



Original Article

Evaluating Reproductive Health Literacy among Nursing and Midwifery Students in Bangladesh: Implications for Curriculum Development

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ABSTRACT

The research evaluated the reproductive health literacy among midwifery and nursing students at Dhaka Central International Nursing College and Institute, Bangladesh. Based on a quantitative and cross-sectional design, the study assessed the knowledge levels in menstrual health, contraception, STIs and maternal complications in a sample size of 126 participants. Findings show that although 58.73 percent of students exhibited an excellent or good level of knowledge, great disparities still exist when it comes to other areas of high reproductive health like complications associated with pregnancy such as preeclampsia and the screenings that should be conducted to prevent such complications such as Pap smears. Statistically, the academic program type and maternal education level had a significant correlation with knowledge attainment. The results reinforce the necessity of curriculum change, including the incorporation of interactive and practice-based learning and standardized sexual health courses since these strategies will help future providers of reproductive health become holistic and evidence-based practitioners.

Keywords: Reproductive Health Literacy, Nursing and Midwifery Education, Clinical Competence, Curriculum Development, Bangladesh Healthcare.

INTRODUCTION

Reproductive health literacy is a key component of health care education; and is the knowledge, skills and ability required to acquire, interpret, assess and use information directly relating to sexual and reproductive health. As future frontline healthcare practitioners, nursing and midwifery students have a big role to play in enhancing reproductive health, counseling, and evidence-based care to the individuals and communities. Maternal mortality, teen pregnancy, sexually transmitted diseases (STIs) and reproductive ignorance are the reproductive issues that dominate in determining the health outcomes of the population in Bangladesh. Despite variations in the reproductive health literacy levels among nursing and midwifery students due to difference in the levels of academic exposure, the sociocultural elements, as well as the unpredictability or presence of credible information, the students do not cease to have their professional obligations. It is therefore vital to identify the degree of reproductive health literacy of such students in order to identify the gaps in knowledge as well as the education requirements. The findings are able to provide valuable input to the curriculum development process in a bid to make sure that in the future the providers are ready to address the reproductive health issues in a friendly and professional manner.

LITERATURE REVIEW

This study will fill in the knowledge gap on the level of health literacy about healthcare trainees that will play a vital role in minimizing the issue of disparities in sexual and reproductive health outcomes throughout the time span at the regional level (Alhussaini et al., 2025; Bahrami et al., 2025). Given the crucial role of health literacy in intellectual processing of clinical information and critical decision-making, understanding of these skills when it comes to academic training is crucial to improve the quality of life within the community (Nematzadeh et al., 2024). Furthermore, the recent body of literature suggests the processes of acquiring such competencies based on sociocultural frames influence it extensively, which implies that the resources required to measure that competency (e.g., particular groups of the population) had to be elaborated (Church et al., 2023). The current data indicates that, the current measurement models are typically less sensitive enough to record the sociocultural specificities of youth sexual and reproductive health in across different international environments (Ma et al., 2021). Thus, the necessity to test such adolescent measures as the Health Literacy Measure will be a precondition in ensuring that the findings of the studies are reflective of the distinctive patterns of intellectual and behavioral responses in the dissimilar groups of students (Wardiati et al., 2023). These refinements in methodology are critical because previous studies have continually shown that low levels of literacy on reproductive health are a key obstacle to informed clinical decision making and the best possible population health results (Vongxay et al., 2019; Wardiati et al., 2025). Despite these conceptual enhancements, few works are still heavily restricted focusing on the intersection of professional clinical training and reproductive health literacy among South-Asian nursing students (Premusz et al., 2025). To address this vacuity, this paper will evaluate the reproductive health literacy level among the nursing and midwifery trainees in an attempt to determine the role the basic knowledge plays in decision-making capacity with regard to the complex sociocultural sensitivities involved in the clinical practice (Tampubolon et al., 2026). Identifying those specific areas of competency weakness, the research will be useful in informing the development of a specific set of pedagogical interventions that might transcend the models of global competences commonly used to date to a more useful attachment to those pedagogical needs as reflected in systematic reviews (Bulfone et al., 2024). Moreover, the integration of such situation-specific strategies should ensure the possibility of the future practitioners to adequately bridge the gap between the theoretical and the practical application of the health information to enable patients to self-manage the situations better (Batu et al., 2024; Kelecha et al., 2024).

