

## Contraceptive Knowledge Among University Students in the United Kingdom: Understanding Awareness, Information Pathways and Knowledge Gaps

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**ABSTRACT**

University students remain an important population within sexual and reproductive health research because they occupy a transitional life stage characterised by increased independence, changing sexual relationships, and evolving reproductive decision-making. Despite sustained public health investment in sexual-health promotion and contraceptive access across the United Kingdom, evidence continues to suggest that important gaps persist in students' understanding of contraception, particularly in relation to method effectiveness, access pathways, and informed decision-making. This paper examines contraceptive knowledge among students attending a university in North-East England, using evidence from broader research conducted at the University of Sunderland. The study is positioned within continuing concerns regarding unintended pregnancy, sexually transmitted infections, and inconsistent contraceptive behaviours among young adults. Particular attention is given to students' awareness of contraceptive methods, their principal sources of information, and the social and educational factors that shape their understanding of contraception.

The paper argues that knowledge of contraception cannot be reduced to simple awareness of contraceptive names or products. Instead, contraceptive knowledge involves confidence in method selection, understanding of effectiveness, awareness of risks and side-effects, and the ability to navigate healthcare systems and sexual-health services. Existing research shows that young adults frequently rely on peers, social media, and informal online sources for sexual-health information, even when healthcare professionals remain the most trusted source of advice. This creates an important public health challenge because inaccurate or fragmented information may contribute to contraceptive inconsistency and risky sexual practices.

This paper contributes to current research on sexual health education among university students in the United Kingdom by focusing on contraceptive knowledge within this population. The discussion highlights the continuing need for evidence-based sexual-health education, accessible reproductive-health services, and university-led interventions capable of improving informed contraceptive decision-making among young adults.

**Keywords:** Contraception, contraceptive knowledge, university students, sexual-health education, reproductive health, United Kingdom.

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**INTRODUCTION**

Access to contraception remains central to contemporary public health policy because effective family-planning services contribute to reductions in unintended pregnancy, unsafe abortion, maternal-health complications, and sexually transmitted infections. International reproductive-health frameworks continue to identify universal access to sexual and reproductive healthcare as a major global priority, particularly among young adults and populations experiencing social or educational vulnerability. The World Health Organisation continues to emphasise that access to safe and effective contraception is fundamental to reproductive autonomy, gender equality, and improved health outcomes across the life course (World Health Organisation, 2023).

Young adults attending universities occupy a particularly important position within this discussion. University life often

coincides with greater personal independence, changing sexual relationships, delayed family formation, and increased exposure to new social environments. Many students experience substantial changes in sexual behaviour during this period, yet access to accurate and evidence-based contraceptive information does not always develop at the same pace. Research conducted among university populations has repeatedly shown that awareness of contraception may coexist with incomplete understanding of contraceptive effectiveness, method suitability, side-effects, and service accessibility (D'Souza et al., 2022; Odiegwu et al., 2026).

In the United Kingdom, sexual-health services are widely available through the National Health Service, pharmacies, university wellbeing services, and specialist sexual-health clinics. Nevertheless, recent studies

continue to report inconsistencies in contraceptive literacy among young adults. Students may recognise common contraceptive methods such as condoms and oral contraceptive pills while remaining uncertain about long-acting reversible contraception, emergency contraception, or the comparative effectiveness of different methods. Research from North-East England also showed that many university students were uncertain about where to obtain contraceptive advice or how to access sexual-health services despite reporting previous exposure to sex education (Turnbull et al., 2016).

These concerns remain significant because poor contraceptive understanding may contribute to inconsistent contraceptive use and prevent informed reproductive decision-making. Public health evidence has consistently linked limited contraceptive knowledge with elevated risks of unintended pregnancy and sexually transmitted infections among young adults. The United Kingdom Health Security Agency continues to report disproportionately high rates of sexually transmitted infections among individuals aged 15 to 24 years, reinforcing concerns surrounding sexual-health behaviours within younger populations (UK Health Security Agency, 2024).

Contemporary patterns of information-sharing have further complicated the sexual-health environment experienced by university students. Digital platforms now represent a major source of reproductive-health information for young adults. Social media platforms, online influencers, discussion forums, and health-related applications increasingly shape perceptions surrounding contraception, fertility, and hormonal treatments. Although online access may increase exposure to sexual-health information, the quality and reliability of such information remain inconsistent. Recent research has highlighted the growing influence of misinformation and negative perceptions surrounding hormonal contraception across online spaces, with concerns that inaccurate digital narratives may discourage effective contraceptive use or promote unreliable alternatives (John et al., 2024; Pfender & Fowler, 2024; Purnat et al., 2025).

