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Trends in Over-The-Counter drug usage duringCOVID-19 pandemic among Doctors: Experience from a Tertiary Health Centre

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ABSTRACT

Background:
In the present coronavirus disease-19 (COVID-19) era, Doctors warrant special attention because of their higher risk and potential to transmit the disease. Therefore, use of over-the-counter drugs as symptomatic treatment for COVID-19 among doctors are listed and evaluated.

Aim:
- To assess over-the-counter drugs usage during Covid 19 pandemic among Doctors in a Tertiary Health Centre.

Objectives:
- To assess the intake frequency of over-the-counter drugs among the doctors.
- To assess the type of over-the-counter drug intake during Covid 19 pandemic.

Methodology:
- Study method: Prospective study
- Study centre: Saveetha Medical College, Thandalam
- Study population: Doctors
- Study duration: 6 months from January 2022 to June 2022
- Sample size: 60
- To address the key facts of the subject study, a web-based questionnaire was created, developed, reviewed, and tested.

Results: The survey outcome was tabulated and analysed. So therefore, over-thecounter drugs reduces the signs and symptoms of COVID 19 infection among the doctors in tertiary healthcare centres.

Conclusion: Increased usage off over-the-counter drugs among the doctors during COVID 19 pandemics in tertiary health centres.

I. INTRODUCTION:

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by a novel beta-coronavirus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).

The majority of virus-infected individuals will experience a mild to severe respiratory disease and will recover without the need for special care. However, some people will get serious illnesses and need to see a doctor. Serious sickness is more likely to strike older persons and those with underlying medical illnesses including cancer, diabetes, cardiovascular disease, or chronic respiratory diseases. COVID-19 can cause anyone to become very ill or pass away at any age.

Fever and dry cough are among COVID-19's most prevalent symptoms.
- Fatigue

Other, less frequent symptoms that some people may experience include as follows:
- A loss of scent or flavour,
- Nasal obstruction,
- Ocular inflammation (also known as red eyes)
- Throat pain
- Headache,
- Joint or muscle discomfort
- Various skin rash types,
- Reflux or nausea,
- Diarrhoea,
- a cold or vertigo.

Severe COVID-19 illness symptoms include:
- Breathing problems,
- Appetite loss,
- Confusion,
- Ongoing discomfort or pressure in the chest,
- Extreme heat (over 38 °C).

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Other, less typical signs include:

- Irritability,
- Confusion,
- Reduced awareness (sometimes associated with seizures),
- Anxiety,
- Depression,
- Disorders of sleep,
- Severe and uncommon neurological side effects such strokes, inflammation of the brain, psychosis, and nerve damage. (1,2,3)

All ages of people should get medical attention right once if they have a fever, cough, shortness of breath, pressure in the chest, or loss of speech or motor function. Call your healthcare provider, a helpline, or a healthcare facility if at all feasible so that they can direct you to the appropriate clinic.Being knowledgeable about the illness and the virus's propagation is the best strategy to stop or slow down transmission. By keeping a distance of at least one metre between people, donning a mask that fits properly, and often washing your hands or using an alcohol-based rub, you can prevent infection in both yourself and other people. When it's your turn, get your vaccination, and abide by any local advice.

Acetaminophen consumption was associated with the region where one lived, antiretrovirals consumption was associated with the age of the respondent, and penicillin consumption was higher in people currently working. Continuous awareness and sensitization about the risks of self-medication are warranted.
(4)

This self-medication trend has been reported to have increased worldwide based in the number of Google searches since the pandemic started (5). This global trend has caused a tremendous medical challenge because the various prescription drugs currently approved for COVID-19 symptoms carry adverse drug reactions (5)

The COVID-19 pandemic has triggered a general lock-down in most of the world, leaving the general sense that the only resource that people has is to self-help, self-care and self-medicate (6).

Doctors have a high risk of acquiring COVID-19 infection, due to repeated occupational exposure, long working hours, stress and fatigue. We have designed this study in order to improve our understanding of the use of overthe-counter drugs for COVID-19 within the doctors working in Saveetha medical college and hospital, Chennai.

II. METHODS:

Study population:

This is an online cross-sectional study, which was performed from January 2022 to June 2022 in Saveetha medical college and hospital, Chennai. It includes 60 doctors with various symptoms of COVID-19 from various departments in the hospital. These Doctors were requested to participate in the study and provided informed consent.

