E-ISSN 2250-0944
ISSN 2250-1150
doi: 10.31838/ijprt/15.02.308

**Research Article**

# A Descriptive Study to Assess the Knowledge Regarding Pelvic Inflammatory Diseases among Adolescent Girls of Selected Junior College of Kolhapur

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Received: 18.08.25, Revised: 21.09.25, Accepted: 01.10.25

**Abstract**

**Background**

Over one million women experience an episode of pelvic inflammatory disease (PID) each year. It is the most common serious complication of STDs, long-term sequelae include ectopic pregnancy, chronic pelvic pain, and tubal infertility. One in five cases of PID occurs among younger women < 19 years of age. Although only about half of female adolescents are sexually active, they have the highest age-specific rates of PID among sexually experienced women. The risk of developing PID for a 15-year-old sexually active girl is estimated to be 10 times that of a 24-year-old woman. The higher relative risk of PID for younger women has been attributed to their greater biologic vulnerability and their behavioural and cognitive risk factors. In addition, HIV-infected women with PID may be at increased risk for more severe pelvic disease, a growing concern as rates of HIV infection among adolescent girls continue to rise. A crude marker of PID in resource-poor countries can be obtained from reported hospital admission rates, where it accounts for 17% to 40% of gynaecological admissions in sub-Saharan Africa, 15% to 37% in Southeast Asia, and 3% to 10% in India. The present study aimed to evaluate the knowledge regarding pelvic inflammatory diseases among adolescent girls in selected junior college of Kolhapur, Maharashtra, India. Objectives:

1. To assess the knowledge regarding Pelvic Inflammatory Diseases among adolescent girls.
2. To find out an association between knowledge scores of the adolescent girl regarding Pelvic Inflammatory Diseases with their selected socio-demographic variables.

**Methods:** A quantitative evaluative approach was used, with a descriptive survey design. A sample of 100 adolescent girls was selected using non-probability purposive sampling technique. Knowledge was measured using a structured knowledge questionnaire (29 items; Cronbach's alpha = 0.73). Data were collected on January 2, 2025.

**Result:** The majority of adolescent girls (66%) had good knowledge, with a mean score of 20.46 ± 4.798. Average knowledge was observed in 30%, and poor knowledge in 4%. Significant associations were found between knowledge scores and socio-demographic variables ($p < 0.05$). Interpretation and conclusion: The study concludes that adolescent girls in Kolhapur exhibited good knowledge regarding pelvic inflammatory diseases. There is a need for healthcare professionals, particularly nurses, to implement educational programs addressing pelvic inflammatory diseases awareness among vulnerable groups. The findings have implications for nursing practice, education, administration, and research. Recommendations for future studies and interventions to enhance community health are also provided.

**Keywords:** Knowledge; Adolescent Girls; Pelvic Inflammatory Diseases; Descriptive Study.

## INTRODUCTION

Adolescence is a key period in the lifecycle both in terms of the health of the person themselves also for their future life as an adult and even for the health of next generation. It is a crucial period of rapid development that

encompasses significant changes in a person's life. The adolescent years are the link between childhood and adulthood the term adolescence comes from the Latin word "adolescere" which means to grow up. The World Health Organization (WHO) defines adolescence as a period in human growth and development that occurs after childhood and before adulthood. The period of adolescence divided into three stages; early (10-14 years), middle (15 and late adolescence (17-21 years) (Behman in Adolescent health and rights will yield large bene generations to come" Today's adolescents will be 2030 policy and decision-makers.

Adolescent of today is the young married woman of tomorrow and the grandmother thereafter. The 2016 Lancet Commission concluded that Investments in adolescent health and wellbeing will yield a triple benefit adulthood and the next generation of children 2017) Adolescents represent 1/6 of the world's population. In 2014, there were just over 1.2 billion adolescents in the world, the most that there's ever been. And that's estimated to increase very slowly to about 1.23 billion by 2040.1 Pelvic inflammatory disease (PID) can be defined as a clinical syndrome characterized by upper genital tract infection in women.

Worldwide, a significant proportion of cases are caused by bacterial infections, such as Chlamydia trachomatis and Neisseria gonorrhoeae. Several studies have also shown that the microorganisms found in the vaginal flora, such as gram-positive and gram-negative anaerobic organisms and aerobic/facultative gram-positive and gram-negative rods and cocci, have also been implicated in the pathogenesis of PID. Women who have multiple sexual partners and are under the age of 25 and have a history of sexually transmitted infections (STIs) or use intrauterine devices are at a higher risk of developing PID. The signs and symptoms of PID range from unnoticeable or subtle and mild to severe, including but not limited to having lower abdominal pain, mild pelvic pain, increased vaginal discharge, pelvic organ tenderness, irregular menstrual bleeding, fever (>38° C), inflammation, abdominal tenderness, cervical motion tenderness, painful and frequent or difficult urination, uterine tenderness, or adnexal tenderness. When the symptoms are mild, PID can go unnoticed by women and their healthcare providers. However, if diagnosed lately and left untreated, it can lead to many complications, such as ectopic pregnancy, tubal factor infertility, and chronic abdominal pain, and has been associated with ovarian cancer. Hence, it is one of the main causes of concern for reproductive diseases in women. 2 Raising awareness and knowledge among females about PID and its symptoms is crucial, as early detection can significantly reduce the chances of severe complications.