Informal information pathways may also create disparities in contraceptive understanding across demographic groups. Previous studies have shown that gender, ethnicity, religion, educational background, and previous sexual-health experiences can influence both access to contraceptive information and confidence in contraceptive decision-making (Craig et al., 2014; Rosenfeld, 2017; Krull et al., 2021). Female students often report higher levels of contraceptive awareness than male students because reproductive-health discussions and healthcare interactions frequently target women more directly (Issah et al., 2022; Jahanfar & Zendehdel, 2024). Religious beliefs and cultural expectations may also shape attitudes towards contraception and influence willingness to seek information or access services (Krull et al., 2021; Bazié et al., 2024).

Within university settings, the relationship between contraceptive knowledge and healthcare access is particularly important. Young adults entering higher education may relocate away from established healthcare providers and family support systems, leaving many students dependent on unfamiliar local services (IWPR, 2020; Lee, 2023). Some students experience embarrassment, fear of judgement, concerns about confidentiality, or uncertainty about service availability when attempting to access reproductive health support (Bersamin et al., 2017; Advocates for Youth & Hey Jane, 2024; Kabunga et al., 2024). These barriers may discourage engagement with formal healthcare systems even when contraceptive services are widely available.

This paper examines contraceptive knowledge among students attending a university in the United Kingdom using evidence drawn from wider research undertaken at the University of Sunderland. The discussion focuses specifically on students' awareness of contraceptive methods, understanding of contraception-related issues, and primary sources of contraceptive information. Unlike studies that combine knowledge, attitudes, and behavioural practice within a single analytical framework, this paper concentrates exclusively on contraceptive knowledge in order to provide a more focused examination of informational and educational dimensions of reproductive health among university students.

Attention is also given to the continuing importance of evidence-based sexual-health education within higher-education settings. Although awareness of contraception appears relatively widespread among university students, awareness alone does not necessarily translate into informed understanding or effective contraceptive decision-making. Improving contraceptive literacy among students therefore requires more than simple information provision. Universities, healthcare professionals, public-health organisations, and policymakers must also address issues relating to accessibility, trust, communication quality, cultural sensitivity, and digital misinformation.

The findings presented in this paper contribute to current discussions surrounding reproductive-health promotion among young adults in the United Kingdom. Greater understanding of how university students acquire contraceptive knowledge and where knowledge gaps persist may support the development of more effective educational interventions, improved student-health services, and stronger public-health strategies aimed at supporting informed reproductive decision-making.

## METHODS

### *Study Design*

This study adopted a quantitative cross-sectional design to examine contraceptive knowledge among students

enrolled at the University of Sunderland in the United Kingdom. Cross-sectional designs are widely used in public health research when the objective is to assess the prevalence of knowledge, beliefs, behaviours, or health-related characteristics within a defined population at a single point in time (Setia, 2016). Such designs are particularly useful for identifying patterns of knowledge and associated demographic factors within large populations while providing a foundation for future analytical research.

The focus of this paper is restricted to contraceptive knowledge. Although the wider research investigated knowledge, attitudes, and practice, the present analysis concentrates exclusively on students' awareness of contraception, understanding of contraceptive methods, knowledge of contraceptive effectiveness, awareness of service availability, and sources of contraceptive information.

### ***Research Setting***

The study was conducted at the University of Sunderland, a public university located in North-East England. The institution attracts students from diverse ethnic, cultural, religious, and educational backgrounds, creating an appropriate setting for examining contraceptive knowledge within a heterogeneous university population.

Universities represent important environments for reproductive-health research because students are frequently exposed to changing social circumstances, increased independence, and evolving sexual relationships. These factors often coincide with greater need for accurate sexual-health information and informed contraceptive decision-making.

### ***Study Population***

The target population comprised registered undergraduate and postgraduate students attending the University of Sunderland during the study period.

University students constitute a population of particular public health interest because they fall predominantly within age groups associated with higher rates of sexual activity, sexually transmitted infections, and unintended pregnancy. Understanding levels of contraceptive knowledge within this population may therefore inform the development of targeted educational interventions and reproductive-health services.

