

A Study to Assess the Knowledge and Practice Regarding Over-The-Counter Drugs Among Nursing Students in Selected Nursing Colleges At Thrissur District

Ms. Dency C D¹, Ms. Nidhi Thomas²

¹Assistant Professor, OBG Nursing, St. James College of Nursing, Chalakudy

²6 Semester Student, St. James College of Nursing, Chalakudy

Abstract

Over-the-counter (OTC) drug use is a growing global concern, particularly among youth and healthcare students. Nursing students, as future healthcare providers, must possess adequate knowledge and practice regarding safe use of OTC drugs to promote rational self-medication. Statement of the Problem: A study to assess the knowledge and practice regarding over-the-counter drugs among nursing students in selected nursing colleges at Thrissur district. Objectives: 1) To assess the knowledge regarding OTC drugs among nursing students. 2) To assess the practice regarding OTC drugs among nursing students. 3) To determine the association between knowledge, practice, and selected demographic variables. Methodology: A non-experimental descriptive design was adopted. Using non-probability convenience sampling, 200 nursing students from selected colleges in Thrissur were surveyed using a structured knowledge and practice questionnaire. Data were analysed using descriptive and inferential statistics. Results: Findings revealed that 40% of participants had good knowledge and 63% demonstrated good practice regarding OTC drug use. Significant associations were found between knowledge and practice with age and year of study ($p < 0.05$). Conclusion: The study concluded that most nursing students had good knowledge and practice; however, educational interventions are recommended to strengthen rational OTC drug use.

Introduction

“Medication is of course important, but do not conclude that a pill dissolving in your stomach is necessarily more powerful than a healing thought in your mind.”

Health is the foundation of human progress, surpassing all material wealth. However, the rising dependence on over-the-counter (OTC) drugs as a self-medication tool has become a pressing global health challenge. With easy accessibility and affordability, individuals increasingly turn to OTC drugs for managing minor ailments, embedding self-medication as a core element of personal healthcare.

Recent trends reveal a surge in OTC drug consumption, especially among the youth, driven by socio-economic factors, evolving healthcare accessibility, and the persuasive influence of pharmaceutical marketing.

The global OTC market is rapidly expanding, particularly in emerging economies, fuelled by urbanization, economic growth, and shifting healthcare preferences. Self-medication prevalence

fluctuates dramatically worldwide, ranging from 11.2% to 93.7%, underscoring the need for stricter regulations and awareness campaigns.

In India, the absence of a distinct OTC drug category has led to their unchecked availability, intensifying self-medication risks. While Maharashtra reports an 81.5% prevalence, urban Delhi records a staggering 92.8%, highlighting regional disparities. Digital media proliferation has further fuelled misplaced confidence in self-treatment, leading to misuse of drugs like analgesics, nasal decongestants, and diet pills.

For nursing students, this issue holds profound significance. As future healthcare providers, they are responsible for guiding patients on safe medication practices. However, their medical knowledge may inadvertently encourage self-prescription.

This research study aims to assess the knowledge and practice regarding OTC drug use among nursing students. By evaluating their awareness and self-medication behaviors, the study seeks to provide valuable insights that can promote responsible OTC drug consumption within the nursing community.

BACKGROUND OF THE PROBLEM

To be healthy and to be fully alive is everybody's dream. Health is a core of human development. And it is also important than any other wealth we own. It is common for the people to fall ill and to use over-the-counter drugs, for treating themselves. Every day, throughout the world act on their own health through over-the-counter drugs which is now being considered as a component of self-care.

In 2023, a study was conducted by Hyna Hyder, Chithra S Rajan, Sujaya R in India on 60 BSc Nursing students. The study reveals that the of knowledge of B.Sc.(N) students regarding OTC drugs shows that 15% had inadequate knowledge, 48.3% had moderate knowledge and 36.7% had adequate knowledge level and the practice of 60 BSc(N) students regarding OTC drugs shows that 88.5% had bad practice and 11.5% had good practice level.

In 2024, a cross-sectional study conducted by Ali Aminuddin Mohd Rasani¹, Siti Nur 'Ain Suraya Mohd Amin², Mohd Noor Mamat³, Soon Lean Keng⁴ among Medical, Dental and Nursing Students. This study has identified moderate knowledge and attitude toward OTC analgesics among undergraduate students. There is no significant association between knowledge, attitude and demographic variables; however, there is a correlation between knowledge and attitude.

Over-the-counter (OTC) drug misuse is rising globally, with studies highlighting gaps in knowledge and practice among nursing students. Research indicates that while nursing students frequently use OTC medications, their understanding of proper usage, potential risks, and safe practices remains inadequate, necessitating enhanced education and training in this area.

NEED AND SIGNIFICANCE OF THE STUDY

The increasing use of over-the-counter (OTC) drugs has become a global concern, with easy accessibility, affordability, and growing health awareness contributing to this trend. OTC drugs, commonly used for self-medication, offer a convenient alternative for managing minor ailments. However, improper usage poses significant health risks, including adverse drug reactions, drug resistance, and complications due to incorrect dosages or drug interactions. Despite their potential benefits, OTC medications must be used responsibly to ensure patient safety.

The World Health Organization (WHO) acknowledges that responsible self-medication can prevent and

treat minor illnesses, reducing the burden on healthcare systems. However, self-medication practices often involve obtaining medicines without prescriptions, using leftover drugs, and sharing medications, leading to irrational drug use. The prevalence of self-medication is rising, particularly among youth, who are influenced by technological advancements and easy access to online drug-related information. Studies indicate that OTC drug use is twice as common as prescribed medication, highlighting the need for greater awareness and regulation.

In India, there are no specific guidelines for OTC drug licensing, and the absence of a defined regulatory framework allows for widespread availability without proper oversight. The Indian OTC drug market ranks 11th globally and is projected to reach the 9th position in the next five years due to rising healthcare costs and self-management tendencies. Although OTC drugs are widely used, they are not entirely safe, as they can mask underlying conditions and cause serious adverse effects.

Among nursing students, OTC drug use is particularly significant. As future healthcare providers, they possess medical knowledge that influences their self-medication behaviors. While this knowledge may empower them to make informed decisions, it can also lead to increased reliance on self-medication without proper medical consultation. However, the easy accessibility and affordability of these medications, combined with academic pressure and time constraints, have contributed to a rising trend of self-medication without professional consultation. Nursing students frequently use OTC analgesics and antipyretics for conditions such as headaches, fever, and menstrual cramps. Studies show that they use OTC drugs more frequently than the general population due to partial knowledge about diseases and medications.

Review of literature

The review of literature is an important step in the development of a research project. Literature review to the activities involved in identifying and searching for information on a topic and developing a comprehensive picture of the state of knowledge on the topic. It is a critical summary of the research on a topic of interest to place a research problem in its context.

The review of literature provides a basic for further investigation gives an insight in to the problem and intensifies the need for data collection to establish a comprehensive body of scientific knowledge. The review of literature provides a basic for further investigation. It enables the investigator to achieve a greater understanding of the research problem and its major aspects. It helps the investigator to evaluate the different approaches to the problem.

The present study was aimed at assessing the knowledge and practice level regarding the OTC drugs among nursing students. Literature related to present study has been reviewed and organized under the following headings:

- Prevalence of over-the-counter drugs
- Studies related to OTC drugs.
- Studies related to OTC drugs among nursing students.

Prevalence of Over-The-Counter Drugs

1. A cross-sectional study was conducted to assess the prevalence of self-medication practice and its associated factors in urban Puducherry, India. A total of 352 samples from 124 households were selected by random sampling and the data was collected by pretested interview schedule. The result showed that prevalence of self-medication was found more among Male over the age of 40 years.

The result also shows that the common illness was self-medication is being used are fever, headache and abdominal pain. They were procuring drugs from pharmacist by telling the symptoms. Majority of the self-medication users expressed that self-medication is harmless, so they continue to use and advise others also to use.

