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A SURVEY ON ASSESSING THE KNOWLEDGE ATTITUDE AND PRACTICE OF NSAIDS IN COMMUNITY PHARMACIES IN THE SOUTHERN PART OF KERALA

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Abstract:

Background*: A survey was conducted to evaluate the knowledge, attitude, and practice (KAP) regarding nonsteroidal anti-inflammatory drugs (NSAIDs) in community pharmacies in the southern part of Kerala.*

Methods: *This prospective observational study involved community pharmacies in southern Kerala. We assessed KAP related to NSAIDs using a specifically designed questionnaire.*

Conclusion: *The study revealed that knowledge about NSAIDs among pharmacists in Kerala is below average. Out of 100 randomly selected community pharmacies, it was found that pharmacists over the age of 45 generally lacked updated knowledge about NSAIDs, including new guidelines and potential side effects. Many pharmacists, primarily holding a Diploma in Pharmacy (D Pharm), were aware of NSAIDs use but were less informed about associated risks. NSAIDs such as acetaminophen and ibuprofen were often dispensed without a prescription, while others required one. Initially, the KAP regarding NSAIDs in these pharmacies was subpar. However, following targeted counseling through informational leaflets, an improvement in KAP was observed. This emphasizes the importance of continuous education and counseling for pharmacists to enhance the safe use of NSAIDs. Effective communication of risk factors and side effects significantly improved pharmacists' understanding and practice. The study underscores the crucial role of pharmacists in ensuring safe NSAID use and the positive impact of educational interventions on their knowledge and practices.*

Keywords: *KAP, Questionnaire, Community Pharmacy*

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INTRODUCTION:

Non-steroidal anti-inflammatory drugs (NSAIDs) are groups of drugs that used to relieve pain and also used for inflammation and anti-pyretic agent.

- The nonsteroidal anti-inflammatory drugs (NSAIDs) have analgesic, antipyretic and anti-inflammatory actions in different measures.
- Do not produce physical dependence, they do not depress CNS, have no abuse liability and are particularly effective in inflammatory pain.
- They are also called non-opioid or aspirin-like analgesics. They act primarily on peripheral pain mechanisms, but also in the CNS to produce pain threshold.
- They are more commonly used and considered as over- the-counter or nonprescription drugs.
- Some of the drugs like Sodium salicylate was used for fever and pain in 1875. Its great success led to the preface of acetylsalicylic acid (aspirin) in 1899.
- Phenacetin and antipyrine were also produced at that time. The next major advance was the development of phenylbutazone in 1949 having anti-inflammatory activity almost comparable to corticosteroids.
- The term Nonsteroidal Anti-inflammatory Drugs (NSAIDs) was coined to designate such drugs. Indomethacin was introduced in 1963.
- A host compounds heralded by the propionic acid derivative ibuprofen have been added since then, and cyclooxygenase (COX) inhibition is recognized to be their most important mechanism of action.
- In later some of the selective COX-2 inhibitors (celecoxib, etc.) have been added.

Community pharmacy:

- Community Pharmacy is a vital part of the healthcare system. It is defined broadly to include all those establishments that are privately owned and whose function, in varying degrees, is to serve society's needs for both drug products and pharmaceutical services.
- The main responsibilities of a community pharmacy include compounding, counseling, and dispensing of drugs to the patients with care, accuracy, and legality along with the proper procurement, storage, dispensing, and documentation of medicines.
- **Drug Information:** Community pharmacy provides understanding about the biological and physical science, chemistry, pharmacology, toxicology, routes of administration, stability, and other information regarding drugs.
- **Drug Utilization:** Community pharmacy helps to develop charging policies for pharmaceutical services and decides the proper regimen of drug to the patient.
- **Drug Distribution:** Community pharmacy is responsible for the internal distribution of drugs for patients.