### ***Inclusion Criteria***

Participants were eligible for inclusion if they:

1. Were registered students at the University of Sunderland.
2. Were aged 18 years or above.
3. Were able to understand English sufficiently to complete the questionnaire.

4. Provided informed consent before participation.

### ***Exclusion Criteria***

Participants were excluded if they:

1. We're not enrolled as University of Sunderland students.
2. Were younger than 18 years.
3. Declined participation or did not provide informed consent.
4. Submitted incomplete questionnaires unsuitable for analysis.

### ***Sampling Strategy***

A convenience sampling approach was employed. Recruitment was undertaken through university communication channels and student networks, allowing eligible students to participate voluntarily.

Convenience sampling is frequently used in university-based health research because it enables efficient access to large student populations within limited timeframes and available resources (Etikan et al., 2016). Although non-probability sampling restricts the generalisability of findings beyond the study population, it remains an accepted approach for exploratory and descriptive studies within higher education settings.

The final dataset consisted of 438 completed responses obtained from students across multiple faculties and levels of study.

### ***Data Collection Instrument***

Data were collected using a structured self-administered questionnaire developed specifically for the wider research project. The questionnaire contained sections addressing:

1. Sociodemographic characteristics
2. Awareness of contraception
3. Knowledge of contraceptive methods
4. Understanding of contraceptive effectiveness
5. Awareness of contraceptive services
6. Sources of contraceptive information

For the purposes of this paper, only questionnaire items directly related to contraceptive knowledge were analysed.

Knowledge-related items assessed respondents' perceived understanding of contraception, familiarity

with available methods, awareness of reasons for contraceptive use, and knowledge of where contraception services or information could be obtained. The instrument also explored the range of information sources through which students acquired contraceptive knowledge.

The questionnaire was administered electronically, allowing participants to complete the survey anonymously and at their convenience.

### ***Pilot Testing***

Prior to full-scale data collection, the questionnaire underwent pilot testing to assess clarity, comprehensibility, and appropriateness of the survey items. Pilot testing is an important step in questionnaire development because it allows researchers to identify ambiguous wording, improve question sequencing, and enhance overall data quality (Ruel et al., 2021).

Feedback obtained during pilot testing informed minor refinements to the questionnaire before its wider distribution.

### ***Ethical Considerations***

Ethical approval for the wider research project was granted by the University of Sunderland Research Ethics Committee before commencement of data collection. Ethical approval documentation confirmed compliance with university research governance requirements and participant-protection procedures.

Participation was entirely voluntary. Respondents were provided with information regarding the purpose of the study, the nature of participation, confidentiality arrangements, and their right to withdraw prior to survey submission. Electronic informed consent was obtained before participants proceeded to the questionnaire. No personally identifying information was collected, thereby protecting participant anonymity throughout the research process.

### ***Data Management***

Data were collected electronically and stored securely in accordance with institutional data-protection requirements. Access to the dataset was restricted to the research team.

Appropriate measures were implemented to ensure confidentiality, secure storage, and compliance with applicable data-protection regulations throughout the study period.

### ***Statistical Analysis***

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). Descriptive and inferential statistical techniques were employed to examine contraceptive knowledge among students.

Descriptive statistics were used to summarise:

1. Levels of contraceptive knowledge
2. Awareness of contraceptive methods
3. Awareness of reasons for contraceptive use
4. Sources of contraceptive information
5. Sociodemographic characteristics

Frequencies, percentages, tables, and graphical presentations were used to describe distributions within the sample. Knowledge scores were subsequently categorised into predefined knowledge levels to facilitate interpretation and comparison across demographic groups.

Associations between sociodemographic variables and contraceptive knowledge were examined using chi-square tests. A significance level of  $p < .05$  was adopted throughout the analysis, consistent with established conventions in public health research (Kim, 2017).

## **RESULTS**

Data were obtained from 438 respondents. Overall, respondents demonstrated high levels of contraceptive knowledge and favourable attitudes toward contraception. Healthcare workers constituted the leading source of information, while oral contraceptive pills represented the most widely recognised contraceptive method.

### ***Sources of Contraceptive Information***

Respondents reported obtaining contraceptive information from a variety of formal and informal sources (Table 1 and Figure 1). Healthcare workers represented the most frequently cited source of information, reported by 72.6% of respondents. Digital and media-based channels were also prominent, with 59.4% obtaining information from mass media or social media and 59.1% reporting websites or search engines as information sources.

