%)	1 (6.7%)	0 (0.0%)	0.901#
	Primary School	54 (78.3%)	14 (20.3%)	1 (1.4%)	
	Intermediate School	37 (86.0%)	6 (14.0%)	0 (0.0%)	
	Secondary School	96 (82.1%)	20 (17.0%)	1 (0.9%)	
	University Degree	89 (76.1%)	26 (22.2%)	2 (1.7%)	
	Higher Education	21 (80.8%)	5 (19.2%)	0 (0.0%)	
Mother's Education	Illiterate	12 (92.3%)	1 (7.7%)	0 (0.0%)	0.101#
	Primary School	67 (83.8%)	11 (13.7%)	2 (2.5%)	
	Intermediate School	52 (82.5%)	11 (17.5%)	0 (0.0%)	
	Seconder School	93 (83.8%)	18 (16.2%)	0 (0.0%)	
	University Degree	79 (72.5%)	29 (26.6%)	1 (0.9%)	
	Higher Education	8 (72.7%)	2 (18.2%)	1 (9.1%)	
Mother's Employment Status	Housewife	223 (80.2%)	52 (18.7%)	3 (1.1%)	0.920#
	Government Employee	63 (78.7%)	16 (20.0%)	1 (1.3%)	
	Private Sector Employee	25 (86.2%)	4 (13.8%)	0 (0.0%)	

*one-way ANOVA ** chi-Square test

3.4 Levels of attitude toward reproductive health domains

Overall, participants demonstrated predominantly neutral attitudes toward most reproductive health domains. More favorable attitudes were observed toward the pregnancy, while negative attitudes were most pronounced toward premarital screening. Family planning attitudes were mainly neutral. The mean scores reflected moderate attitudes overall, highlighting persistent gaps in acceptance and awareness, particularly regarding premarital screening (Table 5).

Table 5: Levels of attitude toward reproductive health domains

Attitude domain	Mean ± SD	Positive attitude n (%)	Neutral attitude n (%)	Negative attitude n (%)
Attitude toward premarital screening	1.53 ± 0.62	28 (7.2)	148 (38.2)	211 (54.6)
Attitude toward pregnancy	1.55 ± 0.50	176 (45.5)	211 (54.5)	—
Attitude toward family planning	1.90 ± 0.58	61 (15.8)	232 (59.9)	94 (24.3)

Source of information: Main Sources of Information on Reproductive Health showed that less than half of the respondents (40.1%), get information from their family, followed by Friends and relatives with prior experience (n = 80, 20.0%) while the least source of information was TV programs and entertainment shows (n = 20, 5.4%) (Figure 1).

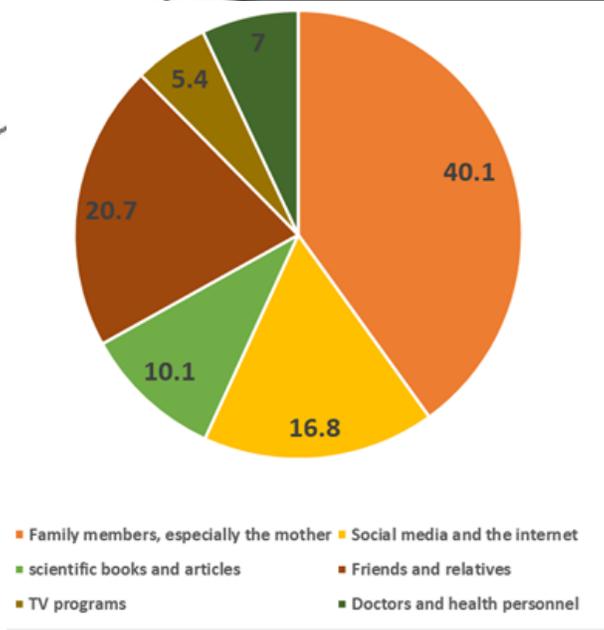


Figure 1: Source of information of respondent’s knowledge about Reproductive health domains

4 Discussion

The reproductive health of young women is fundamental, as it directly influences their personal well-being as well as the health of families and the broader community. The current study is a trial to highlight and assess some aspects of the knowledge and attitude of female college students toward reproductive health, including premarital screening, pregnancy, and family Planning.