Counselling for a pharmacist about nsaids:

As a pharmacist, providing effective counselling on nonsteroidal anti-inflammatory drugs (NSAIDs) is crucial for patient safety and optimal outcomes. Here are some key points to consider when counseling patients about NSAIDs:

Pharmacist should counsel the patient about,

Dosage and Administration (DRUG):

- Dose: Discuss the appropriate dosage of the NSAID. Explain how the patient should take it, any specific timing requirements, and what to do if they miss a dose.
- Results: Explain what the patient can expect while taking the medication. Discuss how the drug works in the body and how they can assess its effectiveness. Also, emphasize the consequences of nonadherence.

Underlying Issues:

Black Box Warnings: Inform the patient if the medication has any Black Box Warnings.

- Allergies: Check if the patient is allergic to the NSAID.
- Drug Interactions: Inquire about other medications the patient is taking that may interact with the NSAID.
- Warnings (e.g., alcohol, grapefruit, sun sensitivity): Highlight any specific warnings associated with the medication.

Indications and Actions:

- The availability of non-prescription NSAIDs include aspirin, ibuprofen, and naproxen.
- It explains purpose of NSAID and its mechanism of action (inhibiting cyclooxygenases) to reduce pain and inflammation.
- Effective patient counselling ensures that patients understand their medications, adhere to treatment plans, and experience positive outcomes.

Aim:

To study and to assess the Knowledge, Attitude and Practice of NSAIDs in the community pharmacies in the southern part of Kerala.

Objectives:

- To assess the Knowledge, Attitude and Practice of NSAIDs in the community pharmacies.
- To counselling to the pharmacist regarding the use of NSAIDs by using leaflets.
- To compare the Knowledge, Attitude and Practice of NSAIDs in the community

pharmacist before and after counselling.

Plan of work:

- A survey form was prepared to collect information about knowledge attitude and practice of NSAIDs in community pharmacies in the southern part of Kerala.
- For this study a suitable structured questionnaire was prepared to elicit information about the NSAIDs.
- Analyzing the knowledge attitude and practice of NSAIDs in community pharmacist.
- Educate and counsel the pharmacist with a leaflet containing all the information about NSAIDs.
- Again, a survey is conducted to collect the information about knowledge attitude and practice of NSAIDs in community pharmacies in the southern part of Kerala.
- The data collected before and after the counseling of community pharmacists were analyzed and overall analysis of the collected data was carried out.

METHODOLOGY:

Study Duration:

The study was conducted for a period of six months.

Study setting:

The study was conducted among community pharmacist in southern part of Kerala.

Study design:

A prospective observational study on knowledge attitude and practice of NSAIDs will be conducted among pharmacists in southern part of Kerala.

Sample size:

The sample size of the proposed study is calculated by the following formula Sample size n=

$$\frac{z_{\alpha}^{2}\, P(1-P)}{d^{2}}$$

Zα= The standard normal variate with α % level of significance

P= proportion of the non-medical and extra medical use of NSAIDs D= Margin of error or precision of the study

From the previous study, 70% of the student's athlete use NSAIDs and the margin of error is 9%. The significance level of that test is 5%, then the sample size of the study is estimate as

$$\text{Sample size } n = \frac{(1.96)^{2}}{\times 0.70 \times 0.30} = 100$$

$$(0.09)^{2}$$

100 samples were used for this study.

Study procedure:

- A survey form was prepared to collect information about knowledge attitude and practice of NSAIDs in community pharmacies in the southern part of Kerala.
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Data collection tool:

A questionnaire to collect information about the knowledge attitude and practice of NSAIDs and two-time survey was conducted in community pharmacies in the southern part of Kerala.