This highlights why we must shift towards more targeted cultural and reproductive frameworks, which have been important in ensuring there is accurate evaluation of adolescent and student groups, in the same regions (Bhusal et al., 2021; Vongxay et al., 2022). To this end, this study leverages a psychometrically calibrated construct of testing whether in-cursion of reproductive health challenges that most curricula frameworks do not dispositionally explore was adequately taught in prior courses (Khanal et al., 2023; Ma et al., 2021). Using the method of cross-section study and descriptive method, the study seeks to establish the connection between attainment of education levels in specialized health courses and higher competence of future clinicians (Maduramente et al., 2019). In addition, the impacts of different ethnic/ socioeconomic backgrounds on the assimilation of sexual and reproductive health information are taken into consideration during the discussion, where the complex negotiation of the traditional concepts and the modern clinical teaching is incorporated (Aini et al., 2025). In the long run, the results will be used to guide evidence-based curriculum reform that will help guarantee that academic curricula in Bangladesh adequately train graduates to support the unique reproductive health challenges of their client groups (Mahnoor, 2023; Mejia et al., 2024). Assessment instruments that are found to be validated to play the role of a longitudinal benchmark are also assessed in the study, thus offering a mechanism to monitor the performance of newly-launched pedagogical interventions (Rauf et al., 2025). Additionally, diagnosing these educational deficiencies is a key factor in developing the communication and teamwork skills that are missing in most existing clinical education, but are necessary to provide effective comprehensive sexual and reproductive healthcare (Byrne-Davis et al., 2024). This integration along with academic evaluation will help to substitute passive memorization of information with active clinical application of health literacy that is stated to improve the level of comfort of students associated with sensitive reproductive health topics and their interest in the concerned topics. Lastly, through the creation of such benchmarks, this study is part of a larger initiative to standardize health literacy assessment in order to make changes to health care delivery in the reproductive area (Kilfoyle et al., 2016). Combining these results with the previously available information on student knowledge, attitudes, and practices, the study demonstrates a great necessity of the structural educational programs to eliminate the existing gap between the theory taught in classes and the realities of the healthcare field (Hoque et al., 2024).

Such measures are critical towards treating the inequalities in reproductive health outcomes, especially with evidence showing that gender-sensitive and culturally-specific education programs result in substantial improvements to the quality of care offered by new health workers (Akhter et al., 2026). It necessitates a review of current curricula that will enable comprehensive sexual health education as the current programs have the habit of providing just enough education to deal with the complexity in patient care (Saab et al., 2022). In addition to the clinical setting, institutions should focus on professional growth of teaching personnel in order to take teaching outside of the biological realm and thus incorporate key psycho-emotional aspects of sexual health (Santiago et al., 2024). An important step toward uniformity of sexual health communication competencies in nursing education is to equip students with the clinical competence and cultural sensitivity they require to become competent practitioners (Abraham et al., 2025; Lukumay et al., 2024). Besides, the inclusion of mandatory classes related to the fundamentals of standardized sexual health assessment protocols will enable the learners

to logically evaluate the patient demand and thoroughly attend to them (Prize et al., 2023). Additionally, these educations related changes must be supported by the presence of benign clinical role models to normalize the body, as well as the conversation concerning sensitive health matters and diminish the prevalent obstacles, such as uneasiness and lack of privacy (Blakey&Averyard, 2017; Clare et al., 2026). Academic programs can create the self-efficacy needed to assist students in learning to negotiate more complicated clinical conversations by creating environments in which such mentorship is emphasized (Coleman et al., 2023). Finally, with these pedagogical reforms incorporated into an institutional level via a curriculum prioritizing a sound theoretical and clinical base, practitioners will have the strengths to overcome sexual health needs of their patients with a meatier evidence-based and sensitivity (Azar et al., 2022).