Study design:

An online questionnaire in a Google form was sent to all the participants either by Email, WhatsApp, Facebook, Messenger or to their registered phone numbers.The shared questionnaire was made anonymous ensuring data confidentiality and reliability. This form includes multiplechoice questions with the options of selecting either one or more responses (Supplementary material). The survey questions were divided into four sections: demographic characteristics; knowledge on over-the-counter drugs usage; causes for the use of over-the-counter drugs; symptoms acquired during COVID-19 and over-the-counter drugs used to treat it and its frequency of usage.

- The section on demographic characteristics included sex and age
- The section on knowledge on over-the-counter drug usage included Is over-the-counter drugs usage is type of self-medication, have you ever heard about over-the-counter drugs usage during COVID-19 pandemic, can over-the-counter drugs usage results in harmful effects,Is over-thecounter drugs usage for COVID-19 better than seeking medical consultation?
- The section on causes for the use of over-the-counter drugs included

Fear of infection contact with the suspected or known case of COVID-19, Fear of being quarantine or self-isolation if I contract the disease,why did you use over-the-counter drugs without prescription instead of going to health facility.

- The section on symptoms acquired during COVID-19 and over-thecounter drugs used to treat it and its frequency of usage included symptoms (includes body pain, dry cough, fever, diarrhoea, nasal congestion, sore throat) during COVID 19 pandemic, drug selection for that symptom and its frequency of usage.

Study analysis:

All the data collected were entered into a spreadsheet and data were analysed.

III. RESULTS:

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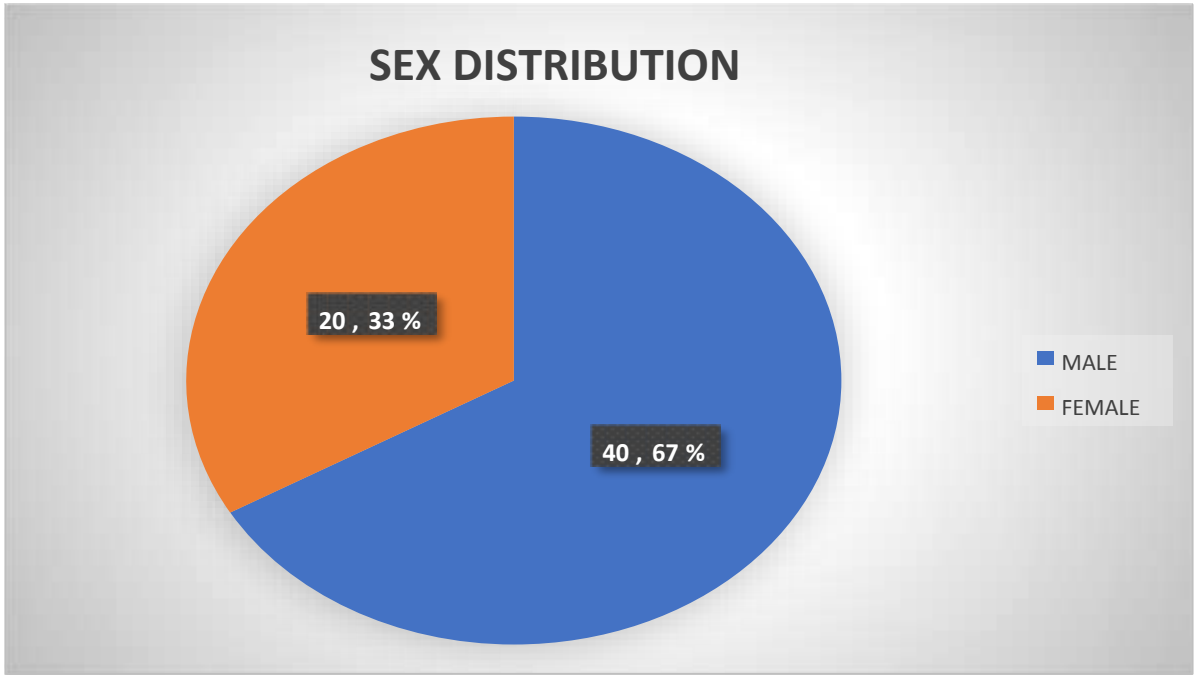
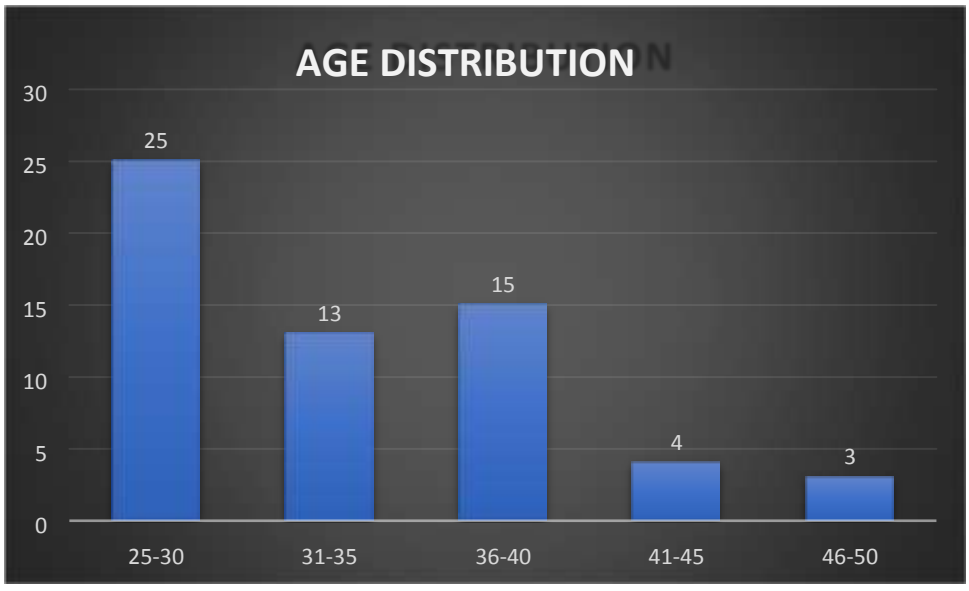
The study comprises of 60 doctors with symptoms of COVID-19, working in a tertiary health care centre during the pandemic.