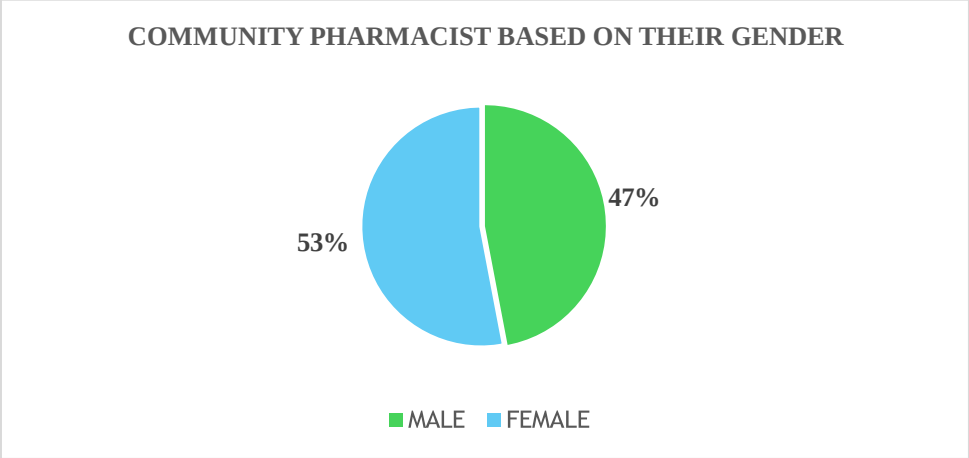
Data analysis:

After getting the data it will be analyzed and suitably tabulated, formulated and presented.

RESULT & OBSERVATIONS:

In the study the data on demographic characteristic Knowledge Attitude Practice score were collected from 100 community pharmacies.

DEMOGRAPHIC CHARACTERISTIC OF COMMUNITY PHARMACIST BASED ON GENDER:

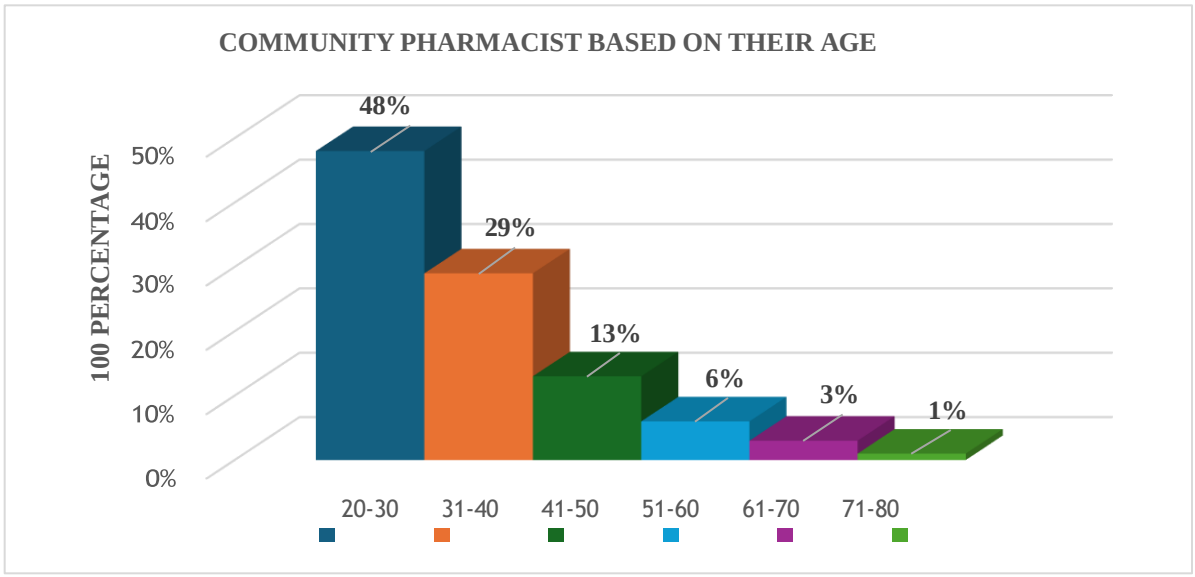


SL.NO	GENDER	FREQUENCY	PERCENTAGE
1	MALE	47	47%
2	FEMALE	53	53%

In this study 100 community pharmacies were selected. For gender female community pharmacist is higher than male community pharmacist. It was found that 47% of community pharmacist are male & 53% are females.