2. A study was done to analyze the prevalence and determinants of self-medication practice among selected household members from the duration of April-May 2016. The data was collected from 604 samples by administering a questionnaire. The result showed that 422 samples were females and 18 were males. The 3 most frequently reported ailments were headache, abdominal pain and cough. The frequently reported sources of drug information were health professionals and experience from previous treatment.
3. A cross-sectional study was conducted to determine prevalence and pattern of self-medication practices in urban area, in India. Data were collected from 236 samples and analyzed using SPSS version 21. The prevalence of self-medication was 92.8%. Self-medication was found to be practiced more among younger people than older people. The common ailment where self-medication is being practiced was common cold and fever. The common drugs used were paracetamol and cough syrups.
4. A study was conducted to gather information about the prevalence of self-medication in the rural town of Sahaswan from June 2012 - July 2012. The sample size comprised of 600 respondents and the data were collected through prepared questionnaire. The percentage of patient who were seeking self-medication was approximately 50%. Most of the patient were seeking self-medication for headache and other pain, fever, urinary tract infection. The most common drugs used for self-medication were NSAID and Antibiotics.
5. A community based cross sectional study has analysed the prevalence of self-medication practices and its associated factor in rural area. The studies include 269 subjects and the data was collected by pre-test and semi structured questionnaire. The result of the study revealed that 26.8% were between the age group of 26-35 years, out of which 49.4% were males and 50.6% were females. Out of the total population 40.5% were practicing self-medication. 38.2% were taking medication five or more times in a year.
6. A study was conducted to assess the prevalence and pattern of Antibiotic self-medication practices in Kerala. Data was collected from 755 adults through face-to-face interview technique and analyzed by STSS. The study result showed that the prevalence of antibiotic practices was 3.31%. Among the samples 4.1% were males, 3.8% were graduate and 8.5% were skilled workers. Majority of the respondents practiced self-medication for sore throat (25%) and medicine used was Azithromycin (39%). The study findings also revealed 36% of respondents used doctor's previous prescription to get and antibiotic and using or practicing was found as convenience (41%).
7. A study was conducted to analyze the prevalence and pattern of self-medication practices in a rural area of Barabanki. 235 samples were selected randomly and data was collected through a questionnaire. A study finding showed 69.6% of reported the practice of self-medication. The most common conditions or symptoms for practicing self-medication among students were fever (72.6%), pain (64.3%) and respiratory symptoms (57.1%). Self-medication was the most common category of drugs used by majority of the samples except highly qualified samples.
8. A cross-sectional comparative study was conducted to determine the prevalence of self-medication practice among medical and paramedical students. Data was collected by administering a structured

questionnaire. The upshot reveals that (80.14%) medical and (85.3%) paramedical students were practicing self-medication ($P > 0.05$). Among the samples (89.5%) were using self-medication for symptomatic release. (81.1%) accessed the medicine from market followed by obtaining physician sample. The common indication for using self-medication was fever and commonly used drug was paracetamol. Only (60 %) samples were completing full course of treatment. Among the samples (59.3%) were aware of the side effects. (75.6%) reported they were not recommending the self-medication to others.

9. A study was conducted among university students to analyze the prevalence of self-medication practices. A total of 900 students were registered in 20 chosen clusters. A semi structured questionnaire was used to collect the data. The study findings revealed that majority of the samples were females and they were married. The common illness where self-medication is being practiced were cold, headache, sore throat, intestinal colic and then cramps. The prevalence of self-medication practice was 62.9% and about 59% of samples mentioned that self-medication drugs solve the symptoms.

Studies related to OTC drugs

10. A cross-sectional descriptive observational study was carried out, targeting the entire Spanish population by using an online questionnaire. The results showed that 78.9% of the subjects had previously taken or were currently taking OTC drugs. This consumption decreased as the age of the subjects increased, with a prevalence of 36.4% of subjects aged ≥ 71 taking OTC drugs. Analgesics were the most consumed OTC drugs (49.1%) especially in women, youngsters with non-formal educational qualifications, and individuals of a low–medium socioeconomic level residing in urban areas. The consumption of OTC drugs in the study population is very high, much higher than the prevalence of acute or chronic diseases and the consumption of prescription drugs in this population. Subjects with a non-formal education or a university education are the population groups that are most likely to consume OTC drugs. Among OTC drugs, analgesics are the most consumed, followed by antitussives, and drugs for the common cold.
11. A cross-sectional online questionnaire-based study, employing data from a sample of 450 pharmacy students from Taif University in Saudi Arabia. Descriptive analysis included descriptive and differential analysis. The data were analyzed using statistical package for social sciences (SPSS) Version 27. The majority of participants, 297 (88.2%), were aware that inappropriate use of over-the-counter medications might have negative implications. A total of 233 participants (51.8%) reported having previously used an OTC medication. Also, 293 (65.1%), were aware that using OTC medications beyond their expiration date was harmful. A total of 280 participants (62.2%) had a high knowledge of OTC medication, whereas 170 respondents (37.8%) had a low level of knowledge. A significant correlation was found between age, year of study, and the use of OTC medication p -values < 0.05 (0.016*, 0.003*, and 0.001* respectively) and understanding of OTC medication. Gender had no significant influence on knowledge of OTC ($p > 0.05$). The study found positive attitudes toward OTC medications. Due to increased pharmaceutical exposure and self-medication, upper-year students and OTC course graduates comprehend OTC medications better. The examination found safety protocol violations in expiration dates, prescription label interpretation, and storage. Therefore, the

study provides useful information for future attempts. Also, this study may contribute to the literature and guide future research to fill knowledge gaps.

12. A cross-sectional study was conducted using an interviewer administered questionnaire. Descriptive statistics and multivariate analysis were performed by using SPSS V.23 with statistical significance set at $p < 0.05$. The participants were 658 adult consumers aged 18 years and above. Respondents who had practiced self-medication with OTC drugs were 562 (85.4%), of which over 95% were involved in risky practice. Consumers agreed (73.4%) that OTC drugs can be recommended by pharmacists and perceived (60.4%) that OTC drugs are harmless regardless of how they are used. Reasons for practicing self-medication with OTC drugs include: if it is a minor condition, I can take the initiative (90.9%), visiting a hospital wastes my time (75.5%) and ease accessibility of the pharmacy (88.9%). Overall, (83.7%) respondents had good practices of handling and use of OTC drugs, while (56.1%) had good knowledge of OTC drugs and identification of OTC drugs. Factors associated with consumer handling and use of OTC drugs in self-medication were older participants ($p = 0.01$), those with postsecondary education ($p = 0.02$), and who possessed good knowledge (0.02), were more likely to practice self-medication with OTC drugs. The study revealed a high prevalence of self-medication, good practices towards handling and use of OTC drugs, and moderate knowledge of OTC drugs by the consumers.

This underscores the need for policy-makers to introduce measures to enforce consumer education by community pharmacists to minimize the risks of inappropriate self-medication with OTC drugs.

13. A cross-sectional questionnaire was used to assess the knowledge, habits, and attitudes about OTC drugs. Data were collected from March 2017 to July 2017 in Thessaloniki, the second largest city in Greece. Logistic regression was used to investigate significant factors that affect the participants' behavior. A total of 782 participants completed the questionnaire. The population had a mean (SD) age of 46 (17) years and 55.1% were females. About one-third (32.5%) of the participants used nonsteroidal anti-inflammatory drugs more than once per week. OTC drugs acting on the gastrointestinal tract were used to a lower extent (13.2%). The majority (84%) of the respondents consult a healthcare professional about the information on OTC drugs. Furthermore, when not sure about which OTC drug to use, 510 participants (65.6%) valued their physician's advice, whereas 480 participants (60.2%) valued their pharmacist's advice. Most participants (61.2%) were negatively inclined toward the purchase of OTC drugs in nonpharmacy settings, with younger participants being more receptive to out-of-pharmacy OTC drug purchase than older ones (odds ratio 2.20; 95% confidence interval 1.37-3.54). Healthcare professionals play an important role in providing people information on their selection of OTC drugs. This could be the main reason why participants prefer to buy OTC drugs from community pharmacies rather than retail shops.

Studies related to OTC drugs among nursing students

As future health-care practitioners', self-medication assumes special importance among MBBS, nursing, and paramedical students. They are the ones who differ from the general population due to their exposure to the disease and drugs. The idea of conducting the present study was due to the scarcity of data regarding knowledge, attitude, and practice (KAP) of over-the-counter (OTC) drugs among them. The aim of this study was to check KAP regarding OTC drug use among medical and nursing students and also to know the different reasons for self-medication and influences regarding their choice for the same.

14. A cross-sectional study was done including medical and nursing students for time duration of 6 months from January to May 2023. A well-designed, pre-validated questionnaire with various items on a Likert scale was distributed to medical and nursing students all over Maharashtra via Google Forms, sharing links through the contacts of the medical and nursing students' association of Maharashtra. Descriptive statistical analysis was used. A total of 161 students (102 medical, 59 nursing) took part in the present study. Most of the students (84.4%) practiced self-medication. Fever and headache (56.4%), followed by cough and common cold (27.5%), are the most common illness for which students self-medicate. One of the most common reasons students have been found to self-medicate was found to be refusal to spend time seeing a doctor for minor illness (64.5%). There is an extensive habit of self-medication among MBBS and nursing students. Lack of understanding regarding the proper use of medications, their storage, expiry, action to be taken in case of side effects, and increasing the dose of medication when symptoms are not subsiding were some of the significant problems found.