Participants were young adults with a mean age of about 21 years. Most lived in urban areas and resided with their families, reflecting common Iraqi social norms and patterns seen in neighboring countries. The majority came from middle-income, relatively large families, consistent with regional and UNICEF data. Parental education levels were moderate, with about one-third of parents having university or higher education, similar to findings from regional and international studies [10, 11].

The study revealed a strong association between knowledge of premarital screening and selected sociodemographic factors, particularly college type (0.018), family Income(0.001), higher parental education (0.004) (0.001) and maternal employment(0.005). These findings are consistent with studies conducted in Kuwait [12]. Higher family income and education appear to enhance future planning and awareness of the benefits of premarital screening, likely through increased exposure to educational activities and public health campaigns. Differences by college type may reflect variations in academic focus and access to health-related information. Additionally, educated and employed parents may foster greater health literacy and provide a supportive environment that encourages awareness of preventive practices, such as premarital screening, through family discussions and guidance.

Knowledge of pregnancy was significantly associated with family income(0.007), with students from higher-income families demonstrating better knowledge than those from lower-income backgrounds, a finding consistent with studies from Basrah [13] and Indonesia [14]. Higher socioeconomic status likely enhances educational support and health literacy, in contrast, other sociodemographic factors showed no significant

association, suggesting that pregnancy knowledge may be more strongly influenced by factors such as health education exposure, cultural and social influences, access to healthcare services, and media information.

Knowledge about Family Planning in relation to participants' socio-demographics revealed a statistically significant difference in mean age (0.007). These findings are compatible with a study done in Saudi Arabia (2023), which revealed that good knowledge of contraception was better at a younger age [15].

Attitudes toward premarital screening were predominantly negative, with more than half of participants expressing unfavorable views, likely reflecting limited awareness of its preventive benefits. This lack of understanding may contribute to undervaluing the role of premarital screening in preventing genetic disorders, infections, and maternal complications. Similar patterns have been reported in studies from Kurdistan in Iraq [16], as well as in Libya [17], indicating generally low to moderate acceptance of premarital screening across comparable settings.

Attitudes toward pregnancy were largely neutral to negative among nearly half of the participants, indicating uncertainty and limited preparedness to form clear views on pregnancy. This may be attributed to insufficient reproductive health education, limited personal exposure, and cultural sensitivity surrounding discussions of pregnancy before marriage. Similar findings were reported in a study conducted at Al-Quds University, which showed predominantly moderate attitudes toward pregnancy [18].

A notable finding was that most participants exhibited a neutral attitude toward family planning. Although this proportion was lower than that reported in a previous study from Basra [19], it remains considerably lower than the highly positive attitudes documented in a recent Saudi Arabian study [20], indicating variability in acceptance of family planning across different cultural and regional contexts.

The study found that family particularly mothers was the primary source of reproductive health information for 40.1% of respondents, followed by friends or relatives with prior experience (20.0%) and the internet (16.8%), while television programs were the least reported source (5.4%). These findings align with studies from Egypt (2022) [8], which similarly identified mothers as the main source of reproductive and sexual health information among young women. This may be attributed to effective communication between mothers and daughters, as increasing maternal education has enhanced mothers' roles as trusted sources for sensitive reproductive health information. This reliance is particularly evident in settings with strong family bonds, where intra-family discussions are preferred over external or digital sources.

5 Conclusion

Female university students in Basra showed generally poor reproductive health knowledge and mostly neutral attitudes, especially toward premarital screening and family planning, with awareness largely influenced by socioeconomic and parental factors.

Recommendations

It is recommended to strengthen reproductive health education programs within schools and universities, expand awareness campaigns, and utilize media platforms to improve knowledge and attitudes. Additionally, targeted interventions for students from lower socioeconomic backgrounds and parental engagement initiatives may help enhance understanding and promote positive reproductive health behaviors.

Acknowledgment

The author expresses sincere appreciation to the female university students from various colleges in Basra City whose participation and willingness to share their knowledge and experiences significantly contributed

to the success and value of this study.