In addition, other interventions, such as co-created, multidisciplinary interventions founded on nursing leadership and peer interactions, would be essential to ensure such pedagogical shifts would be translated into an increase in service utilization and well-being of students (Rosario et al., 2025). Moreover, changing elective modules to the required, curriculum-wide training will prove essential to address the glaring gaps in the knowledge and disheartening learning environment among the students (Josefsson et al., 2016). This type of systemic lift of sexual health assessment modules into core modules is needed to normalize practice and assure that all nurses graduating a program have the required basic clinical competence to rise above the current aversions of addressing these key issues (Prize et al., 2023). Such alignment of the clinic in the form of the structure would negate the gaps in understanding indicated concerning undergraduate nursing education, given that the practitioners are prepared to work with patients of either specialties (Bdair&Constantino, 2017). Furthermore, such programs can offer the student confidence a powerful support, as they will be able to drill the techniques of communication in the simulated conditions, and then they will encounter such clinical problems in reality (Hendry et al., 2017). Furthermore, the fact that seasoned clinicians and managers are invited as active mentors not only facilitates the gap between the theoretical training and practice centered on patients but also equips students with the professional role models in order to deliver high quality care (Kong et al., 2009). To make such programmes further professional-specific, they are recommended to include a certain focus on professional communication and its psychological sub-issues as overcoming personal embarrassment and eliminating the uncertainty about professional responsibility (Ślusarska&Marcinowicz, 2024).

METHODOLOGY

The quantitative cross sectional survey design was applied in this study because it was aimed at providing the level of reproductive health knowledge of the female nursing and midwifery students in Dhaka central international nursing college and institute, Dhaka, Bangladesh. The cross-sectional approach was deemed to be suitable due to the fact that it enabled the researchers to gather data on the participants at one timeline providing them with a general idea about what they knew about reproductive health. The study was conducted between February and May 2024, with first and second-year female Nursing students of Bachelor of Science (BSc) in both program and Diploma in Nursing science and Midwifery program. All female students who met the eligibility criteria were provided with the target population in the study period in the institution. The standard formula of determining the sample size took a population of 126 taking into consideration the level of confidence (95%), and a 5 percent margin of error. The sampling of the participants was done through a non-probability convenience sampling whereby selection was done based on the availability and willingness of the participants. A structured self-administered questionnaire which was made based on thorough reading of available literature regarding the subject of the study was used to collect data. The questionnaires were comprised of questions that related to demographic variables, menstrual health, contraception, sexually transmitted diseases, reproductive health practices and general knowledge regarding reproductive health. To improve clarity, reliability and relevancy of the instrument, pilot-test was conducted prior to the actual study. Adjustments were made based on the recommendations of experts and pilot respondents because it was important to ensure that validity and reliability were achieved. The sampling was done within the classroom with the consent of an informed consent of the respondents. On verifying the completeness of the questionnaires the questionnaires were filled and analyzed.

DISCUSSION AND ANALYSIS

The findings of this study can be applied in the interpretation of the reproductive health knowledge of the BSc in Nursing and Diploma in Nursing Science and Midwifery student in Dhaka Central International Nursing College and Institute as well as in the future. The analysis depicts that a majority of the respondents were well informed and had sufficiency in the degree of reproductive health knowledge but, there were areas of great concern where there were gaps in knowledge(Aini et al., 2025; Mbugua&Karonjo, 2018; Mondal, 2016). Overall, the proportion of respondents with excellent or good knowledge scores measured 58.73 and proportion, which reveals the medium rates and poor ones had 41.27, demonstrating that despite quite favorable knowledge base, the number of future healthcare professionals, who require further educational support is high(Syed et al., 2023).