Distribution of community pharmacist based on the age:

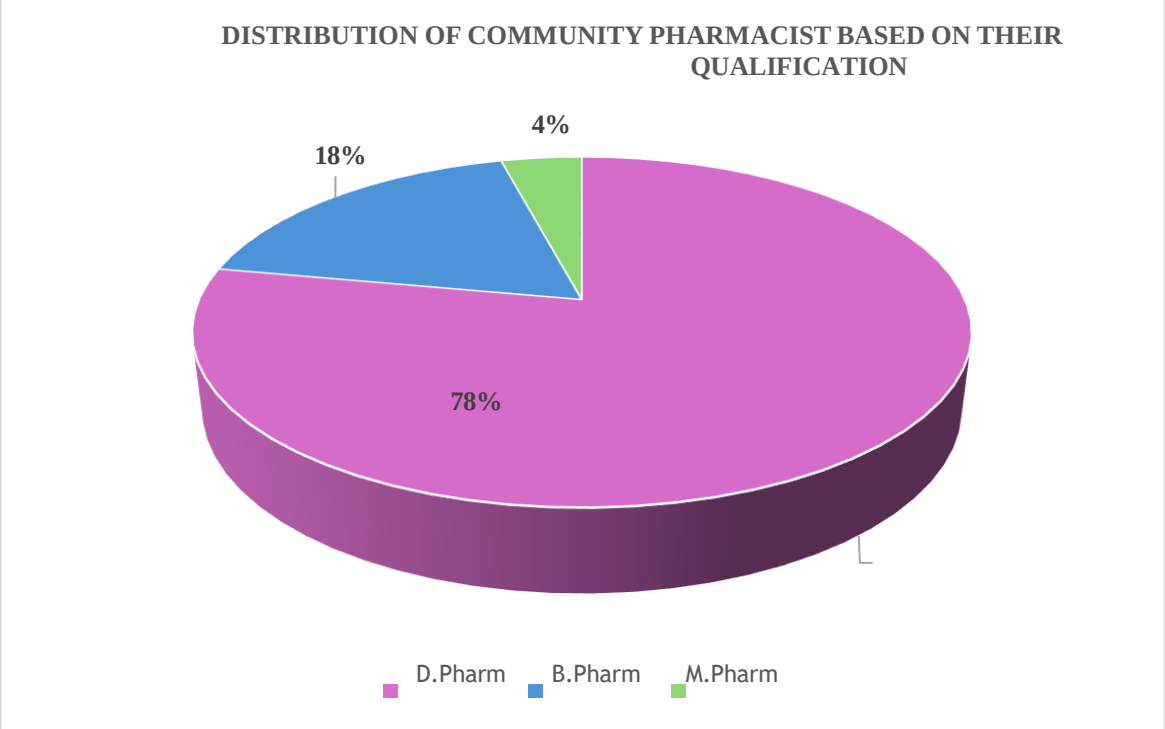
SL.NO	AGE	FREQUENCY	PERCENTAGE
1	20-30	48	48%
2	31-40	29	29%
3	41-50	13	13%
4	51-60	6	6%
5	61-70	3	3%
6	71-80	1	1%



In this study 100 community pharmacies were selected. From the table it shows the community pharmacist having age group between 20-30 are more in number. They possess average Knowledge about the NSAIDs. About 8% of community pharmacist are above the age 50, they don't stay updated about the latest guidelines of NSAIDs. About 29% of community pharmacist are from the age group 31-40. About 13% are from 41-50.

Distribution of community pharmacist based on their qualification:

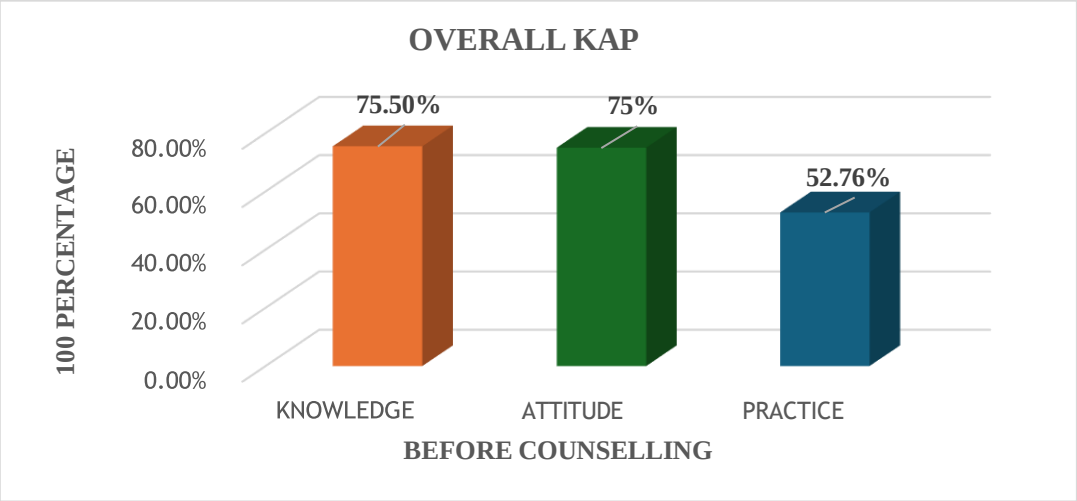
SL.NO	QUALIFICATION	FREQUENCY	PERCENTAGE
1	D. PHARM	78	78%
2	B. PHARM	18	18%
3	M. PHARM	4	4%



In this study 100 community pharmacies were selected. From the study it was understood that the most of the community pharmacist were qualified with D.pharm. About 78% of community pharmacist were qualified with D.pharm. They don't aware about the adverse effects and

contraindications of NSAIDs use. About 18% of the community pharmacist were B.pharm holders and only 4% of community pharmacist are qualified with M.pharm.

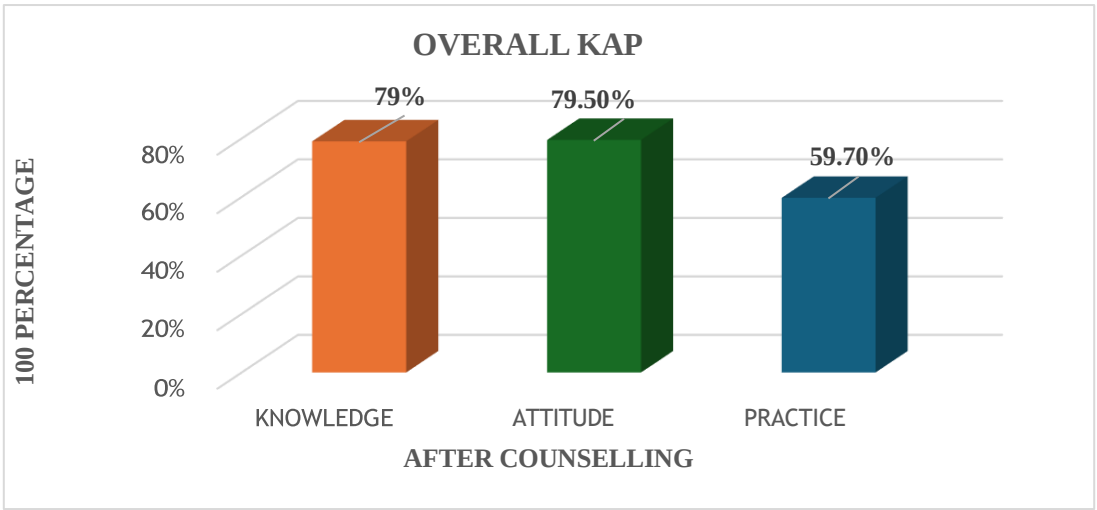
Overall assessment of knowledge assessment practice <u>before counselling:</u>



The above table shows that the knowledge of community pharmacist about NSAIDs was **75.50%**, attitude was **75%** & the practice was **52.76%**.

It reveals that the knowledge, attitude and practice of NSAIDs in community pharmacies are below average before the counselling.

After counselling knowledge assessment practice:



The knowledge attitude and practice in community pharmacies was increased after counselling through leaflets. The community pharmacist gets more information about the use, risk and adverse effect of NSAIDs. The overall knowledge of community pharmacist after counselling was found to be the **79%** and attitude was **79.50%** and practice was **59.70%.**

Knowledge assessment and practice improves the counselling.