Peer networks constituted another important source of contraceptive information. More than half of respondents (52.7%) indicated that friends or peers contributed to their understanding of contraception, while 31.7% identified partners as a source of information. Traditional educational and family-based channels were less frequently reported. School teachers were cited by 37.2% of respondents and parents by 35.2%.

Religious leaders were among the least frequently reported sources of contraceptive information, accounting for 14.4% of responses. Only 3.4% of respondents identified alternative sources not captured within the predefined categories.

Table 1 presents the principal sources of information and awareness of contraceptive methods.

**Table 1: Principal sources of information and awareness of contraceptive methods**

| Source of information   | n   | %    |
|-------------------------|-----|------|
| Healthcare workers      | 318 | 72.6 |
| Mass media/social media | 260 | 59.4 |
| Website/search engines  | 259 | 59.1 |
| Friends/peers           | 231 | 52.7 |

The distribution observed in Figure 1 demonstrates the dominant role of healthcare professionals in contraceptive knowledge acquisition while also highlighting the substantial contribution of digital information environments and peer-based communication networks.

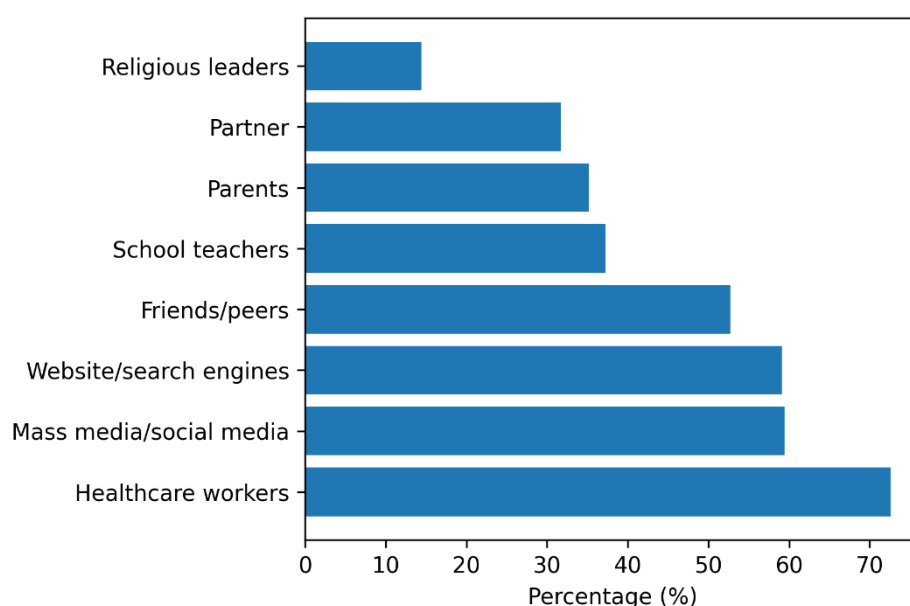


**Figure 1: Distribution of sources of information on contraception (N=438)**

Healthcare workers were reported as the most influential information source (72.6%), followed by mass media/social media (59.4%) and websites/search engines (59.1%). Awareness of contraceptive methods was generally high, with oral contraceptive pills recognised by 84.5% of respondents and barrier methods by 78.3%.

Table 2 and Figure 2 summarise knowledge and attitude classifications.

**Table 2: Respondents' knowledge and attitude classifications (N=438)**

| Classification | n   | %    |
|----------------|-----|------|
| Good knowledge | 346 | 79.0 |
| Poor knowledge | 92  | 21.0 |
| Good attitude  | 395 | 90.2 |
| Poor attitude  | 43  | 9.8  |