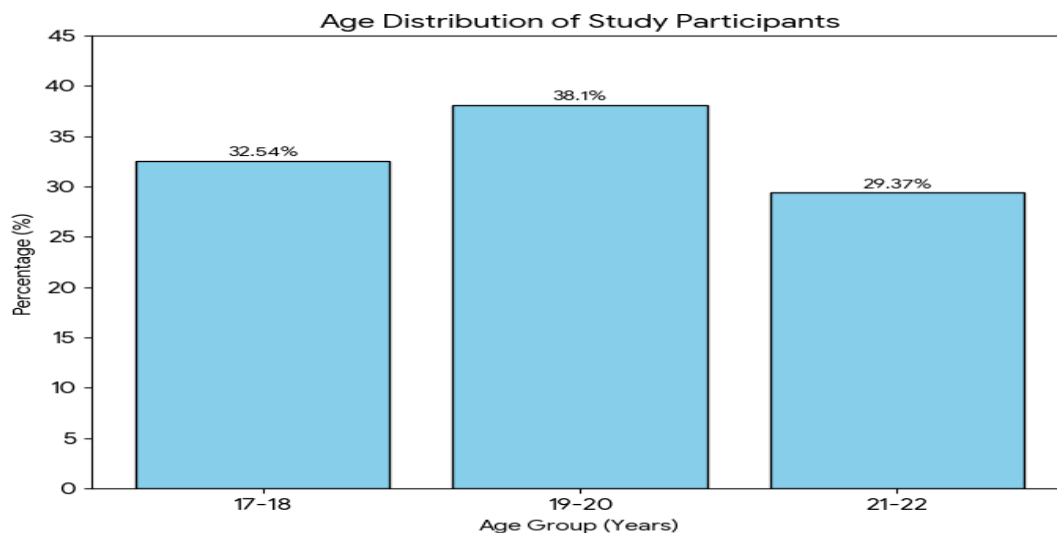


Figure 1: Age distribution of nursing and midwifery student participants.

The socio-demographic attributes of the people interviewed represent a fairly young population of the study with a majority being aged 19-20 years (38.10), proceeded by 17-18 years old (32.54) and finally 21-22 years old (29.37). This is an expected distribution because this group is nursing and midwifery students who during this age group are most likely to be in late adolescence and early adulthood making them more aware and knowledgeable on issues related to reproductive health (Aksoy et al., 2021; Mbugua&Karonjo, 2018; Mohamed et al., 2025). The high proportion of respondents who belonged to the 19-20-year age-group might have influenced the general satisfactory level of knowledge as by the time when the study was conducted, the respondents in this age-group would have received more information on reproductive health in academic and personal experiences (Andalón et al., 2014; Ekelin et al., 2012).

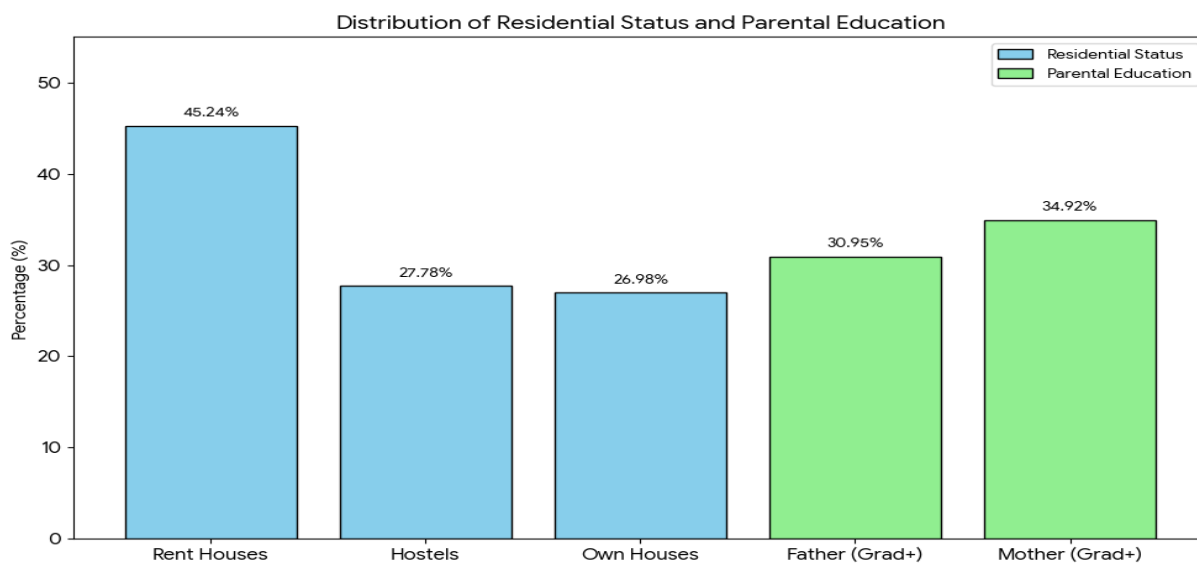


Figure 2: Socio-demographic profile of study participants: Residential status and parental education (n=126).

