



THE RELATIONSHIP BETWEEN KNOWLEDGE AND ATTITUDES REGARDING REPRODUCTIVE HEALTH MAINTENANCE AMONG UNIVERSITAS TULUNGAGUNG EMPLOYEES

¹**Ernik Rustiana**

¹ Universitas Tulungagung

¹ernik.rustiana@gmail.com

ABSTRACT

Introduction: Reproductive health is a fundamental aspect that affects an individual's quality of life, including work productivity. Good knowledge of reproductive health is expected to shape positive attitudes toward reproductive health maintenance. **Objective:** This study aimed to determine the relationship between knowledge and attitudes toward reproductive health maintenance among female employees of Universitas Tulungagung.

Method: This study employed an analytical correlational design with a cross-sectional approach. The study population comprised all female employees of Universitas Tulungagung, totaling 88 individuals. Samples were selected using a total sampling technique. Data were collected using a structured questionnaire that had been tested for validity and reliability. Data analysis used the Chi-Square test.

Results: The majority of respondents had good knowledge of reproductive health (52.3%) and positive attitudes toward reproductive health maintenance (76.1%). The statistical test results showed a significant relationship between knowledge and attitudes toward reproductive health maintenance ($p\text{-value} = 0.000 < 0.05$).

Conclusion: There is a significant relationship between the level of knowledge and attitudes of female employees of Universitas Tulungagung toward reproductive health maintenance. Good knowledge tends to be followed by positive attitudes.

KEYWORDS

Knowledge; Attitude; Reproductive Health; Employees

INTRODUCTION

Reproductive health is a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity, in all matters relating to the reproductive system, its functions, and processes (WHO, 2023). Reproductive health maintenance has become a crucial issue that encompasses not only biological aspects but also psychological and socio-cultural dimensions. Low knowledge about reproductive health can lead to inappropriate health behaviors, including an increased risk of sexually transmitted infections, cervical cancer, and other reproductive health problems (Khasanah, 2009; Notoatmodjo, 2012).

Women have specific reproductive health needs that require special attention, including menstrual health, pregnancy, childbirth, postpartum care, menopause, and prevention of reproductive tract infections and cancers (BAPPENAS, 2024). Female workers in university

settings face unique challenges related to reproductive health, including work-related stress, sedentary lifestyle, and limited access to reproductive health information and services during working hours. The Indonesian government has recognized the importance of reproductive health through various policies and programs, yet gaps in knowledge and attitudes persist among working women (Kemenkes RI, 2023).

Knowledge is a critical domain in shaping an individual's actions (*overt behavior*). Good knowledge of reproductive health serves as a fundamental basis for individuals to develop positive attitudes and healthy behaviors. Conversely, lack of knowledge can lead to misperceptions and negative attitudes toward reproductive health maintenance efforts (Zalni, 2017; Khasanah, 2009). Previous studies have demonstrated a positive correlation between reproductive health knowledge and attitudes, as found in studies on female workers and adolescents (Khasanah, 2009; Zalni, 2017). However, research exploring this relationship specifically among female employees in university settings remains limited.

Female university employees represent a productive adult group with the potential to serve as agents of change in society. They have access to information and education, yet may not necessarily possess adequate knowledge and attitudes regarding reproductive health. Research by Rustiana (2025) showed that the utilization of print media influences adolescents' attitudes toward avoiding free sexual behavior in Tulungagung, indicating that knowledge factors and information access play important roles. Studies in workplace settings also demonstrate that workers' knowledge and attitudes toward reproductive health vary considerably (Pippen & Mecchi, 1969; Andayani, 2013).

The scientific novelty (*state of the art*) of this study lies in its focus on the female university employee population as research subjects. Previous studies have predominantly targeted adolescents, female university students, or pregnant women, while research on female employees in academic settings remains scarce. Furthermore, this study specifically examines the relationship between knowledge and attitudes in the context of reproductive health maintenance, rather than merely knowledge about reproductive organs.

Based on this background, the research question is whether there is a relationship between knowledge and attitudes toward reproductive health maintenance among female employees of Universitas Tulungagung. This study aimed to analyze the relationship between the level of knowledge and attitudes of female employees of Universitas Tulungagung toward reproductive health maintenance.