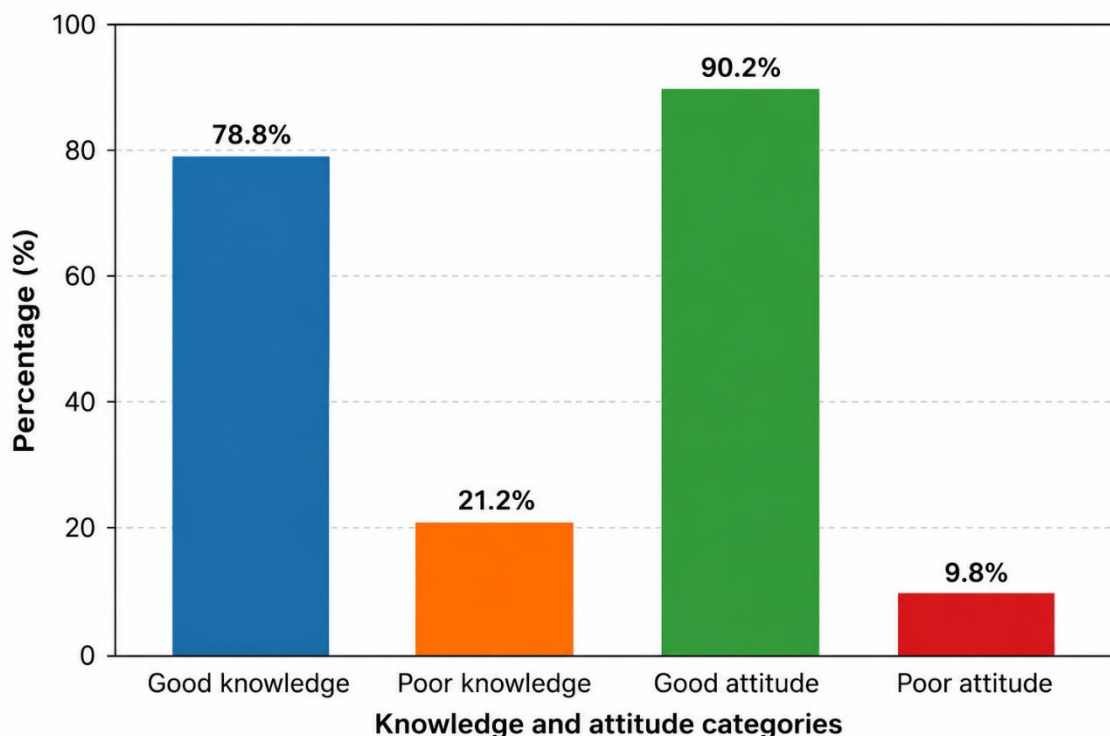


**Figure 2: Knowledge and attitude classifications among respondents (N=438)**

Knowledge scores were predominantly favourable, with 79.0% classified as having good knowledge. Similarly, 90.2% demonstrated a positive attitude toward contraception. Median knowledge and attitude scores were 68.75 and 76.00 respectively. Child spacing (67.6%), limitation of family size (62.1%) and prevention of sexually transmitted infections (56.2%) were the most frequently identified reasons for contraception use.

#### **Knowledge of Contraceptive Methods and Reasons for Contraceptive Use**

Respondents demonstrated substantial awareness of several contraceptive methods, although knowledge varied considerably across individual methods (Figure 2).

Oral contraceptive pills were the most widely recognised contraceptive method, identified by 84.5% of respondents. Barrier methods, including condoms and diaphragms, were recognised by 78.3%, while awareness of implants (74.2%) and injectable contraceptives (73.5%) was also high. Knowledge of withdrawal as a contraceptive method was reported by 68.5% of respondents, whereas 60.3% were aware of natural family-planning methods and 60.0% recognised vasectomy as a contraceptive option.

Awareness declined for methods that are generally less visible within public health campaigns and routine contraceptive

discussions. Emergency contraception was recognised by 55.0% of respondents, while fewer participants were aware of intrauterine devices (45.0%), tubal ligation (40.6%), contraceptive patches (40.2%), and intrauterine systems (23.7%).

The distribution presented in Figure 3 indicates that respondents were considerably more familiar with short-term and commonly discussed contraceptive methods than with long-acting reversible contraceptives and permanent contraceptive options.

Respondents were also asked to identify reasons for contraception use. Child spacing emerged as the most frequently recognised reason, identified by 67.6% of respondents. Limiting family size was reported by 62.1%, while prevention of sexually transmitted infections was identified by 56.2%. A small minority identified additional reasons, including management of menstrual symptoms and hormonal imbalance.

These findings indicate that awareness of contraception was generally high within the study population, although important differences remained in knowledge across specific contraceptive methods and reproductive-health applications (Figure 3).