A residential-status can be also enlightening as far as awareness to reproductive health is concerned, among the participants. Almost half of various people interviewed were now living in rent houses (45.24), 27.78% were living in hostels and 26.98% living in their own houses. Students living independently or out of their families may get more opportunities to obtain the health information, make their choices regarding health issues by their own and discuss the questions about reproductive health with their peers (Donkor et al., 2018; Nwagwu, 2007). This exposure can have a positive impact on them in terms of their body of knowledge and belief about issues on reproductive health (Ippoliti&L'Engle, 2017; Ninsiima et al., 2021). In the meantime students kept in hostels may have the advantage of being able to experience peer learning and the support of the institution, though as long as misinformation gets propagated via the peer network when the students are not given the same learning advice, they may well do so (Igbal et al., 2024).

Education of parents of respondents seems to have significantly contributed towards the level of knowledge. More than one-third of the levels (30.95) had a father (graduate level) and mother (34.92) graduate level education or higher. The highly educated parents also are at a more advantageous position to provide health related counseling and even realize their children get an education (Al-Rukban et al., 2025). In this instance, mother education was statistically significant with the above-mentioned hypothesis in regards of reproductive health knowledge and was used to imply that mother education that is full of better knowledge could easily transmit knowledge and awareness regarding the idea on reproductive health as well as a supportable healthy seeking behavior (Indraswari et al., 2021; Tarar, 2019; Wardiati et al., 2023).

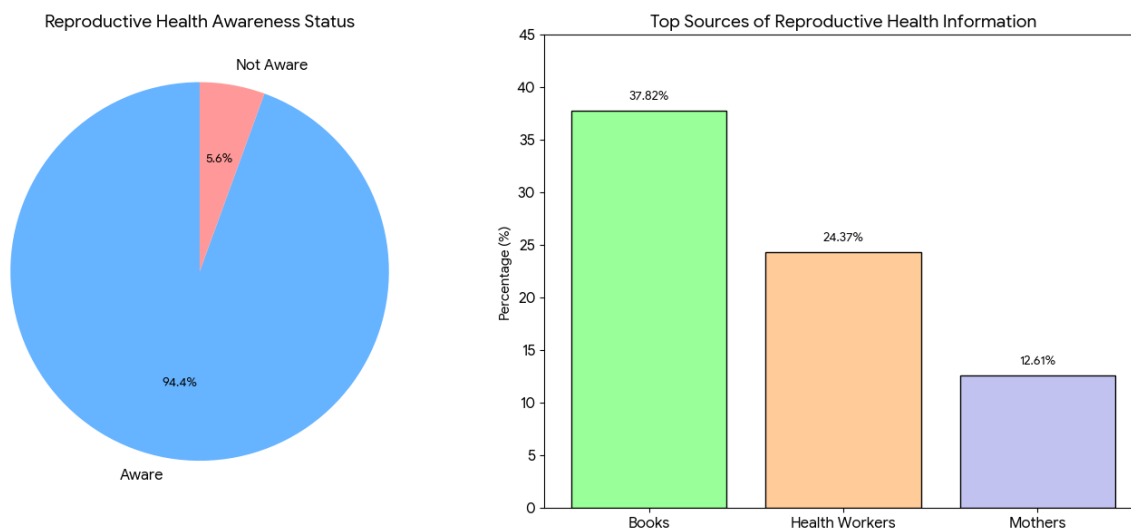


Figure 3: Reproductive health awareness levels and primary sources of information among nursing and midwifery students (n=126).

These findings show that there was a very high awareness to reproductive health among the respondents. About 94.44% of them were aware of the reproductive health whereas 5.56% expressed that they were not aware of the concept. Books (37.82%) then health workers (24.37%) and then mothers (12.61) proved to be the greatest source of information. This implies that other forms of information training other than professional training such as formal education are significant in imparting information on reproductive health to nursing students (Aksoy et al., 2021; Koçoğlu et al., 2022). The fact that books are used shows that the academic curricula have been able to present issues of reproductive health and the role of health workers proves the need of professional interactions in enhancing knowledge (Forsyth, 2018; Kim & Kang, 2025). Even though the awareness was high; the respondents had various levels of awareness about the various aspects of reproductive health. The best-known part was menstrual hygiene which was identified by 57.14% of those who were able to identify it. A significantly lower proportion of respondents, who were queried, though, cited family planning, sexually transmitted diseases, contraception use and sexual partnerships as a part of reproductive health (José et al., 2019; Joseph et al., 2021). This finding indicates that students tend to associate reproductive health more to menstruating and biological activities among the female and less educated about the comprehensive reproductive health (Ngissa et al., 2024). Connotations of these provisions would dictate the need to include the educational programs that would indicate the multidimensional aspects of reproductive health which include sexual health, reproductive rights, family planning and disease prevention (Chavula et al., 2022).