Need for the Study Over one million women experience an episode of pelvic inflammatory disease (PID) each year. It is the most common serious complication of STDs; long-term sequelae include ectopic pregnancy, chronic pelvic pain, and tubal infertility. One in five cases of PID occurs among younger women < 19 years of age. Although only about half of female adolescents are sexually active, they have the highest age-specific rates of PID among sexually experienced women. The risk of developing PID for a 15-year-old sexually active girl is estimated to be 10 times that of a 24-year-old woman. The higher relative risk of PID for younger women has been attributed to their greater biologic vulnerability and their behavioral and cognitive risk factors. In addition, HIV-infected women with PID may be at increased risk for more severe pelvic disease, a growing concern as rates of HIV infection among adolescent girls continue to rise. This article reviews the epidemiology, risk factors, pathogenesis, clinical assessment, and management of PID in adolescent females, including age-specific information when available.3 Pelvic inflammatory disease affects as many as 10% of adolescent girls and results in long-term complications such as infertility and chronic pelvic pain for up to 40%.1, 2 Adequate treatment and prevention of repeated episodes reduces the risk of these sequelae. Therefore, the Centers for Disease Control and Prevention (CDC) recommends follow-up within 72 hours of diagnosis of pelvic inflammatory disease to ensure clinical improvement, review of safe sexual practices, and reinforcement of the importance of partner treatment and medication compliance.3 This follow-up appointment is particularly important for adolescents who commonly receive the diagnosis of pelvic inflammatory disease in emergency departments (EDs) or urgent care centers, where time constraints result in limited counseling at diagnosis.4, 5 Unfortunately, with follow-up rates as low as 10% to 16%,

the majority of adolescents receiving a diagnosis of pelvic inflammatory disease are not receiving the recommended follow-up care, which likely contributes to the high rates of long-term complications.

National Institute of Allergy and Infections Disease (NIAID) (fact sheet (2004) reports that in the U.S.A. the incidence of PID is 1,00,000 per year 83,333 per month, 19,230 per week, 2,739 per day, 114 per hour and one per minute. The death rate for Pelvic inflammatory diseases was 108 per year. Morbidity rate for Pelvic inflammatory diseases was 25 percent. NIAID fact sheet (2006) report on the Annual incidence of PID In Egypt was (2, 79,843), in Saudi Arabia (94,838), in Libya (20,704) and in Sweden (1,43,927) respectively. Above findings shows that adolescent girls are more prone for reproductive health problems amongst which Pelvic inflammatory diseases are common among sexually active girls and results in complications such as infertility ectopic pregnancy and chronic pelvic pain, which ultimately leads to social stigma in the society. Purpose of this study is to examine the knowledge of adolescents girls about pelvic inflammatory diseases.

## OBJECTIVES

1. To assess the knowledge regarding Pelvic Inflammatory Diseases among adolescent girls.
2. To find out an association between knowledge scores of the adolescent girl regarding Pelvic Inflammatory Diseases with their selected socio-demographic variables.

Hypotheses Hypothesis is tested at 0.05 level of significance. · H1: There is a significant association between knowledge scores of subjects regarding Pelvic Inflammatory Diseases with their selected socio-demographic variables ($p < 0.05$).

## MATERIALS AND METHODS

A descriptive survey design was conducted at Kamla Junior College, Kolhapur, from December 30, 2024 to January 2, 2025. The setting was chosen due to its accessibility and the presence of the target population. Population and Sampling The study targeted adolescent girls studying in junior college. A sample of 100 adolescent girls was selected via non-probability purposive sampling. Inclusion criteria included willingness to participate and ability to read English. Exclusion criteria included adolescent girls who were not available at the time of data collection. Data Collection Tool comprising of Socio-demographic variables and structured knowledge questionnaire on pelvic inflammatory diseases.

## RESULTS

Socio-Demographic Characteristics Of the 100 adolescent girls, 64% were aged 17–18 years, 100% were unmarried, 79% were Hindu, 64% were in 12th standard, 55% were from urban areas, and 57% had menarche at 13–14 years (Table 1).