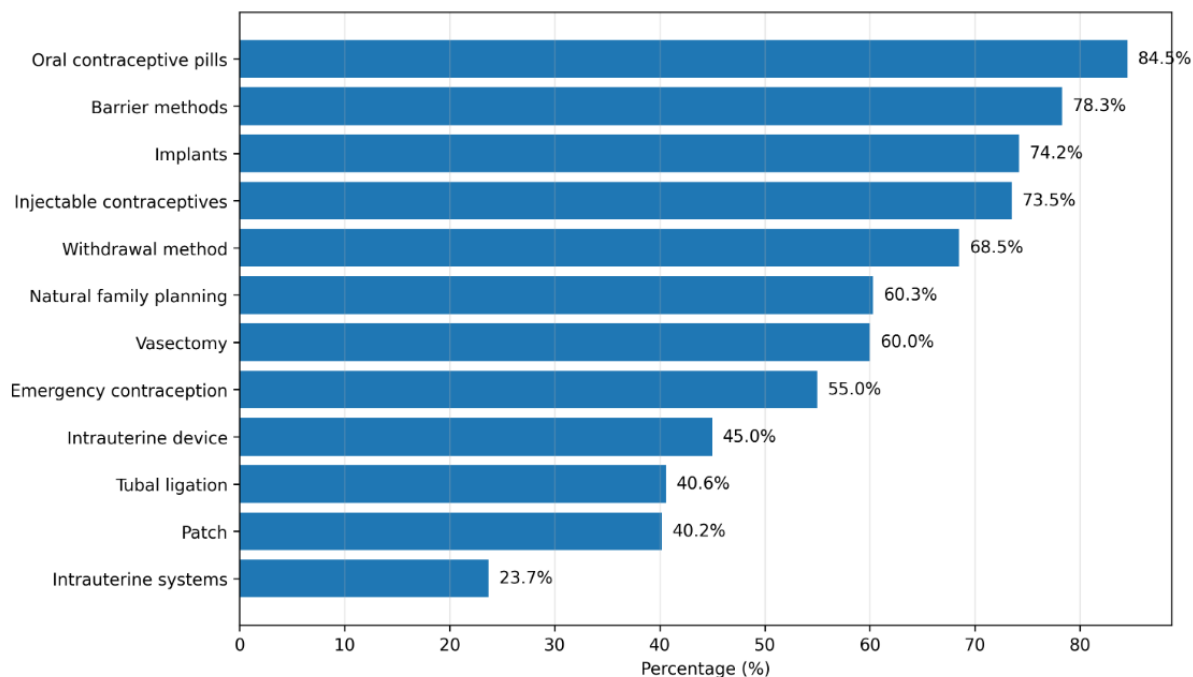


**Figure 3: Awareness of Contraceptive Methods Among Respondents**

### Factors Associated with Contraceptive Knowledge

Associations between sociodemographic characteristics and contraceptive knowledge were examined using chi-square tests (Table X). Significant differences in knowledge levels were observed across gender, religious affiliation, and faculty membership. Female respondents demonstrated substantially higher levels of good contraceptive knowledge than male respondents (84.9% vs. 69.8%;  $\chi^2 = 14.19$ ,  $p < .001$ ). Although only a small proportion of respondents identified as non-binary, 75.0% were classified as having good knowledge.

Religious affiliation was also significantly associated with contraceptive knowledge ( $\chi^2 = 10.34$ ,  $p = .040$ ). Respondents identifying as atheists exhibited the highest proportion of good contraceptive knowledge (96.7%), followed by Christians (79.5%) and Hindus (75.0%). Lower proportions of good knowledge were observed among Muslim respondents (66.7%) and those reporting other religious affiliations (69.2%).

Faculty membership demonstrated a significant association with contraceptive knowledge ( $\chi^2 = 19.55$ ,  $p < .001$ ). Students enrolled in the Faculty of Education and Society (100%), Faculty of Arts and Creative Industries (87.5%), and Faculty of Health Sciences and Wellbeing (83.1%) reported the highest proportions of good knowledge. Lower levels were observed among students in the Faculty of Business, Law and Tourism (71.9%) and particularly the Faculty of Technology (57.9%).

No statistically significant associations were identified between contraceptive knowledge and age group ( $\chi^2 = 6.45$ ,  $p = .170$ ), marital status ( $\chi^2 = 7.73$ ,  $p = .170$ ), ethnicity ( $\chi^2 = 5.94$ ,  $p = .200$ ), or level of study ( $\chi^2 = 0.03$ ,  $p = .870$ ). Good contraceptive knowledge remained consistently high across these demographic categories, with proportions generally exceeding 70%.

These findings indicate that contraceptive knowledge was broadly distributed throughout the student population but varied significantly according to gender, religion, and academic faculty (Table 3).