The knowledge of the changes in the body of an adolescent was outstanding. All the respondents were aware of menstrual development, breast development and emergence of axillary and pubic hair and 96.83% of them were aware that height was one of their most likely developments they would experience in the adolescence stage (Singh & Koirala, 2023). These results demonstrate good knowledge about pubertal development and show that students have sufficient background information on the female reproductive physiology. It is a type of knowledge that will be especially valuable to future nurses, and midwives, who will need to study how to teach adolescent patients, and adopt a healthy attitude towards reproductive health development (Mohamed et al., 2025; Morin, 2022).

Knowledge on menstrual health as well as experiences were also satisfactory. The majority of the respondents got lamenting about normal menstrual cycle (91.27 percent), normal menstrual cycle (80.16 percent) and menstrual cycle that did not exceed five days (88.10 percent). None of the menstrual issues were reported and in most cases, irregular bleeding was determined (Ansong et al., 2019; Odongo et al., 2023). The personal experience and exposure to education in the nursing programs have been credited to the improved knowledge on menstrual health. The relatively low coverage of menstrual issues, however, might also be attributed to underreporting of this issue due to the social stigma of menstrual distress or mainstreaming menstrual distress (Olson et al., 2022).

The research found that there was good awareness about sexually transmitted infections. The percentage of the respondents who had heard of STIs was 93.65 and those STIs aware had been aware of the modes of transmission was 89.68. These are good outcomes as education on the STIs is the dominant ingredient of their prevention, early diagnosis and education of patients. Nursing and midwifery students will be future healthcare workers who should have in-depth knowledge of the means of STIs transmission and prevention models that would allow them to counsel patients on the issues, as well as minimise the disease burden in communities (Hamunyela et al., 2024; Souayah et al., 2024). However, there is still a concern that there is a small population that seems to be lacking in such knowledge and reinforces the fact that further education is important (Hung et al., 2007).

Contraception knowledge was found to be one of the strongest points that were revealed in the research. Nearly all of the respondents (98.41 percent) said that they have knowledge on contraceptive methods. Most of the individuals (73.39 samples) cited the most general need of contraception as the unwanted pregnancy. The most well-known method (70.16%), then condoms (54.84%) and lactational methods (34.68%). Also, only a minority of 51.59 percent of them were aware of long-acting reversible intrauterine contraceptives as the intrauterine devices. Such evidence shows that the concept of family planning and birth control is relatively well taught in nursing and midwifery training programs (Gupta et al., 2019; Nkurunziza et al., 2023). This knowledge is imperative, as in most cases, nurses have been placed into a critical role, where they give their advice to individuals and families on issues, which are related to the future of reproductive choice as they add to the family planning (Feriani, 2026; Ünkazan et al., 2025).

Other emerging themes which dealt with reproductive health however, revealed gigantic knowledge gaps. As much as 88.89% of them have determined the correct purpose of HPV vaccination, the same situation applied to the emergency contraception, pregnancy complications and reproductive health practices (Hamdanieh et al., 2021). Surprisingly, a very little percentage of the respondents knew how the emergency contraceptive pills are taken, what percentage is effective and what the right time to take them is. Worse still was the misconception about preeclampsia in which 61.90 percent misconstrued preeclampsia about the excessive level of blood sugar as compared to the disorder that was characterized by a high blood pressure level and the dysfunction of the organs during pregnancy (Abate et al., 2025; Cowan et al., 2024). This observation implies that there is a poor knowledge of pregnancy health complications, and this may adversely impact on the subsequent clinical practice unless it is dealt with during training (Ejike et al., 2018).