METHOD

This study employed an analytical correlational design with a cross-sectional approach, which measures independent and dependent variables simultaneously at one point in time (Sugiyono, 2019). The study was conducted at Universitas Tulungagung from January to June 2025.

The study population comprised all female employees of Universitas Tulungagung, including both female lecturers and female administrative staff, totaling 88 individuals (Universitas Tulungagung, 2025). Considering the population size, this study used a total sampling technique, where all members of the population who met the inclusion criteria were included as respondents (Notoatmodjo, 2018). This approach was chosen to obtain comprehensive data from the entire female employee population.

The inclusion criteria for this study were: (1) permanent female employees of Universitas Tulungagung, (2) willing to be respondents by signing informed consent, and (3) having a minimum of one year of work experience. The exclusion criteria were employees on extended leave or sick during the data collection period.

The research instrument was a structured questionnaire consisting of three parts: (1) demographic data (age, education, length of service, marital status), (2) a reproductive health knowledge questionnaire consisting of 20 multiple-choice questions with a score of 1 for correct

answers and 0 for incorrect answers (categories: good: $\geq 80\%$, sufficient: 60-79%, poor: $< 60\%$), and (3) an attitude questionnaire toward reproductive health maintenance using a 4-point Likert scale (strongly agree, agree, disagree, strongly disagree) with 15 statements (Rustiana, 2020; Zalni, 2017). The questionnaire was tested for validity and reliability on 30 respondents outside the study sample, with Cronbach's Alpha > 0.70 .

Data collection was conducted by distributing questionnaires directly to respondents at their respective workplaces. The researcher provided explanations about the study purpose and questionnaire completion procedures. Respondents were given 30 minutes to complete and return the questionnaire to the researcher.

Data analysis was performed using univariate and bivariate analyses. Univariate analysis used frequency distributions to describe respondent characteristics, knowledge levels, and attitudes. Bivariate analysis used the Chi-Square test to determine the relationship between knowledge and attitudes, with a significance level of $\alpha = 0.05$ (Dahlan, 2019). Data processing used SPSS version 26.

RESULT

1. Respondent Characteristics

This study involved 226 employee respondents from Universitas Tulungagung. Respondent characteristics are presented in Table 1.

Characteristic	Frequency (f)	Percentage (%)
Age		
20-30 years	26	29.5
31-40 years	35	39.8
41-50 years	20	22.7
>50 years	7	8.0
Education		
Senior High School	14	15.9
Diploma	22	25.0
Bachelor's Degree (S1)	33	37.5
Postgraduate (S2/S3)	19	21.6
Length of Service		
1-5 years	28	31.8
6-10 years	33	37.5
11-15 years	16	18.2
>15 years	11	12.5
Marital Status		
Married	59	67.0
Single	29	33.0

Source: Primary Data, 2025

Based on Table 1, the majority of respondents were aged 31-40 years (39.8%), held a bachelor's degree (37.5%), had 6-10 years of service (37.5%), and were married (67.0%).

2. Level of Reproductive Health Knowledge

The distribution of respondents' reproductive health knowledge levels is presented in Table 2.

Knowledge Level	Frequency (f)	Percentage (%)
Poor	16	18.2
Sufficient	26	29.5
Good	46	52.3

Total (n)	88	100
------------------	-----------	------------

Source: Primary Data, 2025

Table 2 shows that the majority of respondents had good knowledge of reproductive health, with 46 individuals (52.3%), followed by sufficient knowledge with 26 individuals (29.5%), and poor knowledge with 16 individuals (18.2%).

3. Attitudes toward Reproductive Health Maintenance

The distribution of respondents' attitudes toward reproductive health maintenance is presented in Table 3.

Table 3. Frequency Distribution of Attitudes toward Reproductive Health Maintenance

Attitude	Frequency (f)	Percentage (%)
Negative	21	23.9
Positive	67	76.1
Total (n)	88	100

Source: Primary Data, 2025

Table 3 shows that the majority of respondents had positive attitudes toward reproductive health maintenance, with 67 individuals (76.1%), while the remaining 21 individuals (23.9%) had negative attitudes.

4. Relationship between Knowledge and Attitude

The results of the analysis of the relationship between knowledge and attitudes toward reproductive health maintenance are presented in Table 4.