**Table 3: Factors Associated with Contraceptive Knowledge**

| Variable       | $\chi^2$ | p-value | Significant |
|----------------|----------|---------|-------------|
| Age            | 6.45     | .170    | No          |
| Gender         | 14.19    | <.001   | Yes         |
| Marital status | 7.73     | .170    | No          |
| Religion       | 10.34    | .040    | Yes         |
| Ethnicity      | 5.94     | .200    | No          |
| Level of study | 0.03     | .870    | No          |
| Faculty        | 19.55    | <.001   | Yes         |

**Note:** N = 438. Chi-square tests examined associations between sociodemographic characteristics and contraceptive knowledge classification. Statistical significance was defined as  $p < .05$ .

## DISCUSSION

This study examined contraceptive knowledge among students at the University of Sunderland and found that awareness of contraception was generally high across the study population. Most respondents demonstrated good contraceptive knowledge, with substantial recognition of commonly used contraceptive methods and broad awareness of the reasons for contraception use. These findings align with recent research indicating that university students often possess moderate-to-high levels of contraceptive awareness, particularly within higher-education environments where exposure to health information is more accessible than in many community settings (Jahanfar et al., 2024; Alhussaini et al., 2025).

The high proportion of respondents classified as having good contraceptive knowledge is encouraging from a public health perspective. Universities increasingly function as important sites of health promotion, and the findings suggest that many students are being exposed to information regarding reproductive health through multiple channels. Nevertheless, the distinction between awareness and comprehensive contraceptive literacy remains important. Although oral contraceptive pills, barrier methods, implants, and injectable contraceptives were widely recognised, awareness declined substantially for intrauterine systems, tubal ligation, and other long-acting or specialised methods. Similar patterns have been reported elsewhere, where students demonstrate stronger familiarity with highly visible contraceptive methods while possessing less knowledge of long-acting reversible contraception and permanent contraceptive options (Castro et al., 2024; Kumar et al., 2024). This pattern may limit informed contraceptive decision-making because individuals are less likely to consider methods about which they possess limited knowledge.

Healthcare workers emerged as the most frequently reported source of contraceptive information. This finding reinforces the continuing importance of healthcare professionals within reproductive-health education despite the rapid expansion of digital information environments. Clinical encounters remain one of the most trusted avenues through which young adults obtain information regarding contraception, fertility, and sexual health (Dehlendorf et al., 2014). The prominence of healthcare workers within this study may reflect the accessibility of National Health Service sexual-health services, university wellbeing services, and community-based healthcare provision within the United Kingdom.

At the same time, the findings reveal the growing influence of digital information sources. More than half of respondents identified mass media, social media, websites, and search engines as important sources of contraceptive knowledge. This reflects broader changes in health-information seeking behaviour among young adults, who increasingly rely on digital platforms when seeking reproductive-health information (Prémusz et al., 2025). While digital access may improve information availability, concerns remain regarding the quality

and reliability of online content. Recent studies have highlighted the increasing circulation of contraceptive misinformation across social media platforms, particularly in relation to hormonal contraception, fertility concerns, and perceived side-effects (John et al., 2024; Black et al., 2025; Groene et al., 2025). Exposure to inaccurate information may contribute to misconceptions that persist despite relatively high levels of general awareness.

The significant association observed between gender and contraceptive knowledge warrants particular attention. Female respondents demonstrated substantially higher levels of good contraceptive knowledge than male respondents. Comparable findings have been reported across several studies involving university populations and young adults, where women consistently report greater familiarity with contraceptive methods and reproductive-health services (Hall et al., 2016; Chekol et al., 2023; Castro et al., 2024). This disparity may reflect the longstanding tendency for contraceptive education, counselling, and service provision to focus primarily on women. Women are more likely to engage directly with reproductive-health services through contraceptive consultations, menstrual-health management, and routine sexual-health care. Male students may therefore encounter fewer opportunities for structured contraceptive education despite their important role in contraceptive decision-making and sexual-health behaviour.

Religious affiliation also demonstrated a significant relationship with contraceptive knowledge. Respondents identifying as atheists exhibited the highest proportion of good contraceptive knowledge, while lower levels were observed among some religious groups. Previous research has suggested that religious beliefs may influence both access to sexual-health information and willingness to engage with contraceptive discussions, particularly within more conservative social contexts (Krull et al., 2020; D'Souza et al., 2022). Religious affiliation should not be interpreted as a direct determinant of contraceptive knowledge. Rather, it may interact with cultural expectations, educational exposure, family influences, and attitudes towards sexuality in ways that shape information-seeking behaviour.

