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KNOWLEDGE AND RISK FACTORS OF CANCER AMONG NON-MEDICAL STUDENTS AT SHIVAJI COLLEGE, BARSHI: A CROSS-SECTIONAL STUDY

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ABSTRACT:

Early cancer prevention depends on what people know and do. Non-medical students are a large, influential population, yet their cancer knowledge and risk profiles are understudied in many Indian settings. This paper summarizes a cross-sectional survey conducted at Shivaji College, Barshi, to quantify knowledge of cancer and describe self-reported risk factors. A structured questionnaire (30 items; reliability 0.77) and a 12-item risk-factor checklist (reliability 0.75) were administered to a purposive sample of 50 second-year polytechnic students (ages 18–25). Data were collected on 15 September 2023 after a pilot on 20 students (13 September 2023). Descriptive statistics summarized knowledge (adequate/moderate/inadequate) and risk level (mild/moderate/severe). Most participants demonstrated adequate knowledge of cancer (74%), with 16% moderate and 10% inadequate knowledge. Risk assessment classified 56% as mild risk, 24% moderate, and 20% severe. Mass media was the most common information source (44%). In this cohort, cancer knowledge was generally adequate, but one in five students screened at a severe risk level based on self-reported exposures. Targeted campus health education and screening initiatives are recommended, with emphasis on modifiable behaviors. Future studies should use probability sampling and analytic models to test predictors of risk.

KEY WORDS: *cancer; knowledge; risk factors; students; India; cross-sectional study.*

INTRODUCTION:

Cancer remains a leading cause of morbidity and mortality in India. Preventive behaviors depend heavily on public knowledge and perceived risk. College students, including those outside health disciplines, shape peer norms and future community practices. Understanding their baseline knowledge and risk profiles helps institutions design effective prevention programs. This paper presents a concise research report based on an undergraduate dissertation conducted among non-medical students at Shivaji College, Barshi (Maharashtra), in 2023.

METHODS

Study design and setting

This was a cross-sectional descriptive study conducted at Shivaji College of Polytechnic, Barshi. Data collection for the main study occurred on 15 September 2023 (09:00–14:00). A preceding pilot was completed on 13 September 2023 with 20 students to check feasibility and refine procedures.

Participants and sampling

Eligible participants were second-year polytechnic students aged 18–25 years. The dissertation's methods describe purposive sampling for the main survey (n=50); a note in the data-collection section mentions simple random sampling. This study is treated as purposive sampling given the explicit methods description, with the inconsistency noted as a limitation.

Instruments

A 30-item structured knowledge questionnaire covered:

1. Definition and types
2. Causes, signs and symptoms, complications
3. Investigations and treatment

A 12-item checklist captured key behavioral and environmental risk factors (e.g., tobacco, alcohol, UV exposure, processed meat, family history, viral infections). Content validity was established by expert review. Reliability was estimated with Pearson's correlation: 0.77 for the knowledge scale and 0.75 for the risk checklist.

Measures and outcomes

Knowledge was categorized as:

- Adequate: 21–30
- Moderate: 11–20
- Inadequate: 0–10

Risk levels were categorized as:

- Mild: 0–3
- Moderate: 4–7
- Severe: 8–12

Demographic variables included age, religion, dietary pattern, residence, and source of information.

Ethics

The college-level ethics committee approved the study. Written permission was obtained from institutional authorities. Participants were informed about the study and confidentiality; consent was obtained prior to data collection.

RESULTS

Sample characteristics

Among 50 participants, 62% were aged 18–19 years, 18% aged 20–21, 14% aged 22–23, and 6% aged 24–25. Hindus comprised 70%, Muslims 20%, and other religions 10%. Most students lived at home (58%) rather than hostel (42%). Mass media was the leading source of cancer information (44%), followed by other sources (26%), family/friends (20%), and health personnel (10%).

A discrepancy exists for dietary pattern: the table lists 80% vegetarian and 20% non-vegetarian, while the narrative text reverses these values. The tabulated values are reported here, with the inconsistency noted.

Knowledge and risk outcomes

Outcome	Category	n (%)
Knowledge	Adequate	37 (74)
Knowledge	Moderate	8 (16)
Knowledge	Inadequate	5 (10)
Risk	Mild	28 (56)
Risk	Moderate	12 (24)
Risk	Severe	10 (20)

In the pilot (n=20), 63% showed moderate knowledge and 69% screened at moderate risk, supporting feasibility and highlighting scope for education.

DISCUSSION

Most non-medical students in this cohort demonstrated adequate knowledge of cancer, yet one fifth screened as severe risk based on self-reported behaviors and exposures. This suggests that knowledge alone may not translate into lower risk. Campus health promotion should prioritize behavior change alongside information provision.

Sources of information were dominated by mass media. Partnerships with student bodies to co-design messaging, coupled with skill-building sessions (e.g., tobacco cessation resources, healthy diet options, sun protection, and vaccination awareness), are likely to be practical and scalable.

Future research should apply probability sampling, include validated behavior and exposure measures, and use multivariable models to test predictors of severe risk. Longitudinal follow-up can assess whether educational interventions lead to measurable risk reduction.

LIMITATIONS

- Small sample size from a single college, limiting generalizability.
- Sampling method is inconsistently described (purposive vs. random).
- Risk levels were based on brief self-report without clinical verification.
- No inferential analysis to test associations with demographics.

Implications for Practice and Policy

Colleges can integrate brief, low-cost prevention bundles: tobacco and alcohol harm education, periodic screening camps, HPV and hepatitis B vaccination drives, and media-literacy modules to improve information quality. Nursing and public-health students can lead peer education to amplify reach.

CONCLUSION

Among non-medical students at Shivaji College, most had adequate cancer knowledge, but a meaningful minority reported high-risk profiles. Targeted, behavior-focused prevention on campus is warranted, and future studies should adopt stronger sampling and analytic designs.

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