3.1 Sociodemographic characteristics of the respondents : The survey was sent to 60 doctors with the symptoms of COVID-19 in the hospital. Most participants were male (40[67%]), aged 25 to 50 years.





3.2 Knowledge on over-the-counter drug usage

On our survey we included 4 questions in a section on the knowledge on over-the-counter drugs use related to COVID-19 in which 87% respondents accepted OTC as a type of self-medication. Around 100% respondents accepted that OTC drugs were used during COVID-19 pandemic. Around 75% respondents accepted that OTC drugs can results in harmful effects. Around 67% respondents accepted that OTC drugs usage for COVID-19 is better than medical consultation.

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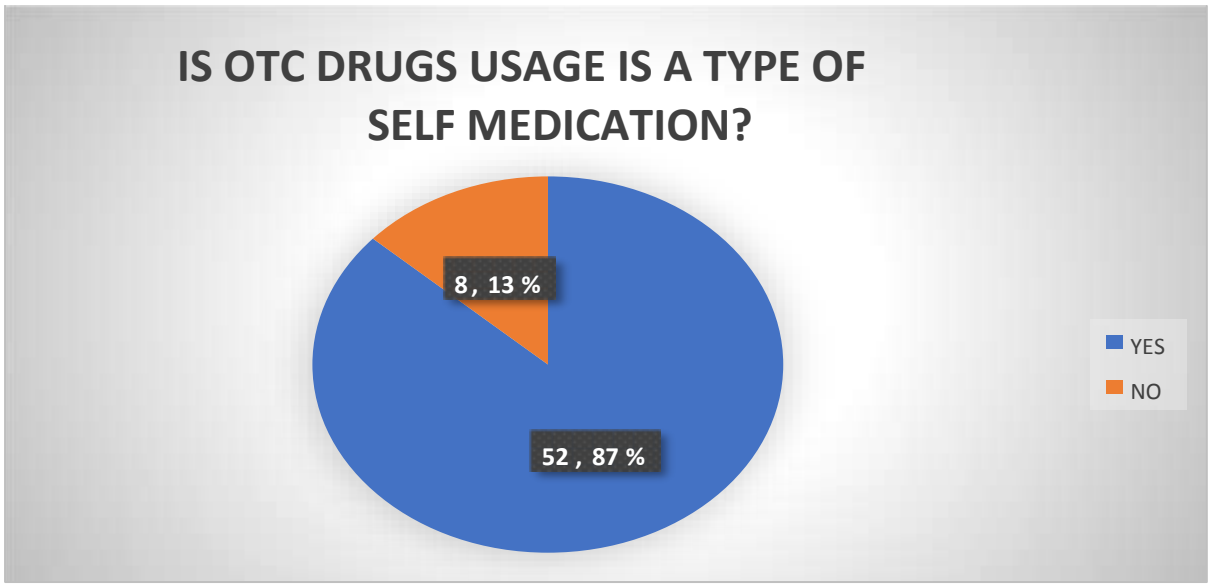