Faculty membership was another significant predictor of contraceptive knowledge. Students enrolled within health-related disciplines demonstrated stronger levels of contraceptive knowledge than several non-health faculties. This finding is unsurprising given their greater exposure to health education, biological sciences, public health concepts, and healthcare environments. Similar associations between academic discipline and reproductive-health literacy have been identified in recent studies examining sexual-health knowledge among university students (Celik et al., 2026). The finding

nevertheless highlights important inequalities in contraceptive literacy across academic settings and suggests that reproductive-health education should not be confined to health-related programmes alone.

Several non-significant findings are equally important. No statistically significant associations were identified between contraceptive knowledge and age, ethnicity, marital status, or level of study. These results suggest that contraceptive knowledge was relatively widespread across demographic groups within the study population. Such findings may indicate the success of broader public health messaging and educational initiatives that have increased awareness beyond traditionally targeted populations.

Certain limitations should be considered when interpreting these findings. The study employed a cross-sectional design and convenience sampling approach, limiting the extent to which findings can be generalised beyond the study setting. Self-reported responses may also have been influenced by recall bias or social-desirability effects. Despite these limitations, the study contributes valuable evidence regarding contraceptive knowledge within a United Kingdom university population, an area where recent empirical research remains comparatively limited.

The findings highlight the continuing need for evidence-based reproductive-health education that extends beyond basic awareness and promotes deeper contraceptive literacy. Greater emphasis on long-acting contraceptive methods, critical evaluation of online information, and inclusive sexual-health education involving all genders may strengthen informed contraceptive decision-making among university students. These priorities remain particularly relevant as digital information environments continue to shape reproductive-health knowledge and behaviours among young adults.

## **CONCLUSION**

This paper examined contraceptive knowledge among students at the University of Sunderland and found that awareness of contraception was generally high across the study population. Most respondents demonstrated good knowledge of contraception and were familiar with several commonly used contraceptive methods. Oral contraceptive pills, barrier methods, implants, and injectable contraceptives were the most widely recognised options, while awareness of certain long-acting and permanent methods remained comparatively limited.

Healthcare workers emerged as the principal source of contraceptive information, highlighting the continuing importance of professional health advice in supporting reproductive-health literacy among young adults. Digital information sources, including social media, websites, and search engines, also played a substantial role in shaping contraceptive knowledge. This reflects the increasingly

complex information environment within which students acquire reproductive-health information and make decisions regarding sexual health.

The findings further revealed that contraceptive knowledge was not distributed evenly across all groups. Significant associations were observed between contraceptive knowledge and gender, religious affiliation, and faculty membership. Female respondents, students identifying as atheists, and those enrolled in certain academic faculties demonstrated higher levels of contraceptive knowledge than their counterparts. In contrast, age, ethnicity, marital status, and level of study were not significantly associated with knowledge levels.

These findings suggest that while awareness of contraception is relatively widespread among university students, important differences remain in the depth and distribution of contraceptive knowledge. Greater attention should therefore be directed towards strengthening contraceptive literacy across all student groups rather than focusing solely on awareness promotion. Educational initiatives that provide balanced information on the full range of contraceptive methods, improve understanding of long-acting reversible contraception, and encourage critical evaluation of online health information may help address existing knowledge gaps.

This paper contributes to the limited body of recent evidence examining contraceptive knowledge within a United Kingdom university setting. The findings reinforce the importance of sustained reproductive-health education and accessible sexual-health services in supporting informed contraceptive decision-making among young adults. As universities continue to play an important role in student wellbeing, they remain well positioned to support the development of evidence-based interventions that strengthen reproductive-health knowledge and promote informed choices regarding contraception.

## **AUTHOR CONTRIBUTION**

All authors played a substantive role in shaping this study and developing the manuscript. F.N.I. conceptualised the work and designed the overall study framework, with supervision from K.O.O. Data analysis, interpretation of data and validation of findings were carried out collaboratively, with each author contributing to the discussions that informed the final results. G.M.Y., C.O. and K.O.O. prepared the initial manuscript draft, covering the introduction, methods, results and discussion. Co-authors strengthened the analysis, offered detailed revisions and enhanced the clarity and coherence of the final document. Every author reviewed the complete manuscript, approved the final version and accepted responsibility for the integrity of the work.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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