Table 1: Socio-Demographic Characteristics (n=100)

| Sr. No. | Variable | Frequency | Percentage (%) |
|---|---|---|---|
| 1. | Age (years) | | |
| | 15–16 | 33 | 33% |
| | 17–18 | 64 | 64% |
| | Above 19 | 3 | 3% |
| 2. | Educational Qualification | | |
| | 11th | 64 | 64% |
| | 12th | 36 | 36% |
| 3. | Marital Status | | |
| | Married | 0 | 0 |
| | Unmarried | 100 | 100% |
| 4. | Habitat | | |
| | Urban | 55 | 55% |
| | Rural | 34 | 34% |
| | Semi-urban | 11 | 11% |
| 5. | Religion | | |
| | Hindu | 79 | 79% |

| | | | |
|---|---|---|---|
| | Muslim | 18 | 18% |
| | Christian | 3 | 3% |
| | Any other | 0 | 0 |
| 6. | Age at menarche (years) | | |
| | 11–12 | 12 | 12% |
| | 13–14 | 57 | 57% |
| | 15–16 | 28 | 28% |
| | Above 17 | 3 | 3% |

Knowledge Scores 66% of adolescent girls had good knowledge, 30% had average knowledge, and 4% had poor knowledge.

Table 2: Statistical Analysis of Knowledge Scores

| Test | Mean ± SD | Median | Mode | Range |
|---|---|---|---|---|
| Knowledge | 20.46 ± 4.798 | 21.00 | 21 | 24 |

Statistical Analysis of Knowledge Scores the mean knowledge score was 20.46 ± 4.798.

**Association with Socio-Demographic Variables**

Chi-square tests revealed significant associations between knowledge scores and socio-demographic variables ($p < 0.05$).

Table 3: Association between Knowledge Scores and Socio-Demographic Variables

| Sr. No. | Variable | Chi-Square | p-Value |
|---|---|---|---|
| 1. | Age | 48.6 | <0.05 |
| 2. | Educational Qualification | 24.786 | <0.05 |
| 3. | Marital Status | - | - |
| 4. | Habitat | 41.443 | <0.05 |
| 5. | Religion | 45.880 | <0.05 |
| 6. | Age at Menarche | 57.020 | <0.05 |

## DISCUSSION

**1. Findings Related To Distribution Of Socio-Demographic Data Of Adolescent Girls.**

Majority of samples 64 (64%) belonged to the age group of 17 to 18 years and minimum 2 (2%) belonged to the age of 19 and above. Majority of samples 79 (79%) belonged to Hindu religion and minimum 3 (3%) belonged to Christian religion. Majority of samples 64 (64%) belonged to 12th Standard and minimum 36 (36%) belong to 11$^{th}$ Standard. Majority of samples 57 (57%) belonged to the age group of menarche of 13 to 14 years and minimum 3 (3%) belonged to the age group of above 17 years. Majority of samples 100 (100%) belonged to the group of unmarried and minimum 0 (0%) belonged to the group of married. Majority of samples 55 (55%) belonged to the group of urban habitat and minimum 11 (11%) belonged to semi-urban area.

**2. Finding Related Knowledge Regarding Pelvic Inflammatory Diseases Among Adolescent Girls Of Selected Junior College In Kolhapur.**

The maximum number of adolescent girls 66 had good knowledge (66%), while 30 adolescent girls had average knowledge (30%), while 4 adolescent girls had poor knowledge (4%) regarding pelvic inflammatory diseases.

**3. Finding Related To Association Between Knowledge Scores Of Adolescent Girls With Their Selected Socio-Demographic Variables.**

There was any significant association between Knowledge Scores and selected Socio-demographic variables like Age in years [$\chi 2cal = 48.6$, $\chi 2tab = 79.082$] Educational qualification [$\chi 2cal = 24.786$, $\chi 2tab = 31.410$], Habitat [$\chi 2cal = 41.443$, $\chi 2tab = 55.758$] Religion [$\chi 2cal = 45.880$, $\chi 2tab = 55.758$], Age at menarche in years [$\chi 2cal = 57.020$, $\chi 2tab = 79.082$]. The calculated Chi square values was greater than tabulated value at $p<0.05$ level of significance. Hence H2 was accepted. This indicated that there was

significant association between knowledge scores with their selected Socio-demographic variables at $p<0.05$ level of significance.

**Nursing Implication:**

1. **Nursing Education:** Integrate pelvic inflammatory diseases modules into nursing curricula to equip nurses for community health advocacy.
2. **Nursing Practice:**Nurses should lead awareness campaigns targeting vulnerable populations, emphasizing practical measures like hygiene and safe practices. ·
3. **Nursing Administration:** Administrators should provide audio-visual aids and in-service education to update staff knowledge. ·
4. **Nursing Research:** Further studies should explore long-term impacts of educational interventions.

**Limitations**

The study lacked a control group. · The study's single-site focus and small sample size restrict generalizability.

**Recommendations**

Employ larger samples and multi-site designs for robust validation. · Expand the study to diverse urban and rural settings. · Conduct longitudinal research to assess sustained knowledge changes.

## CONCLUSION

The study significantly assessed knowledge regarding pelvic inflammatory diseases, demonstrating good overall knowledge among adolescent girls. These findings advocate for scalable educational interventions to mitigate pelvic inflammatory diseases' public health impact in vulnerable populations.

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