SUMMARY:

A prospective observational study was conducted in the Department of Pharmacy Practice at Sree Krishna college of pharmacy and research Centre on "A survey on assessing the knowledge attitude and practice of NSAIDs in community pharmacies in the southern part of Kerala". The objectives of the study were to assess the knowledge attitude and practice of NSAIDs in community pharmacies, to counsel the community pharmacist regarding the use of NSAIDs, to compare the knowledge attitude and practice of NSAIDs in the community pharmacists before and after counselling. The estimated sample size was 100. Community pharmacist's demographic details including age, gender, qualification was collected.

- Total 100 of community pharmacist were selected for the study.
- A structured questionnaire was used for the survey which helped to analyze the knowledge attitude and practice of community pharmacist about NSAIDs.
- The questionnaire scores before and after counselling were compared and results were statistically significant. The knowledge attitude and practice of NSAIDS in community pharmacies showed a significant improvement after counselling.
- The data collected was analyzed by plotting a suitable graph and compared the results.

CONCLUSION:

Nonsteroidal anti-inflammatory drugs (NSAIDs) are a drug class used as antipyretic, anti-inflammatory, and analgesic agents. NSAIDs work by inhibiting the activity of cyclooxygenase enzymes (the COX-1 and COX-2 isoenzymes). In cells, these enzymes are involved in the synthesis of key biological mediators, namely prostaglandins, which are involved in inflammation, and thromboxane's, which are involved in blood clotting.

There are two general types of NSAIDs available: non-selective and COX-2 selective. Most NSAIDs are non-selective, and inhibit the activity of both COX-1 and COX-2. These NSAIDs, while reducing inflammation, also inhibit platelet aggregation and increase the risk of gastrointestinal ulcers and bleeds. In our study we demonstrate about the knowledge attitude and practice of NSAIDs in community pharmacies in the southern part of Kerala. The study states that the knowledge attitude and practice of NSAIDs among the community pharmacist are below average.

The knowledge of community pharmacist about NSAIDs possess a vital role in health management of patient. A lack of thorough knowledge of risks and contraindications has implications for patient safety. In our study 100 community pharmacies were randomly selected from southern part of Kerala. From the data collected it was analyzed that the community pharmacist above the age of 45 lacks the knowledge of NSAIDs and their attitude and practice towards NSAIDs also poor. They don't stay updated about the new guidelines about the use and side effects of NSAIDs. According to the study, most of the community pharmacist were qualified with D Pharm and they possess knowledge about NSAIDs use but unaware about the risk of NSAIDs. We observed that some NSAIDs like acetaminophen, Ibuprofen are dispensed without prescription and others are dispensed with prescription. Community pharmacies may be government, private or government aided. During the first half of study, we noted the knowledge attitude and practice of NSAIDs in community pharmacies are very bad.

There is a need to pay greater attention to the safe use of NSAIDs. So, there is a need of counselling to the community pharmacist about NSAIDs use. The counselling is given to the community pharmacist about the NSAIDs use and its side effects through a leaflet. During the second half of study the knowledge attitude and practice of NSAIDs in community pharmacies are seems to be good. The knowledge attitude and practice of NSAIDs are increased in community pharmacist by counselling. Community pharmacist have a vital responsibility to perform screening, assess patient risk elements and share knowledge to safe utilization of NSAIDs. Pharmacist should be aware about the risk factors of NSAIDs while dispensing NSAIDs so that it can minimize the associated complications in patients. The knowledge about the

risk factors and side effects of NSAIDs were found to be improved in community pharmacists by counselling. This study reveals that creating awareness about use and side effects of NSAIDs among the community pharmacist, made a very huge impact on level on understanding the knowledge attitude and practice towards NSAIDs.