15. A cross-sectional study was conducted among 285 undergraduate students (medical, dental and nursing) recruited randomly from one Malaysian public university. A self-administered questionnaire on demographic, OTC knowledge and attitude statements were collected. Descriptive, Chi-square, Fisher and correlation analyses were performed with the data. Of 285 undergraduate students (199 medical, 53 dental and 33 nursing), it was found that the students had a moderate knowledge of OTC analgesics ($M=5.91$, $SD=1.048$) and attitudes ($M=20.26$, $SD=3.526$). No significant association was observed between demographic factors, knowledge and attitude of OTC analgesics. However, a significant correlation was found between knowledge and attitude ($r = 0.292$, $p\text{-value} < 0.001$). This study has identified moderate knowledge and attitude toward OTC analgesics among undergraduate students. There is no significant association between knowledge, attitude and demographic variables; however, there is a correlation between knowledge and attitude. These findings would be useful in strategizing OTC analgesic awareness programs to improve students' theoretical knowledge into attitudes and practice.

16. A cross-sectional descriptive study was conducted among 177 study participants (20 ± 3 years) between December 2019 to February 2020 using questionnaire. Data analyses were done using origin software (6.1, Illinois, USA). Significance was considered at $P < 0.05$. Study was conducted in Department of Nursing, University College Farasan Province, a premier educational institute of Farasan Island affiliated to Jazan university, KSA. Self-medication practices were high among nursing students ($n = 154$ participants, 87%). Acetaminophen was highest used drug for analgesic purposes without prescriptions ($n = 101$ participants, 57%). Among NSAIDs, Ibuprofen was most preferred for various analgesic purposes ($n = 35$ participants, 20%) followed by diclofenac ($n = 9$ participants, 5%) and meloxicam ($n = 5$ participants, 3%). Azithromycin was the only antibiotic used by participants ($n = 4$ participant, 2%). Most common causes of self-medication were headache (45%), menstrual pain (23%) and fever (14%). Main reason for self-medications was lack of time to consult doctor (68%).

Furthermore, self-medication was significantly associated with study year ($P < 0.003$). Results give rise to concern for general well-being of future nursing workforce. There is need to implement educational actions and awareness program to limit self-medication practices among educated youth of this beautiful Island.

Aims and Objectives

STATEMENT OF THE PROBLEM

A study to assess the knowledge and practice regarding over-the-counter drugs among nursing students in selected nursing colleges at Thrissur district.

OBJECTIVES

- a) To assess the knowledge of nursing students regarding over-the-counter drugs.
- b) To assess the practice of nursing students regarding over-the-counter drugs.
- c) To determine the association between the level of knowledge and practice of nursing students regarding over-the-counter drugs with their selected demographic variables

OPERATIONAL DEFINITION

- **Over-the-counter drugs**

Medicine sold directly to a consumer without a requirement for a prescription from a healthcare professional.

- **Nurse**

a person formally educated and trained in the care of the sick or infirm.

- **Assessment**

To make judgement about nature of quantity or something or assessment is the whole evaluation of any activity

- **Knowledge**

Understanding of or information about something which a person gets by experience or study.

- **Practice**

The act of continually doing something in order to get better at it.

ASSUMPTIONS

Nursing students will have some knowledge regarding over-the-counter drugs by virtue of their nursing course.

DELIMITATION

In the present study the practice of over-the-counter drugs among nursing students will be assessed only through practice questionnaire.

HYPOTHESIS

H1 -There will be significant association between knowledge of nursing students regarding over-the-counter drugs with their selected demographic variables.

H2-There will be significant association between practices of nursing students regarding the use of over-the-counter drugs with their selected demographic variables.

CONCEPTUAL FRAMEWORK

Conceptual framework places a several interrelated roles in process of science. Their overall purpose is to make research findings meaningful and generalize; they also allow the researcher to knit together, observation and facts into orderly scheme

The conceptual framework used for this study is Modified Revised Pender's Health Promotion Model

(2002).

It was developed by Nola Pender's, a nurse in 1982. The health promotion mode (HPM) is an approach – oriented model that depicts the multidimensional nature and physical environments as they pursue health. The variables discussed in this model are,

- Individual characteristics
- Behavioral factors
- Outcome identified
- Plan of action

Individual characteristics: An individual characteristic refers to the unique personal factors or experience which will have an influence on the target behavior for the health promotion. In this study the individual characteristics refers to the demographic variable of nursing students include age, sex and community.

Behavioral factors: A behavioral factor refers to the major motivational significance for acquiring and maintain health promotion behaviors. In this study behavioral factors refers to the knowledge of nursing students regarding the OTC drugs

Outcome identified: It is directed towards attaining positive health outcome for the client. Health promotion behavior should result in improved health both in terms of improved functional ability and better quality of life at all stages of development. In this study it refers to level of knowledge and practice of nursing students regarding over-the-counter drugs.

Plan of action: refers to specific strategy taken for carrying out and reinforcing the behavior.

Individual characteristics

PERSONAL FACTORS

Age, sex and
community

Behavior specific cognition and affect



PERCEIVED BENEFITS

Effectiveness of OTC use

PERCEIVED BARRIERS

- Uncertainty
- Side effects

PERCEIVED SELF – EFFICACY

Confidence in identifying and using
OTC



ACTIVITY RELATED AFFECT	INTERPERSONAL INFLUENCES	SITUATIONAL INFLUENCES
- Confidence / anxiety - Peer pressure	Peer and faculty influence	Availability of OTC drugs

Behavioral outcome

Materials and Methods

<u>IMMEDIATE COMPETING DEMANDS AND PREFERENCES</u>
- External pressure - Academic stress

<u>HEALTH PROMOTING BEHAVIOUR</u>
- Responsible OTC use - Avoiding misuse

Materials and Methods

Methodology is the most important part of any research study, which enables the researcher to form a blue print for the study undertaken. Research methodology refers to controlled investigations related to the ways of obtaining, organizing and analyzing data. Methodology adopted to study the development, validation and evaluation of research instruments and techniques.

This chapter deals with the description of the research methodology adopted to study to assess the knowledge and practice regarding the OTC drugs among nursing students in selected nursing college. The methodology adopted for the study such as research approach, research design, variables, setting of the study, population, sample size, sampling technique, description of the tool, content validity, reliability, pilot study, data collection procedure and plan for analysis are discussed in this chapter

RESEARCH APPROACH

Research approach includes description of the plan to investigate the phenomenon under the study. The selection of the research approach is the basic procedure for the conduct of research enquiry. A research approach tells that the researcher about what data to collect and analyze it. It also suggests possible conclusions to be drawn from the data. In view of the nature of the problem selected for the study and objectives to be accomplished, a quantitative approach was considered appropriate for the study.

RESEARCH DESIGN

Research design is the plan of blueprint, structure, strategy, used for answering the questions. The selection of design depends upon the purpose of the study, research approach and variables to study. The research design used for the study was non experimental

Descriptive research design.

VARIABLES

In the present study the variables are knowledge and practice regarding the OTC drugs.

Extraneous variable: These are used to describe the characteristics of the study population and to analyze how these characteristics may influence the outcomes of the study. In this study the demographic

variables are age, gender and year of study.

Setting of the study: Setting is the physical location and condition in which data collection takes place in the study. The study is conducted at selected nursing college.

Population: The target population is defined as the “entire aggregate of cases that means designated set of criteria”. In this study the population is the nursing students of selected nursing colleges at Thrissur district.

Sample and Sampling technique:

Sample: A sample is the subset of the population selected to participate in a study. The sample of present study comprises of nursing students of selected nursing colleges at Thrissur district.

Sample Size: 200 Nursing students from selected nursing colleges at Thrissur district.

Sampling technique: is the process of selecting the sample from the target population to represent the entire population. Non probability convenient sampling technique is used by the investigator in the study.

Sampling criteria: A researcher set criteria for selecting sample on assumption that sample data will enable to estimate population parameter. The study samples were selected keeping in view of the following predetermined criteria

Inclusive criteria

- 1) Selected nursing colleges at Thrissur District.
- 2) Nursing students who are Studying BSc nursing
- 3) students who are able to comprehend and communicate English.

Exclusive criteria

- 1) Nursing students who are not willing to participate.

Tools / Instruments:

Data collection tools are the instruments used by the investigator to observe or measure the dependent variable in the research problem. This study is primarily concerned to assess the knowledge and practice regarding OTC drugs.

Selection of the tool:

The tool developed for the study was knowledge and practice questionnaire to assess the knowledge and practice level of nursing students regarding OTC drugs.

The tool was developed based on the review of literature, opinion from the experts and guides, the investigators personal and professional experience and objectives of the study.