Table 4. Relationship between Knowledge and Attitudes toward Reproductive Health Maintenance

Knowledge Level	Negative Attitude	Positive Attitude	Total	<i>p-value</i>
Poor	12 (75.0%)	4 (25.0%)	16 (100%)	
Sufficient	7 (26.9%)	19 (73.1%)	26 (100%)	
Good	2 (4.3%)	44 (95.7%)	46 (100%)	
Total	21 (23.9%)	67 (76.1%)	88 (100%)	0.000

Source: Primary Data, 2025

Based on Table 4, respondents with good knowledge predominantly had positive attitudes (95.7%), while respondents with poor knowledge predominantly had negative attitudes (75.0%). The Chi-Square test results showed a $p\text{-value} = 0.000 (< 0.05)$, indicating a significant relationship between knowledge level and attitudes toward reproductive health maintenance among female employees of Universitas Tulungagung.

DISCUSSION

1. Level of Reproductive Health Knowledge among Female Employees

The results showed that the majority of respondents (52.3%) had good knowledge of reproductive health. This finding is slightly higher compared to studies on general employee populations (49.6%) and is consistent with research on prospective biology teacher students which showed an average knowledge score of 77.71 in the good category (Yanti, 2018). The higher proportion of good knowledge among female employees may be attributed to women's greater attention to reproductive health issues, as reproductive health is more directly relevant to women's life experiences, including menstruation, pregnancy, and menopause.

This good knowledge can be attributed to the respondents' education level, with the majority holding bachelor's degrees (37.5%) and postgraduate degrees (21.6%). Formal education provides exposure to reproductive health information, both through relevant courses and general health literacy. Previous research has also revealed that health literacy is related to an individual's ability to understand and act on health information (Andayani, 2013). Additionally, women tend to have more frequent interactions with healthcare services, particularly for reproductive health needs, which may contribute to better knowledge acquisition.

However, 18.2% of respondents still had poor knowledge. This indicates that despite being in an academic environment, not all female employees possess adequate understanding of reproductive health. Other factors such as information sources, personal experience, and mass media exposure also influence an individual's knowledge level (Notoatmodjo, 2012). Studies in other workplace settings have also found variations in reproductive health knowledge levels among workers (Andayani, 2013; Fertility-care readiness, 2026). The presence of poor knowledge among some female employees is concerning given that women are more vulnerable to reproductive health problems and need accurate information for prevention and early detection.

The relatively high proportion of good knowledge (52.3%) among female employees can also be attributed to the academic environment that facilitates access to various information sources. Universities typically have libraries, internet access, and a culture of learning that supports knowledge acquisition. Additionally, the high percentage of married respondents (67.0%) may also contribute to better knowledge, as married women often have more exposure to reproductive health information through prenatal care, family planning services, and other reproductive health services.

2. Attitudes toward Reproductive Health Maintenance

The majority of respondents (76.1%) had positive attitudes toward reproductive health maintenance. This finding is higher compared to research on workers in Nigeria which showed only 46% had positive attitudes toward cervical cancer screening (Cervical cancer screening, 2025), and slightly higher than studies on general employee populations (74.3%). This positive attitude reflects female employees' awareness of the importance of maintaining reproductive health as part of overall health, likely influenced by their personal experiences with reproductive health issues.

However, negative attitudes still found in 23.9% of respondents require attention. Negative attitudes can be influenced by various factors such as myths, fear of side effects, lack of institutional support, and misconceptions about reproductive health (Persepsi Wanita Usia Subur, 2024). Research on women of childbearing age in workplace settings shows that perceptions of reproductive health are still influenced by myths and fears. Therefore, continuous educational interventions are needed to transform negative attitudes into positive ones (Zalni, 2017).

The positive attitudes demonstrated by the majority of female employees are encouraging, as attitudes are strong predictors of health behaviors. Female employees with positive attitudes are more likely to engage in health-promoting behaviors such as regular check-ups, seeking information, and adopting healthy lifestyles. The higher proportion of positive attitudes among female employees compared to general populations may reflect the greater personal relevance of reproductive health issues for women. However, the presence of negative attitudes among nearly one-quarter of respondents indicates that targeted interventions are necessary to address specific misconceptions and barriers.