BIBLIOGRAPHY:

1. K.D Tripathi, Essentials of medical pharmacology, sixth edition page no: 184-201.
2. Wisam AL Masoudi *et al* (2023): Knowledge and practice reporting the use of NSAIDs among university students in Jordon. 2023; 114-121.
3. Qi SHOU *et al* (2022): Concerns that the use of non-steroidal anti-inflammatory drugs NSAIDs 2022; 634-651.
4. Rebekah Brennan *et al* (2021): A Scoping review of non-medical and extra medical use of NSAIDs 2021; 44 (9) :917-923.
5. Jennifer S Davis (2017): Use of NSAIDs in Adults: changes over time by demographic.2017;213-218
6. Montinar M.R., *et al*: The first 3500years of aspirin history from its roots - A concise summary. Yase. Pharmacology. 2019; 113:1-8.
7. Tsutsumi S., *et al*: Endoplasmic reticulum stress response is involved in nonsteroidal anti- inflammatory drug-induced apoptosis. Cell Death Differ. 2004;119):1009-1016.
8. Gupta A., *et al*: NSAIDs in the Treatment of Postoperative Pain. Curr. Pain Headache Rep. 2016;20(11):62.
9. Budoff P.W. Use of mefenamic acid in the treatment of primary dysmenorrhea. JAMA. 1979;241(25):2713-2716.
10. Rao C.V., *et al*: Chemoprevention of colon carcinogenesis by sulindac, a nonsteroidal anti- inflammatory agent. Cancer Res. 1995;55(7):1464-1472.
11. Amici C., *et al*: Indomethacin has a potent antiviral activity against SARS coronavirus. Antiviral Ther. 2006;11(8):1021-1030.
12. James D.S. The multisystem adverse effects of NSAID therapy. J. Am. Osteopath. Assoc. 1999:99(11 Suppl): S1-57.
13. Dreischulte T., *et al*: Combined use of nonsteroidal anti-inflammatory drugs with diuretics I and or renin-angiotensin system inhibitors in the community increases the risk of acute kidney injury. Kidney Int. 2015;88(2):396 403.
14. Becker J.C., *et al*: Current approaches to prevent NSAID-induced gastropathy-COX selectivity and beyond. Br: J. Clin. Pharmacology. 2004;58(6):587-600.
15. Bjarnason I., *et al*: Mechanisms of Damage to the Gastrointestinal Tract from Nonsteroidal Anti-Inflammatory Drugs. Gastroenterology. 2018;154(3):500-514.
16. Wallace J.L., *et al*: Emerging roles for cyclooxygenase-2 in gastrointestinal mucosal defense. Br. J. Pharmacology. 2005:145(3):275-282.
17. Hollingworth P. *et al*: The use of non-steroidal anti-inflammatory drugs in pediatric rheumatic diseases. 1993; 32:73-77.
18. Davidson KW, *et al*: Aspirin use to prevent cardiovascular disease: us preventive services task force recommendation statement. 2022; 327:1577- 1584.
19. Harirforeosh S, *et al*: Adverse effects of nonsteroidal anti-inflammatory drugs: an update of gastrointestinal, cardiovascular and renal complications. Pharm Sci. 2013; 16:821-847.
20. Bjorkman D. *et al*: Nonsteroidal anti-inflammatory drugs and gastrointestinal toxicity: liver, lower gastrointestinal tract, and esophagus. 1998; 105:17-21.
21. Huepa YY, *et al*: Short- and long-term effects of NSAIDs on the gastrointestinal mucosa: complex analysis of benefits and complications prevention. 2021; 74:1011-1018.
22. Sostres C, *et al*: Adverse effects of non-steroidal anti-inflammatory drugs (NSAIDs, aspirin and coxibs) on upper gastrointestinal tract. 2010:24:121- 132.
23. Watanabe T, *et al*: Current knowledge on non-steroidal anti-inflammatory drug-induced small- bowel damage: a comprehensive review. 2020; 55:481–495.
24. Fort Fort, *et al*: Celecoxib, a COX-2--specific inhibitor: the clinical data. 1999; 28:13–18.
25. Nithin Manohar R: A textbook of community pharmacy,2021.
26. Teichert M et al: Effectiveness by community pharmacist of NSAIDs Pharmacoepidemiology Drug Safety. 2014 Apr;2023(4):382-391.