- Personal profile Performa for demographic data.
- Structured knowledge questionnaire to assess the knowledge of nursing students regarding over-the-counter drugs.
- Structured practice questionnaire to assess the practice of nursing students regarding over-the-counter drugs.

Section 1

Personal profile Performa

A Personal Performa was developed to collect the data regarding the selected demographic variable of nursing students of the selected nursing colleges. This formed the section 1 of tool and contained basic information about the nursing students of the selected nursing colleges via; age, gender, religion, year of study, community, previous awareness regarding OTC drugs.

Section 2

Development of structured knowledge questionnaire

Structured knowledge questionnaire was developed with the intention to assess the knowledge of nursing students regarding over-the-counter drugs. The steps adopted for the selection of items and preparations of questionnaire were as follows:

- Review of research and literature related to over-the-counter drugs.
- Experts' opinion and suggestions to decide on the areas to be included.

There were four options to choose. From which the participants are to choose, one best option by putting tick mark on it. A score value of one (1) was allotted to each correct response. The total knowledge score ranged from 0-22. The tool was further divided arbitrarily as poor knowledge (0-6), average knowledge (7-10), good knowledge (11-14), very good knowledge (15-18), Excellent knowledge (19-22).

Section 3

Development of structured practice questionnaire

Structured practice questionnaire was developed to assess the practice of nursing students regarding over-the-counter drugs. This tool consists of 21 items related to practice of nursing students practice regarding the over-the-counter drugs.

There were four alternative response columns; never, sometimes, often and always. The participants have to choose the best option by putting tick mark in the respective columns. A score value of 1, 2, 3 and 4 was allotted to the responses. The total practice score ranged from 20-84. This was further divided arbitrarily as poor practice (21-41), average practice (42-62) and good practice (63-84).

Content Validity

Content validity is a degree to which the items in the instruments adequately represent the universe of the content for the concept being measured.

The content validity tools were obtained by giving it to five experts from the field of Nursing. Demographic Performa variables modification was done as per expert's suggestion. There was 100% agreement between the subject experts for all the items of structured knowledge questionnaire except item no (21) and item no (20). As per suggestions of experts, 21th item was deleted and options of 20th item were changed. There was 100% agreement between the subject experts for all the items of practice questionnaire except item no (13). As per suggestions of expert's 13th item was modified.

Data Collection Procedure: Data collection is the process of gathering and measuring information on target variables in an established system, which then enables one to answer relevant question and evaluate outcomes.

After obtaining formal permission from concerned authorities, Data was collected on 1-3-2025. subjects were selected by convenient sampling. Necessary precautions were taken to provide privacy and confidentiality of the responses. All the selected nursing students were met and purpose of the study was explained and Informed consent was obtained from the respondents. Tool was sent to the nursing students through google form and data was collected. Samples had submitted the tool. Approximately 60-90 minutes were taken to complete the questionnaire by the samples. 200 nursing students participated in the study. collection process was terminated after thanking each sample for their participation and co- operation.

Plan for data analysis:

Data analysis is a systemic organization and synthesis of research data and testing of research hypothesis

using those data. Data obtained was planned to be coded and edited to reduce the large data into a master sheet. Both descriptive and inferential statistics were planned to be used in this study.

Descriptive statistics: to describe the selected personal variables of nursing students' frequency, mean, mean percentage, standard deviation to analyze the knowledge and practice regarding the over-the-counter drug use.

B) INFERENCE STATISTICS

- Chi - square to analyze the association between the level of knowledge, practice and the selected demographic variables of nursing students

Observations and Results

ANALYSIS AND INTERPRETATION

Analysis is the process of organizing and synthesizing the data so as to answer research questions and test hypothesis. It is defined as the process of systemically applying statistical and logical techniques to describe summarize and compare data.

Interpretation of data refers to critical examination of analyzed study results to draw inferences and conclusion. Interpretation of research findings of a study involves a search for their meanings in relation to research problem, objectives, conceptual framework and hypothesis.

This chapter presents the analysis and interpretation of data collected from 200 nursing students studying in selected nursing college in Thrissur district. The present study was designed to assess the knowledge and practice regarding over-the-counter drugs among nursing students in selected nursing colleges at Thrissur district.

ORGANIZATION OF FINDINGS

The findings of the study are organized in terms of the objectives and hypothesis tested and is presented in 3 sections.

Section 1: Description of selected demographic variables of nursing students in selected nursing college.

Section 2: Description of knowledge and practice regarding over-the-counter drugs among nursing students in selected nursing college.

Part A: Description of knowledge scores of nursing students in selected nursing college.

Part B: Description of practice score of nursing students in a selected nursing college.

Section 3: Association of level of knowledge and practice of nursing students in selected nursing college with their selected demographic variables.

Section 1

Description of demographic variables of nursing students in selected nursing college.

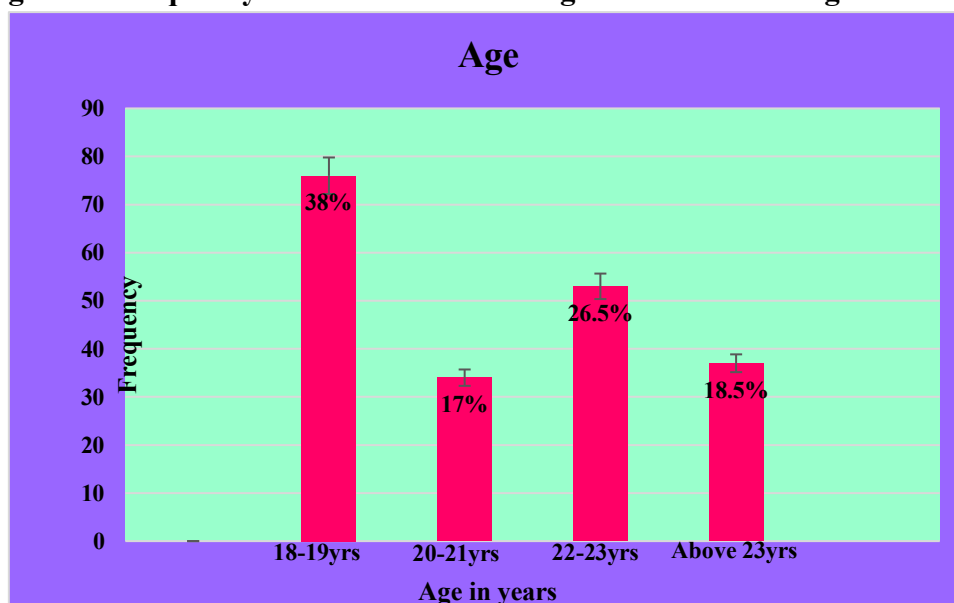
The study sample consisted of 200 nursing students. The selected demographic variables of nursing students are described under subheadings of year of study, age, gender, religion, community, previous awareness regarding OTC drugs. The data are presented in Table 1 and figures 1, 2, 3, 4 and 5.

Table 1: Frequency distribution of nursing students according to their year of study.
(N=200)

Year of study	No of students	Frequency
First year	55	27.5%
Second year	45	22.5%
Third year	25	12.5%
Fourth year	41	20.5%
PBBSc	34	17%

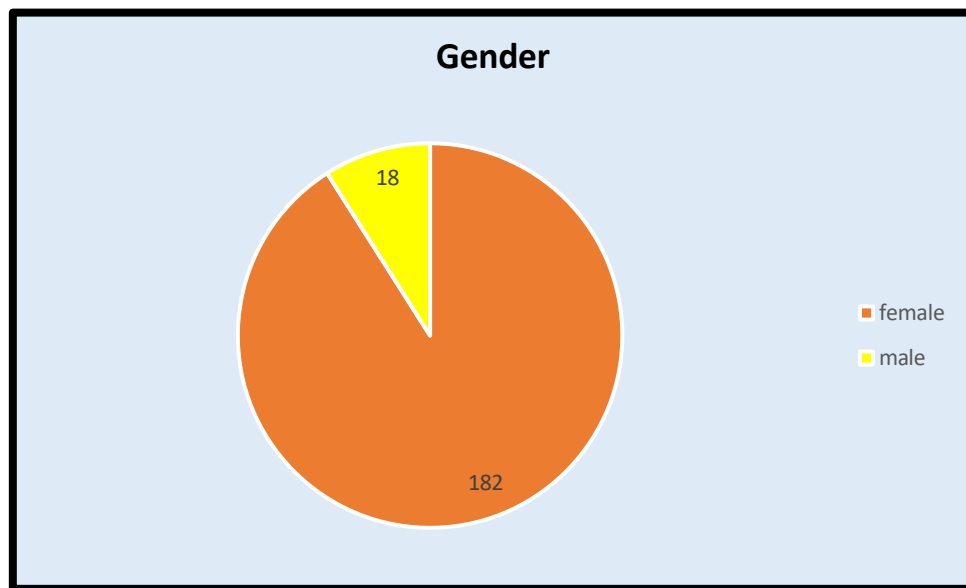
Data presented in Table 1 shows that, majority of the nursing students 55(27.5%) were in the first year of study, 45(22.5%) in the second year of study, 41(20.5%) in the fourth year of study, 34(17%) in the PBBSc and remaining 25(12.5%) in the third year of study respectively.