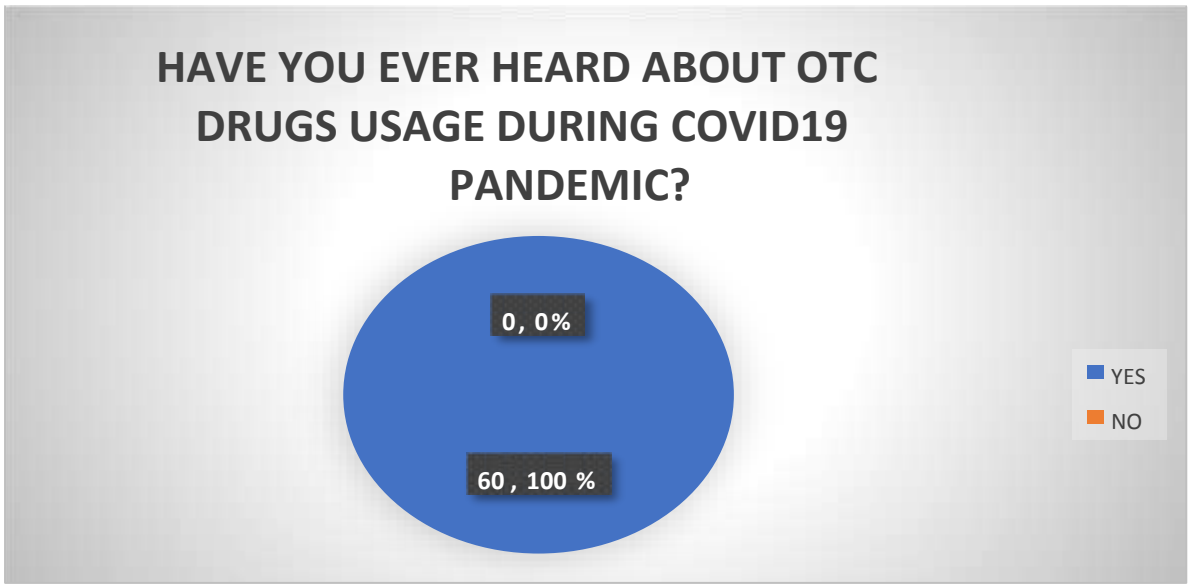

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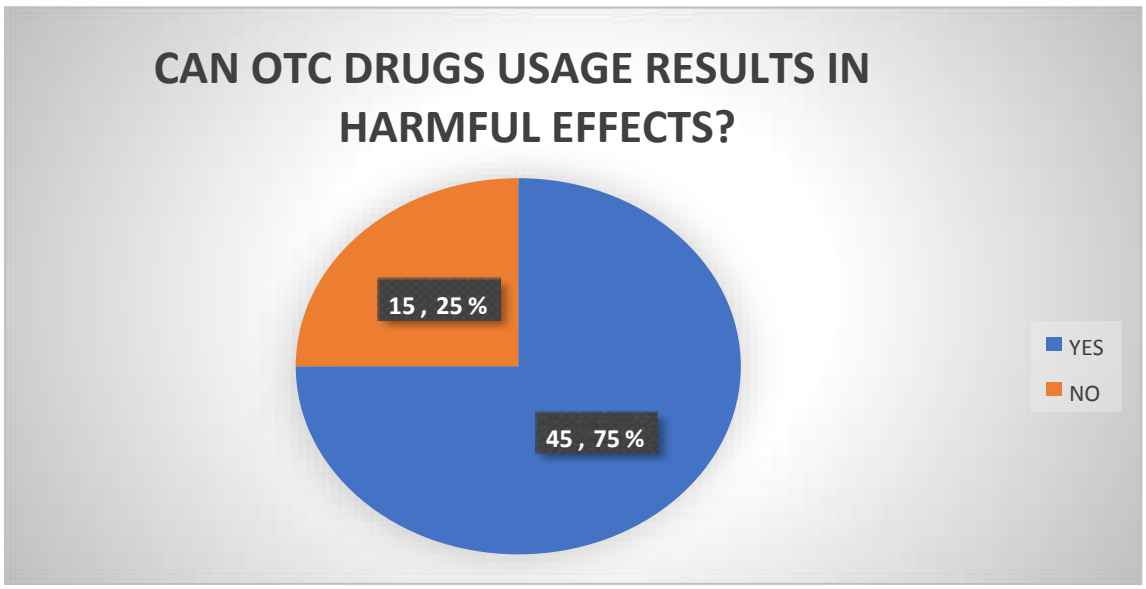