References

- [1] Ara, Irfat, Mudasir Maqbool, and Imran Gani. "Reproductive Health of Women: implications and attributes." *International Journal of Current Research in Physiology and Pharmacology* 6.3 (2022): 8-18.
- [2] United Nations Population Fund (UNFPA). *Social norms and sexual and reproductive health among youth in Palestine: field study*. Palestine: UNFPA; 2020 Jun)
- [3] Alomani, A., et al. "Reproductive health awareness among female university students at Saudi Arabia." (2024).
- [4] Alarape, A. A., O. O. Ogunniran, and F. A. Omoba. "Reproductive health information and practice among female undergraduates of private universities in Osun State, Nigeria." *Reproductive Health* 12.16 (2021).
- [5] Chawłowska, Ewelina, et al. "Reproductive health literacy and fertility awareness among Polish female students." *Frontiers in Public Health* 8 (2020): 499.
- [6] Kalam, Iftekhar. *Assessing the Knowledge, Attitudes, and Practices of Sexual and Reproductive Health Among Undergraduate Students in Bangladesh*. Diss. University of West London, 2024.
- [7] Hamdanieh, Maya, et al. "Assessment of sexual and reproductive health knowledge and awareness among single unmarried women living in Lebanon: a cross-sectional study." *Reproductive Health* 18.1 (2021): 24.
- [8] Hamdi Mabrouk, Huda, Om Elsaad Farouk, and Amal Sarhan Eldesoky. "Fayoum university students perception regarding reproductive health." *Egyptian Journal of Health Care* 13.4 (2022): 168-176.
- [9] Ha, Nguyen-Thi Thu, et al. "Knowledge, attitudes and practices on reproductive health among abortion adolescents in Vietnam." *Medical Archives* 78.2 (2024): 139.
- [10] Alkhalili, Mais, et al. "Assessment of knowledge of sexual reproductive health among female university students in Jordan." *Cureus* 16.2 (2024).
- [11] Ryskeldiyeva, Kenzhegul, et al. "Knowledge, attitude and practice of adolescent girls towards reproductive health: a cross-sectional study in Turkistan region, Kazakhstan." *Future Science OA* 9.3 (2023): FSO840.
- [12] Al-Enezi, Khaled, and Amal K. Mitra. "Knowledge, attitude, and satisfaction of university students regarding premarital screening programs in Kuwait." *European Journal of Environment and Public Health* 1.2 (2017): 07.
- [13] Asferie, Worku Necho, and Bizunesh Goshu. "Knowledge of pregnancy danger signs and its associated factors among pregnant women in Debre Tabor town health facilities, South Gondar Administrative Zone, North West Ethiopia, 2019: Cross-sectional study." *SAGE Open Medicine* 10 (2022): 20503121221074492.
- [14] Wulandari, Ratna Dwi, and Agung Dwi Laksono. "Determinants of knowledge of pregnancy danger signs in Indonesia." *PLoS One* 15.5 (2020): e0232550.

- [15] Alkalash, Safa H., et al. "Knowledge on, attitude toward, and practice of contraceptive methods among females of reproductive age in Al-Qunfudah Governorate, Saudi Arabia." *Cureus* 15.3 (2023).
- [16] Mahmood, Kochr A., et al. "Knowledge, perception, and attitude toward premarital screening among university students in Kurdistan region-Iraq." *PLOS Global Public Health* 4.11 (2024): e0003515.
- [17] Shebani, Afaf, et al. "Knowledge and Attitudes Toward Premarital Screening Programs Among Students at the University of Tripoli, Libya." *Cureus* 16.7 (2024): e64274-e64274.
- [18] Jarad, Sabreen Khalil Ahmed. *Knowledge, Attitude, and Practice Among Mothers Attending Governmental Primary Health Care Clinics Regarding Maternal Reproductive Health*. Diss. Al-Quds University, 2020.
- [19] Abd Algany, Mohamed, Sahar Soliman, and Samar Abdel-Raouf. "Applying health education package about sexual and reproductive health for university male students." *Mansoura Nursing Journal* 6.2 (2019): 33-55.
- [20] Alwabari, Ahmed A., et al. "Knowledge, attitude, and practice of family planning among Saudi primary health care attendees in Al-Ahsa, Kingdom of Saudi Arabia." *Cureus* 15.6 (2023): e40551.