Figure 1: Frequency distribution of nursing students according to their age



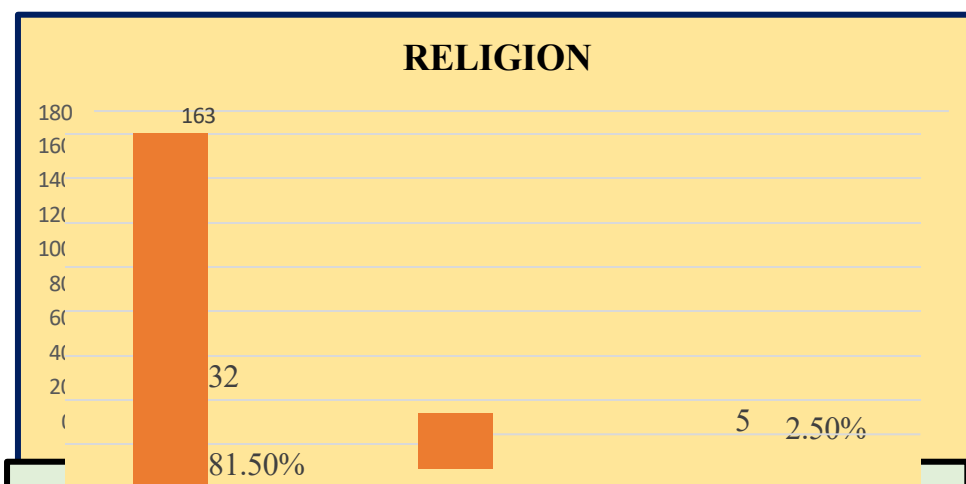
Data presented in Figure 1 shows that, majority of the nursing students 76(38%) were in the age group of 18- 19 years, 53 (26.5%) in the age group of 22-23 years, 37 (18.5%) in the age group of above 23 years and remaining 34 (17%) in the age group of 20-21 years respectively.

Figure 2: Frequency distribution of nursing students according to their gender



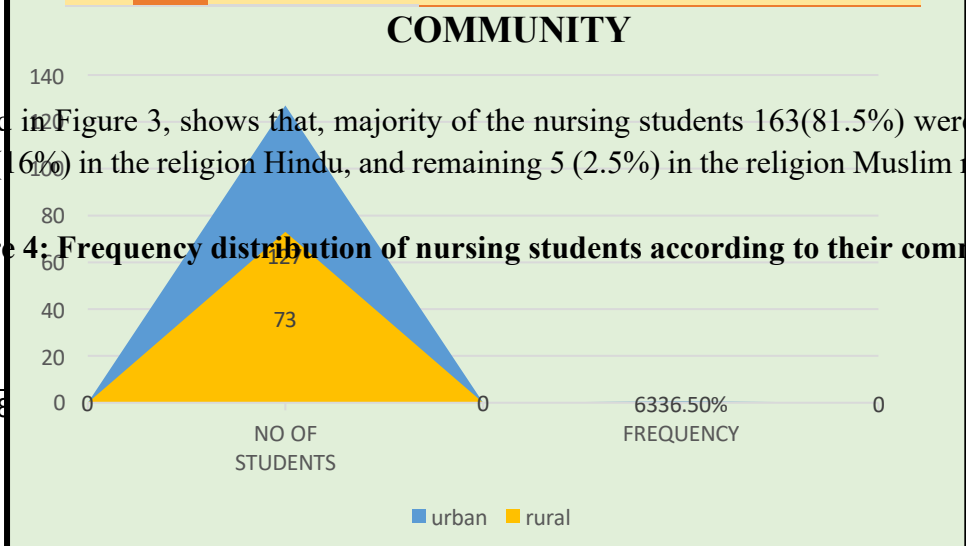
Data presented in Figure 4, shows that, majority of the nursing students 182(91%) were females, and remaining 18 (9%) were males respectively.

Figure 3: Frequency distribution of nursing students according to their religion



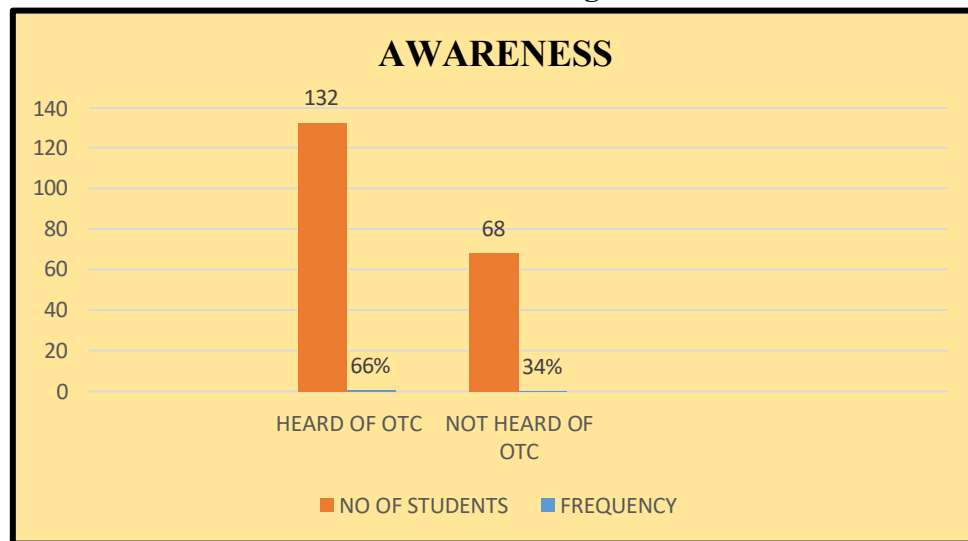
Data presented in Figure 3, shows that, majority of the nursing students 163(81.5%) were in the religion Christian, 32 (16%) in the religion Hindu, and remaining 5 (2.5%) in the religion Muslim respectively.

Figure 4: Frequency distribution of nursing students according to their community.



Data presented in Figure 4, shows that, majority of the nursing students 127(63.5%) were in the urban community, and remaining 73 (36.5%) in the rural community respectively.

Figure 5: Frequency distribution of nursing students according to their previous awareness about OTC drugs.



Data presented in Figure 5, shows that, majority of the nursing students 132(66%) has heard about the OTC drugs, and remaining 68 (34%) has not heard about the OTC drugs.

Section 2

Description of knowledge and practice regarding over-the-counter drugs among nursing students in selected nursing college

Part A

a. Description of knowledge score of nursing students in a selected nursing college

Knowledge of nursing students regarding over-the-counter drugs was assessed using structured knowledge questionnaire. Mean median, standard deviation of knowledge scores of nursing students were calculated and presented in Table 2.

Table -2

Mean, median, standard deviation, for knowledge scores of nursing students in selected nursing college.

(N =200)

	Mean	Median	Standard deviation
--	------	--------	--------------------

Knowledge score	11.64	15.25	3.84
-----------------	-------	-------	------

It is evident from Table 2 that, knowledge scores of nursing students in selected nursing college is with a mean of 11.64 and standard deviation of ± 3.84 .

b. Frequency and percentage distribution of level of knowledge of nursing students in a selected nursing college.

Knowledge of nurses regarding over-the-counter drugs was assessed using knowledge questionnaire. The tool consists of 22 questions and the maximum possible score was 22. Further the tool was arbitrarily classified as poor knowledge (below 6), average knowledge (7-10) good knowledge (11- 14), very good knowledge (15-18) and Excellent knowledge (19-22) Frequency and percentage of distribution of nursing students according to their level of knowledge regarding over-the-counter drugs is presented in the Table 3.

Table-3
Frequency and percentage distribution of level of knowledge of nursing students in a selected nursing college.
(N=200)

KNOWLEDGE	FREQUENCY	PERCENTAGE
Below average (less than 6)	22	11%
Poor (7-10)	53	26.5%
Good (11 –14)	80	40%
Very good (15-18)	39	19.5%
Excellent (19-22)	6	3%

Table 3 showed the frequency and percentage distribution of samples according to the level of knowledge. It reveals that majority of 80(40%) has good knowledge, 53(26.5%) has poor knowledge, 39(19.5%) has very good knowledge, 22(11%) has below average knowledge and the remaining sample 6(3%) has excellent knowledge.