3. Relationship between Knowledge and Attitude

The statistical test results showed a significant relationship between knowledge and attitudes toward reproductive health maintenance ($p\text{-value} = 0.000$). This finding is consistent with previous studies demonstrating positive correlations between reproductive health knowledge and attitudes across various populations (Khasanah, 2009; Zalni, 2017). Research on young female workers in Semarang found a positive correlation between reproductive health knowledge and attitudes ($r=0.147$) (Khasanah, 2009). Similarly, research on prospective brides showed that increased knowledge was followed by improved attitudes after participating in premarital courses (Pengaruh kursus calon pengantin, 2025).

The strong relationship between knowledge and attitude can be explained through health behavior theory, where knowledge is the cognitive domain underlying attitude formation. Knowledge provides an information base for individuals to form beliefs, evaluations, and behavioral tendencies toward an object (Notoatmodjo, 2012). Good knowledge of reproductive health enables individuals to understand the risks, benefits, and importance of reproductive health maintenance, which in turn forms positive attitudes (Khasanah, 2009).

This study also confirms Rustiana's (2025) findings on the influence of media information utilization on attitudes in the context of reproductive health in Tulungagung. The better the knowledge obtained from various sources, the more positive the attitudes formed. This suggests that interventions to improve knowledge through reproductive health education in the workplace can be an effective strategy for shaping positive employee attitudes.

The strong association found in this study (with a highly significant $p\text{-value}$) underscores the importance of knowledge as a determinant of attitudes. The data show a clear gradient: as knowledge improves from poor to sufficient to good, the proportion of positive attitudes increases dramatically from 25.0% to 73.1% to 95.7%. This gradient provides compelling evidence for the knowledge-attitude relationship and suggests that knowledge improvement interventions could yield substantial attitude improvements. The particularly strong relationship among female employees (95.7% positive attitudes in the good knowledge group) suggests that women who are well-informed about reproductive health are very likely to develop positive attitudes.

4. Implications for Practice

The findings of this study have several important implications for practice. First, the significant relationship between knowledge and attitudes suggests that educational interventions targeting female employees' reproductive health knowledge can be effective in improving attitudes. Universities and workplaces should consider implementing regular reproductive health education programs, including seminars, workshops, and the distribution of educational materials.

Second, the high percentage of female employees with good knowledge and positive attitudes (52.3% and 76.1%, respectively) provides a foundation for peer education programs. Female employees with good knowledge and positive attitudes can serve as peer educators to help improve knowledge and attitudes among their colleagues who have poor knowledge or negative attitudes.

Third, the presence of poor knowledge (18.2%) and negative attitudes (23.9%) among a significant minority of respondents indicates the need for targeted interventions. Universities should identify employees with poor knowledge and negative attitudes and provide them with intensive educational support. This could include individual counseling, small group discussions, or access to online educational resources.

5. Study Limitations

The limitations of this study include the cross-sectional design which cannot determine causal relationships. Additionally, attitude measurement using self-report questionnaires may introduce social desirability bias. Further research with experimental or longitudinal designs is

needed to test the effectiveness of knowledge improvement interventions on attitude change. The use of total sampling in a relatively small population (88 female employees) may limit the generalizability of findings to larger or different populations. Future studies could include male employees to enable gender comparisons.

CONCLUSION

Based on the research results, it can be concluded that there is a significant relationship between knowledge and attitudes toward reproductive health maintenance among female employees of Universitas Tulungagung. Respondents with good knowledge tended to have positive attitudes toward reproductive health maintenance, while respondents with poor knowledge tended to have negative attitudes. This study confirms that knowledge is an important factor influencing attitudes in the context of reproductive health among female adult worker populations in academic settings.

SUGGESTION

For Universitas Tulungagung, it is recommended to conduct regular reproductive health education programs specifically designed for female employees, whether through seminars, workshops, or providing reproductive health information materials on campus. These programs should address the specific reproductive health concerns of women, including menstrual health, reproductive tract infections, cervical cancer prevention through screening and vaccination, breast health, and menopausal health. Given that 18.2% of female employees have poor knowledge and 23.9% have negative attitudes, targeted interventions for these groups are particularly important.