The other question that needs consideration is the screening of cervical cancer since the ratio is low. Although overall the reproductive health awareness remained good at 5.56%, they did not confirm that they ever had a Pap smear test. This observation implies that it has a gap of knowledge-preventive health practice. Nursing students are expected to be generally vigilant in regard to preventive healthcare to emerge as the role models in educating that screening of cervical cancer is seen as an extremely important aspect (Bama et al., 2024; Pervin&Siddique, 2026). The absence of preventive reproductive health care due to lack of accessibility, cultural reasons, the inability to see themselves as at risk and emphasis of the screening process can be the cause of low screening rate (Petersen et al., 2022).

Knowledge scores on the general distribution are another outcome of the measures of the strength and weaknesses in the study population. A quarterth (25.40) of the people interviewed were superior with 33.33% good knowledge. However, at 26.98, median level of knowledge was medium and at 14.29, there was low level of knowledge. These results suggest that despite high-quality reproductive health knowledge being among the majority of students, the number of students who may be unable to learn the necessary information remains high, and school-graduates are invariably at risk of not leaving school without such knowledge (Li et al., 2017). This is particularly true bearing in mind the level of role that nursing and midwifery professionals assume, as far as the reproductive health care services and health education provision are concerned, to patients (Kubišová, 2023).

To understand the level of knowledge, two socio-demographic variables were going to be used, in which a correlation test would be used. Academic program has entered statistically significant relationship with reproductive health knowledge ($p = 0.047$), implying that variations in the curriculum content, exposure to education can play a role in learning. The level of mother education was also found to be correlated with ($p = 0.045$) again indicating that education level of people in any given household is also a determinant as far as health education is concerned. The other variables of age, residence, religion, and family income were less association suggesting that even though they may contribute to the development of knowledge, the effects of educational experiences may have a greater contribution to knowledge development (Fang et al., 2015; Hoffmann & Lutz, 2018).

The general implications of the findings are that learners in nursing and midwifery possessed a positive history of reproductive health awareness particularly on menstruation, contraception and STDs (Dewi et al., 2023; Scarano-Pereira et al., 2023). However, the gaps on high level reproductive health issues, maternal health and issues, preventive screening and general understanding of the notion of reproductive health are still observed (Riaz et al., 2024). The above gaps denote that there is need to enhance the curriculum, offer a hands-on training, practice training using simulation and interactive learning techniques going beyond the theoretical training (Cappiello & Boardman, 2022; Nkurunziza et al., 2023). This solution will help to fortify these aspects of education and as a result, future nurses and midwives will be in a position to

deliver evidence based, holistic, and patient-centered services as far reproductive healthcare is concerned (Liu et al., 2025). The findings finally reveal the area of need of improvement in terms of reproductive health education and necessity of some interventions which will empower and equip the future practitioners in the Bangladesh healthcare sector (Mondal, 2016).

CONCLUSION

The study contrasted rates of reproductive health awareness of the female BSc in Nursing and Diploma students in the Nursing College and Nursing Institute of Dhaka Central during the period. These findings indicated that majority of the respondents were enlightened a great deal on reproductive health that largely is menstrual hygiene, contraceptives, sexual transmitted diseases and body changes that occur amongst teens and adolescents. In general, the extent of knowledge of 25.40% of those who participated was excellent, 33.33 indicated good knowledge, 26.98 indicated moderate knowledge and 14.29 indicated poor knowledge which shows that though 87% of the respondents had adequate level of knowledge, a good number of them were poorly informed. We also were informed that the academic program and level of education of the mother were closely correlated with the reproductive health knowledge that implies that both the education exposure, and the family background are also factors in determining the knowledge that the students have on the reproductive health concerns (Gafəri et al., 2018; Wen-pin, 2011). Despite a high awareness on the fundamentals of reproductive health, there were gap loopholes on advanced fundamentals that overtook the reproductive rights, pregnancy issues, long acting contraceptives and preventative reproductive health (Aini et al., 2025; Kirillova, 2022). Finally, the results show the necessity to establish reproductive health education within the midwifery and nursing course education. More practice learning opportunities, interactive education and frequent updating of learning material can be applied to train future healthcare workers on reproductive healthcare services in Bangladesh that are more comprehensive in order to bridge gaps in knowledge that remain in place (Begum et al., 2023; Byrne-Davis et al., 2024; Jonas et al., 2017).

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