Part B

a. Description of practice score of nursing students in a selected nursing college

Practice of nursing students regarding the over-the-counter drugs was assessed using structured practice questionnaire. The tool consists of 21 questions and the maximum practice score is 84. Mean, median, standard deviation of practice score of nursing students in selected nursing college were calculated and presented in the Table 4.

Table – 4

Mean, median, range, standard deviation, for practice scores of nursing students in selected nursing college.

N =200

	Mean	Median	Range	Standard deviation
Practice score	64.71	73.5	60-65	12.14

It is evident from Table 4 that, practice scores of nursing students is with a mean of 64.71 and standard deviation ± 12.14

b. Frequency and percentage distribution of level of practice of nursing students in a selected nursing college.

Practice of nurses regarding over-the-counter drugs was assessed using practice questionnaire. The tool consists of 2 questions and the maximum possible score was 84. Further the tool was arbitrarily classified as poor practice (21-41), moderate practice (42-62) and good practice (63-84). Frequency and percentage of distribution of nursing students according to their level of practice regarding over-the-counter drugs is presented in the Table 5.

Table – 5

Frequency and percentage distribution of level of practice of nursing students in a selected nursing college.

N=200

PRACTICE	FREQUENCY	PERCENTAGE
Poor (21-41)	7	3.5 %
Moderate (42-62)	67	33.5 %
Good (63 –84)	126	63%

Table :5 shows that Majority of nursing students (63%) had good practice ,33.5 % of students had moderate practice and only 3.5% of nursing students had poor practice.

Section 3

Association of level of knowledge and practice of nursing students in selected nursing college with their selected demographic variables.

Chi-square values were computed to determine the association between knowledge, practice of nursing students in a selected nursing college with their selected demographic variables. The results are presented under following sections.

a. Association between the level of knowledge of nursing students with their selected demographic variables.

b. Association between the level of practice of nursing students with their selected demographic variables.

Table -6

Computed chi-square values between the association of level of knowledge of nursing students with their selected demographic variables

(N=200)

Sl.no.	Selected personal variables	Level of knowledge					Chi-square value	P value
		Below average	Poor	Good	Very good	Excellent		
1	Course & Year of study						33.817	0.000
	First year	8	28	16	4	2		
	Second year	2	7	21	12	1		
	Third year	4	3	9	7	0		
	Fourth year	4	7	20	9	3		
	PBBSC	4	8	14	7	0		
2	Community						9.36	0.0022
	Urban	11	25	20	15	3		
	Rural	11	28	60	24	3		

N=200

level of significance – 0.01level

Table 6 shows that the chi-square value calculated for the baseline variables like year of study and community the p value is less than the level of significance at 0.01 level. So, the research hypothesis accepted and null hypothesis is rejected. Hence there is significant association between knowledge score of nursing students regarding OTC drugs with their selected demographic variables such as course & year of study and community.

Table -7
(N=200)

Sl no.	Selected demographic variables	Level of practices			Chi-square value	P value
		Good	Moderate	Poor		
1	Age				13.115	0.0003
	• 18-19	53	22	5		
	• 20-21	35	32	1		
	• 22-23	22	10	0		
	• Above 23	16	3	1		
2	Community				4.073	0.0436
	• Urban	46	22	5		
	• Rural	80	45	2		

Table 7 shows that the chi-square value calculated for the baseline variable age the p value is less than the level of significance at 0.01 level. So, the research hypothesis accepted and null hypothesis is rejected. Hence there is significant association between the practice score of nursing students regarding OTC drugs with their selected demographic variable such as age. The chi-square value calculated for the baseline variable community; the p value is greater than the level of significance

at 0.01 level. So, the research hypothesis is rejected and null hypothesis is accepted. Hence there is no significant association between the practice score of nursing students regarding OTC drugs with their selected demographic variable such as community.

RESULT

This chapter deals with the major findings of the analysis of data obtained from 200 nursing students.

Objectives:

- a) To assess the knowledge of nursing students regarding over-the-counter drugs.
- b) To assess the practice of nursing students regarding over-the-counter drugs.
- c) To determine the association between the level of knowledge and practice of nursing students regarding over-the-counter drugs with their selected demographic variables

Hypothesis

All the hypothesis will be tested as 0.01 level of significance

H1 -There will be significant association between knowledge of nursing students regarding over-the-counter drugs with their selected demographic variables.

H2-There will be significant association between practices of nursing students regarding the use of over-the-counter drugs with their selected demographic variables.

Results

The results were organized under different sections:

Section 1- Description of demographic variables of nursing students.

Section 2- Description of level of knowledge regarding over-the-counter drugs. Section 3- Description regarding the practice of over-the-counter drugs.

Section 4-Association between the level of knowledge regarding over-the-counter drugs among nursing students with their selected demographic variables.

Section 5- Association between the level of practice of over-the-counter drugs among nursing students with their selected demographic variables.

Description of demographic variables of nursing students

The demographic variables of this study were age, gender, course and year of study, Community, religion, previous awareness regarding the OTC drugs.

Among 200 nursing students, majority of the nursing students 55(27.5%) were in the first year of study, 45(22.5%) in the second year of study, 41(20.5%) in the fourth year of study, 34(17%) in the PBBSc nursing students and remaining 25(12.5%) in the third year of study respectively.

Among 200 nursing students, majority of the nursing students 76(38%) were in the age group of 18- 19 years, 53 (26.5%) in the age group of 22-23 years, 37 (18.5%) in the age group of above 23 years and remaining 34 (17%) in the age group of 20-21 years respectively.

Among 200 nursing students, majority of the nursing students 163(81.5%) were in the religion Christian, 32 (16%) in the religion Hindu, and remaining 5 (2.5%) in the religion Muslim respectively

Among 200 nursing students, majority of the nursing students 127(63.5%) were in the urban community, and remaining 73 (36.5%) in the rural community respectively

Among 200 nursing students, majority of the nursing students 132(66%) has heard about the OTC drugs, and remaining 68 (34%) has not heard about the OTC drugs

Description of level of knowledge regarding over-the-counter drugs

It reveals that majority of 80(40%) has good knowledge, 53(26.5%) has poor knowledge, 39(19.5%) has

very good knowledge, 22(11%) has below average knowledge and the remaining sample 6(3%) has excellent knowledge.

Description regarding the practice of over-the-counter drugs

Majority of nursing students (63%) had good practice, 33.5 % of students had moderate practice and only 3.5% of nursing students had poor practice

Association between the level of knowledge regarding over-the-counter drugs among nursing students with their selected demographic variables

The chi-square value calculated for the baseline variables like year of study and community the p value is less than the level of significance at 0.01 level. So, the research hypothesis accepted and null hypothesis is rejected. Hence there is significant association between knowledge score of nursing students regarding OTC drugs with their selected demographic variables such as course & year of study and community.

Association between the level of practice regarding over-the-counter drugs among nursing students with their selected demographic variables

The chi-square value calculated for the baseline variable age the p value is less than the level of significance at 0.01 level. So, the research hypothesis accepted and null hypothesis is rejected. Hence there is significant association between the practice score of nursing students regarding OTC drugs with their selected demographic variable such as age. The chi-square value calculated for the baseline variable community; the p value is greater than the level of significance at 0.01 level. So, the research hypothesis is rejected and null hypothesis is accepted. Hence there is no significant association between the practice score of nursing students regarding OTC drugs with their selected demographic variable such as community.

DISCUSSION

Discussion is the interpretation of the study. The findings of the study were discussed as per objectives and hypothesis. In this session each major result was further related and explained in the background of the similar study done earlier.

This chapter gives a brief account of the present study. The subjects, 200 nursing students were selected using non probability convenience sampling. The data were analyzed and statistically tested. The present study was to assess the knowledge and practice regarding over-the-counter drugs among nursing students in selected nursing colleges in Thrissur district.

Findings related to demographic variables of nursing students in selected nursing college.

The demographic variables of this study were age, gender, course and year of study, Community, religion, previous awareness regarding the OTC drugs.

Among 200 nursing students, majority of the nursing students 55(27.5%) were in the first year of study, 45(22.5%) in the second year of study, 41(20.5%) in the fourth year of study, 34(17%) in the PBBSc nursing students and remaining 25(12.5%) in the third year of study respectively.

Among 200 nursing students, majority of the nursing students 76(38%) were in the age group of 18- 19 years, 53 (26.5%) in the age group of 22-23 years, 37 (18.5%) in the age group of above 23 years and remaining 34 (17%) in the age group of 20-21 years respectively.