For female employees, it is expected to improve reproductive health literacy through various credible information sources and actively participate in health education programs organized by the university or related institutions. Positive attitudes toward reproductive health maintenance need to be manifested in concrete actions such as regular health check-ups (Pap smears, breast self-examination, and clinical breast examination) and the implementation of clean and healthy living behaviors. Married employees (67.0% of respondents) are encouraged to involve their spouses in reproductive health education, as spousal support is important for reproductive health behavior change.

For future researchers, it is recommended to conduct studies with experimental designs to test the effectiveness of reproductive health education interventions on improving knowledge and changing attitudes among female employees. Research can also be expanded by adding reproductive health maintenance behavior variables to examine the gap between attitudes and actions. Additionally, comparative studies between female and male employees would provide insights into gender differences in reproductive health knowledge and attitudes. Qualitative studies could also be valuable to explore the underlying reasons for poor knowledge and negative attitudes among certain groups of female employees, including cultural beliefs, personal experiences, and workplace barriers.

REFERENCES

- Andayani, H. (2013). Pengetahuan dan Sikap Calon Guru Biologi pada Kesehatan Reproduksi. *Edu-Sains*, 1(1). <https://doi.org/10.22437/jmpmipa.v1i1.790>
- BAPPENAS. (2024). *Rencana Aksi Nasional Kesehatan Reproduksi dan Kesehatan Seksual 2024-2029*. Kementerian Perencanaan Pembangunan Nasional/BAPPENAS.
- Cervical cancer screening and vaccination: knowledge, awareness, and attitude of female staff in a Nigerian University. (2025). *OUCI*.

- Dahlan, M.S. (2019). *Statistik untuk Kedokteran dan Kesehatan: Deskriptif, Bivariat, dan Multivariat* (Edisi 6). Salemba Medika.
- Fertility-care readiness among healthcare students and workers in Al-Baha, Saudi Arabia. (2026). *Contraception and Reproductive Medicine*. <https://doi.org/10.1186/s40834-026-00467-7>
- Kemenkes RI. (2023). *Profil Kesehatan Indonesia Tahun 2023*. Kementerian Kesehatan Republik Indonesia.
- Khasanah, Z. (2009). Hubungan Pengetahuan dan Sikap Kesehatan Reproduksi dengan Perilaku Seksual pada Pekerja Muda. *Skripsi*, Universitas Diponegoro, Semarang.
- Notoatmodjo, S. (2012). *Promosi Kesehatan dan Perilaku Kesehatan*. Rineka Cipta.
- Notoatmodjo, S. (2018). *Metodologi Penelitian Kesehatan*. Rineka Cipta.
- Pengaruh kursus calon pengantin terhadap pengetahuan dan sikap tentang kesehatan reproduksi calon pengantin. (2025). *Scilit Publication*.
- Persepsi Wanita Usia Subur terhadap Penggunaan Kontrasepsi dan Sikap terhadap Deteksi Dini Kanker Serviks. (2024). *Garuda Kemdikti*.
- Pippen, E.L. dan E.P. Mecchi. (1969). Hydrogen Sulfide, a direct and potentially indirect contributor to cooked chicken aroma. *J.Food Sci*, 34: 443.
- Rustiana, E. (2020). Hubungan Pengetahuan dengan Sikap Ibu Pasca Melahirkan mengenai Perawatan Luka Perineum di RB ANA Kabupaten Tulungagung. *Repository UNITA*.
- Rustiana, E. (2025). Pengaruh Pemanfaatan Media Cetak terhadap Sikap Remaja dalam Menghindari Perilaku Seks Bebas di Desa Kromasan Kecamatan Ngunut Kabupaten Tulungagung. *Jurnal Penelitian Keperawatan Kontemporer*, 5(4). <https://doi.org/10.59894/jpkk.v5i4.995>
- Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Universitas Tulungagung. (2025). *Data Kepegawaian Universitas Tulungagung Tahun 2025*. Bagian Kepegawaian UNITA.
- WHO. (2023). *Reproductive Health Strategy*. World Health Organization.
- Yanti, S.R. (2018). Hubungan Pengetahuan Kesehatan Reproduksi dan Sikap Mahasiswa Calon Guru Biologi. *Skripsi*, Universitas Negeri Padang.
- Zalni, R.I. (2017). Hubungan Pengetahuan dan Sikap Remaja Putri tentang Vulva Hygiene dengan Tindakan Pencegahan Keputihan. *Ensiklopedia of Journal*, 1(1): 235-243.