Among 200 nursing students, majority of the nursing students 163(81.5%) were in the religion Christian, 32 (16%) in the religion Hindu, and remaining 5 (2.5%) in the religion Muslim respectively

Among 200 nursing students, majority of the nursing students 127(63.5%) were in the urban community,

and remaining 73 (36.5%) in the rural community respectively

Among 200 nursing students, majority of the nursing students 132(66%) has heard about the OTC drugs, and remaining 68 (34%) has not heard about the OTC drugs

Description of level of knowledge regarding over-the-counter drugs

It reveals that majority of 80(40%) has good knowledge, 53(26.5%) has poor knowledge, 39(19.5%) has very good knowledge, 22(11%) has below average knowledge and the remaining sample 6(3%) has excellent knowledge.

Description regarding the practice of over-the-counter drugs

Majority of nursing students (63%) had good practice ,33.5 % of students had moderate practice and only 3.5% of nursing students had poor practice

Association between the level of knowledge regarding over-the-counter drugs among nursing students with their selected demographic variables

The chi-square value calculated for the baseline variables like year of study and community the p value is less than the level of significance at 0.01 level. So, the research hypothesis accepted and null hypothesis is rejected. Hence there is significant association between knowledge score of nursing students regarding OTC drugs with their selected demographic variables such as course & year of study and community.

Association between the level of practice regarding over-the-counter drugs among nursing students with their selected demographic variables

The chi-square value calculated for the baseline variable age the p value is less than the level of significance at 0.01 level. So, the research hypothesis accepted and null hypothesis is rejected. Hence there is significant association between the practice score of nursing students regarding OTC drugs with their selected demographic variable such as age. The chi-square value calculated for the baseline variable community; the p value is greater than the level of significance at 0.01 level. So, the research hypothesis is rejected and null hypothesis is accepted. Hence there is no significant association between the practice score of nursing students regarding OTC drugs with their selected demographic variable such as community

NURSING IMPLICATION

The nursing implications are vital to the following areas such as nursing education, practice, administration and research.

Nursing education

The study findings highlight the knowledge and practice regarding over-the-counter drugs among nursing students. The nurse educator should shoulder the responsibility to make the students to gain in depth knowledge regarding the adverse effect of over-the-counter drugs. So that they can motivate others to safe guard themselves against the use of over-the-counter drugs.

- **Patient Education and Counselling** – Nurses play a crucial role in educating patients about the appropriate use of OTC drugs, including indications, dosage, potential side effects, and risks of self-medication. This study highlights the need for improved patient counseling strategies.
- **Safe Medication Practices** – By identifying gaps in knowledge among nursing students, the study emphasizes the importance of reinforcing safe medication administration practices in clinical settings to prevent adverse drug reactions and drug interactions.
- **Policy Implementation** – Hospitals and healthcare institutions can use the study's findings to

develop guidelines and protocols for OTC drug use, ensuring that nursing staff follow evidence-based practices to enhance patient safety.

- **Community Health Promotion** – Nurses in community settings can utilize this study's findings to organize awareness programs, educating the general public on the benefits and risks of OTC drugs and promoting rational drug use.
- **Professional Accountability** – The study highlights the need for nurses to stay updated with pharmacological knowledge and take professional responsibility in guiding patients towards informed decision-making regarding OTC drug use.

Nursing administration

- **Policy Development:** Nursing administrators can implement policies regarding the safe use of over-the-counter (OTC) drugs within nursing curricula and clinical practice to ensure students have structured guidelines on responsible medication use.
- **Educational Programs:** Organizing workshops, seminars, and training sessions for nursing students to enhance their knowledge and responsible practices regarding OTC drug use.
- **Monitoring & Supervision:** Strengthening supervision mechanisms in clinical settings to assess and reinforce proper medication practices among nursing students.
- **Incorporating OTC Drug Education in Curriculum:** Ensuring nursing students receive comprehensive education on pharmacology, self-medication risks, and patient education related to OTC drugs.

Nursing research

- **Evidence-Based Practice** – The study findings can contribute to evidence-based nursing practice by identifying knowledge gaps and common misconceptions regarding OTC drug use among nursing students.
- **Further Research Opportunities** – Findings may highlight the need for longitudinal studies or interventional studies to assess the impact of targeted educational programs on students' knowledge and practice regarding OTC drugs.
- **Patient Safety and Public Health** – The study results can guide future research on the role of nurses in educating patients about the risks and benefits of OTC drugs, contributing to improved patient safety and healthcare outcomes.

LIMITATIONS

- The study is conducted in selected nursing colleges in Thrissur district, which may not represent nursing students from other regions or institutions.
- As a non-experimental study, it does not establish causality between knowledge and practice regarding OTC drug use.
- The use of non-probability convenient sampling may lead to selection bias, affecting the representativeness of the sample.

RECOMMENDATIONS

- Future research could include a larger and more diverse sample, covering multiple nursing colleges across different regions to enhance generalizability.
- Conduct a comparative study between nursing students and students from other healthcare

disciplines (such as pharmacy or medical students) to assess variations in knowledge and practice.

- A longitudinal approach could be used to track changes in knowledge and practice over time, especially before and after clinical exposure.

Conclusion

The research study to assess the knowledge and practice regarding over the counter drugs among nursing students in selected nursing colleges in Thrissur district shows that majority of 80(40%) has good knowledge, 53(26.5%) has poor knowledge, 39(19.5%) has very good knowledge, 22(11%) has below average knowledge and the remaining sample 6(3%) has excellent knowledge and Majority of nursing students (63%) had good practice ,33.5 % of students had moderate practice and only 3.5% of nursing students had poor practice. The study also shows that there is association between the level of knowledge of over-the-counter drugs with their selected demographic variables such as course & year of study and community.

Summary

Over-the-counter (OTC) drugs are widely used for self-medication, allowing individuals to manage common health conditions without a prescription, but their improper use can lead to adverse effects and complications. Nursing students, as future healthcare professionals, must possess adequate knowledge and responsible practices regarding OTC drugs to ensure their safe and effective use among the general public. The statement of problem was “A study to assess the knowledge and practice regarding over-the-counter drugs among nursing students in selected nursing colleges at Thrissur district.” The objectives are to assess the knowledge of nursing students regarding over-the-counter drugs, to assess the practice of nursing students regarding over-the-counter drugs, to determine the association between the level of knowledge and practice of nursing students regarding over-the-counter drugs with their selected demographic variables. Methodology: Non- experimental research design was adopted. Non probability convenient sampling technique was used to select 200 Nursing students. Data collected using structured knowledge and practice questionnaire to assess the level of knowledge and practice through google form. The collected data were analyzed using descriptive and inferential statistics. Results: The findings revealed that the majority of Nursing students had good level of knowledge and practice regarding the OTC drugs. Conclusion: The study concluded that the majority of nursing students possessed good knowledge and practice regarding OTC drugs, indicating a positive awareness of their safe usage. It is recommended that continuous educational interventions and awareness programs be implemented to further enhance responsible self-medication practices among nursing students.

REFERENCES**REFERENCE****BOOKS**

1. Suresh K Sharma. Nursing research and statistics. 3rd edition. Haryana, India: Elsevier publication; 2018.p.361.
2. Denise F. Polit, Cheryl Tatano Beck. Essentials of nursing research appraising evidence for nursing practice. 9th edition. Philadelphia: Lippincott Williams & Wilkins; 2012.p.719,723,724,742,744.

NET REFERENCES

1. Devang Parikh, Baghya Manoj sattigeri. A survey study on use of over-the-counter drugs among medical students, nursing and clerical staff of a tertiary care teaching hospital. International journal of medical science. 2013[cited 2013 may]; vol.1 (2):83. available from: researchgate.net/publication/273587386.
2. Kalaiselvi Selvaraj, S. Ganesh Kumar, Archana Ramalingam. Prevalence of self-medication practices and its associated factors in urban Pondicherry, India. Perspectives in clinical research. 2013[cited 2014 Jan]; vol 5(1):32-36. Available from: <https://ncbi.nlm.nih.gov/pmc/articles/PMC3915367>.
3. Ayobeji Akinwande Fasoro, Opeoluwa Esther Odesaniya. Assessment of self-medication practices and its associated factors among under graduates of private university in Nigeria. Journal of environmental and public health. 2016[cited 2018 dec 20]; vol 2018(1): 7. Available from: <https://doi.org/10.1155/2018/5439079>.
4. R M Helal, H S Abou-Elwafa. Self medication in university students from the city of Mansoura, Egypt. Journal of environmental and public health. 2015 [cited 2017 April 5]; vol 2017(1): 7. Available from: <https://doi.org/10.1155/2017/9145193>.
5. Kassie. A D, Biffu, B B & Mekonnen. Self medication practices and its associated factors among adult household members in Meket Street, North east Ethiopia. BMC pharmacol toxicol. 2017 [cited 2018 April 10]; vol 19(15). Available from: <https://doi.org/10.1186/s40360-018-0205-6>.
6. Dnyanesh Limaye. A systematic review of literature to assess self medication practices. Ann medical health sci res. 2017; vol 7: 1-15. Available from: <https://www.amhsr.org/articles/a-systematic-review-of-the-literature-to-assess-self-medication-practices-3711.html>.
7. Alshogran O Y, Alzoubi K H, Khapour O F, Farah S. Pattern of self medication among medical and non medical university students in Japan. Risk management health care policy. 2018; 11: 169-176. Available from: <https://doi.org/10.2147/RMHP.s170181>.
8. Mensur shafie, Mebrahtu Eyasu, Kadija Muzeyin, Yoseph Worku. Prevalence and determinants of self medication practice among selected households in Addis Ababa community. Plos one. 2016[cited 2016 march 26]; vol 2016. Available from: <https://doi.org/10.1371/journal.pone.0194122>.
9. Hafis A Makeen, Ahmed A Albarrag, Otila Jfbanji, Sohataymour, Saad Alqhatani. Knowledge attitude and practice towards self medications in rural population in south western Saudi Arabia. Saudi Journal for health sciences. 2016[cited 2019 may 16] vol.8 (1):54-59. Available from: <https://www.saudij.healthsc.org/text.asp?2019/8/1/54/257765>.
10. Kumar V, Mangal A, Yadhav G, Raut D, Singh S. Prevalence and pattern of self medication practices in an urban area of Delhi, India. Indian Medical Journal. 2015 [cited 2020 Jan 19]; vol 8(1): 16-21. Available from: <https://www.mjcdrdypu.org/text.asp?2015/8/1/16/148828>.

11. Nimitha P, Ragesh P S, Francis P T, Leelamani K. Prevalance of practice of self medication in Ernakulam District, South India. Indian Journal of community health. 2017[cited 2017 Sep 30]; vol 29(3): 282-286. Available from: <https://www.researchgate.net/publication/321499593>.
12. Abinash Panda, Supriya Pradhan, Jaya Singh Kshathri. Predictors of over the counter medication: A cross sectional study. Perspective in clinical research. 2015[cited 2017 April]; vol 8(2):79-84. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5384404>.
13. Manjushree Nagaraj, Ananya Chakraborty, B N Sreenivas. A study on the dispensing pattern of over the counter drugs in retail pharmacies in Sarjapur area, East Bangalore. Journal of clinical and diagnostic research. 2015[cited 2015 June 1]; vol 9(6):Fc11-Fe13. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4525524>.
14. P A Marathe, S K Kammat, R K Tripathi, S B Raut, N P Khatri. Over the counter medicines: Global perspectives and Indian scenario. Journal of post graduate medicine. 2020[cited 2020 Jan 19]; vol 66(1): 28-34. Available from: <https://www.jpgmonline.com/text.asp?2020/66/1/28/274716>.
15. Aparna Kuncheria, Athira Sreenivas, Chippi Vilas, Christy Elsa James, Dona Thomas, Femi Mathew, Vineeth Joseph. Knowledge and prevalence regarding use of over the counter drugs to overcome dysmenorrheal among under graduate girls. International Journal of advances in nursing management. 2017[cited 2017]; vol 5(2): 105-108. Available from: <https://ijanm.com/PID=2017-5-2-2>.
16. Sirak Tesfamariam, Indermeet Singh Anand, Mulugeta Russom. Self medication with over the counter drugs, Prevalence of risky practices and its associated factors in pharmacy outlet of Asmara, Eritrea. BMC public health. 2017[cited 2019 Feb 06]; Available form: <https://doi.org/10.1186/s12889-019-6470-5>.
17. Bikash Meher, Sakthi Balan, Elambirai Pugazhentni. Knowledge, attitude and practice of over the counter drugs among dispensers working in the retail pharmacies of South Indian city. Journal of clinic and diagnostic research. 2015[2018 Jan]; vol 12(1): Available from: <https://www.researchgate.net/publication/10.7860/JCDR/2018/26253.11054>.
18. Hajiri Sabe, Shivanadha K S, Mini Jayan, C Althaf Husaine. Prevalence of self medication practices and its associated factors in rural Bangalore, India. International Journal of community medicine and public health. 2016 [cited 2016 Jan]; vol 3(6):1481-1486. Available from: <https://dx.doi.org/10.18203-6040.igcmp/20161615>.
19. Megha Sood, Jagminder Kaur Bajaj, Nipunjot Grewal. Evaluate the use of over-the-counter drugs among medical students in a tertiary care teaching hospital. International journal of basic and clinical pharmacology. 2017[cited 2-19 May]; vol 8 (5): 973-976. Available from: <https://dx.doi.org/10.18203/2319-2003.ijbcp20191586>.
20. Girish H O, Divya H M, Sarada Prabakaran, Venugopalan P P. A cross sectional study on self medication pattern among medical students at Kannur, North Kerala. Journal of evaluation of medical and dental sciences. 2013[cited 2013 November 11]; vol 2(45): 8693-8700. Available from: <https://dx.doi.org/10.14260/gemds/1509>.
21. A Ahmed, I Patel, G P Mohanta, R Balakrishnan. Evaluation of self medication practices in rural area of town Sahaswan at Northern India. Ann med health sci res. 2012[cited 2014 July]; vol 4 (2): S73-8. Available from: <https://pubmed.ncbi.nlm.nih.gov/25184-092>.
22. Aparna Rajaendran, Kiran George Kulirankal, P S Rakesh, Sobha George. Prevalence and pattern of

- antibiotic self medication practice in an urban population of Kerala, India: Across sectional study. Indian J community Med. 2019[cited 2019 October]; vol 1(1); S42-S45. Available from: https://doi.org/10.4103/ijcm.ijcm_33_19.
23. Sham Sundar Keshari, Priyanka Kesanwane, Mili Mishra. Prevalence and pattern of self medication practices in rural area of Barabanki. Indian journal of community medicine 2013[cited 2014 December]; vol 25(7): 636-639. Available from: <https://www.researchgate.net/publication/282791111>.
24. Kanad Deepak, Ankit Gaur, Adhitya Goyal, Ravi Ranjan. Knowledge, attitude and practice of over-the-counter medicines among urban population- A cross sectional study. Indian research journal of pharmacy and science. 2017 [cited 2019 march 18]; vol 5(1): 1302-1302. Available from: <https://www.researchgate.net/publication/3244801136>.
25. Seher Unvar, Remziye Semerci, Zeynep Kizilcik Ozkan, Ilker Murat Avcibasi. Self medication with analgesics among nursing students for pain management. Acibabem universitesi saglik bilimleri dergisi. 2016[cited 2020 Jan]; vol 11 (1): 154-159. Available from:
26. Syed Sajid Ali, Sanat Sharma, Ahmed Tabish, Raj Sharma, Mahandra Jaiswal, Ravindra Chaurasia. Evaluation of self medication amongst nursing students of Bastar region: A questionnaire based study. International journal of pharmacological research. 2015 [cited 2015 July 7]; vol 5(6): 145-149. Available from: <https://doi.org/10.7439/ijpr.v5i6.2273>.
27. Suzana Mlinar, Rosandaraskovic Malnarsic. Analysis of over-the-counter medicines used among nursing students. VOJNOSANIT ETSKI PREGLED. 2013[cited 2015 July 1]; vol 72(9): 794-800. Available from: <https://scindeks-claniceon.rs/data/pdf/oo42-8450/2015/0042-8450509794M.pdf>.
28. Rekha M S, Roopasri, Rekha M B, Purushatham Naidu. A study on use of over-the-counter drugs among first year medical students in a tertiary care teaching hospital. 2015[cited 2015 May 5]; vol 3(1): 20-24. Available from: <https://www.rroij.com/open-access/a-study-on-use-of-over-the-counter-drugs-among-first-year-medical-students-in-a-tertiary-care-teaching-hospital.php?aid=52277>.
29. Jeeva Joseph, Sandramol Shaji, Jude James, Anitta Merlin, Bharat Mishra. An epidemiological study on the prevalence of self medication practices: A serious threat for the population in the Muvattupuzha region in Kerala, India. Journal of experimental sciences. 2018[cited 2018 June 19]; vol 9(1): 28-33. Available from: <https://updatepublishing.com/journal/index.php/rip>.
30. Oviya V J, Lakshmi T. A study on knowledge and practices of over-the-counter medications among second year dental students. International Journal of current advanced research. 2017[cited 2017 April 28]; vol 6(4): 3057-3059. Available from: <https://dx.doi.org/10.24327/ijcar.2017.3059.0180>.