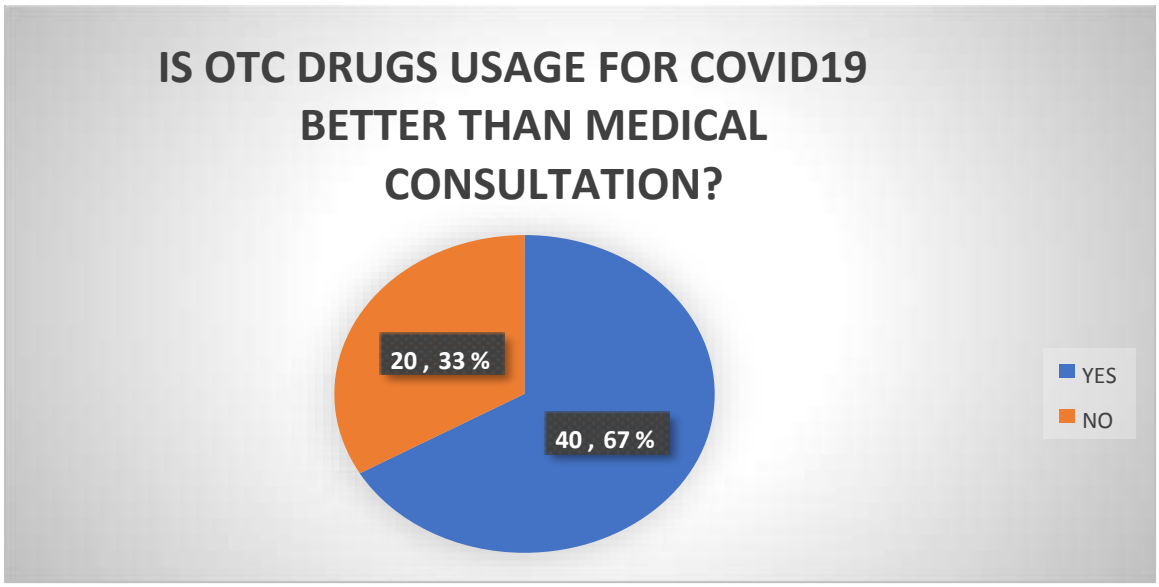

3.3 causes for the use of over-the-counter drug usage

Respondents were asked multiple-response questions on why they practiced OTC. OTC for COVID-19 prevention and/or perceived treatment was mostly caused by fear of quarantine or self-isolation (78%), and fear of infection or contact with a suspected or known COVID-19 case (73%). Other reported reasons were delay in receiving treatment at health facilities, influence of friends to use OTC to prevent or treat COVID-19. The reasons for using OTC drugs without prescription instead of going to health facility are emergency illness (38%), delaying of hospital services (44%), proximity of the pharmacy to home place (18%).

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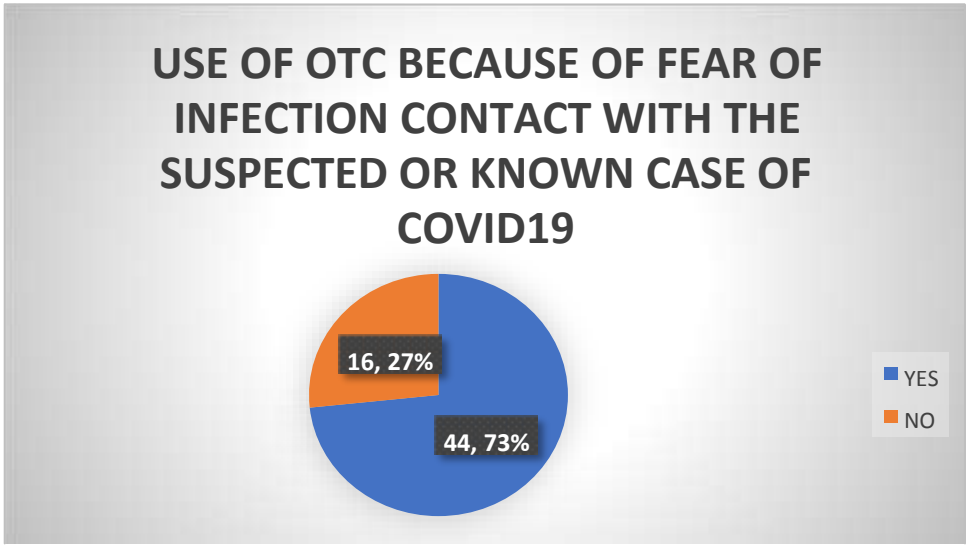

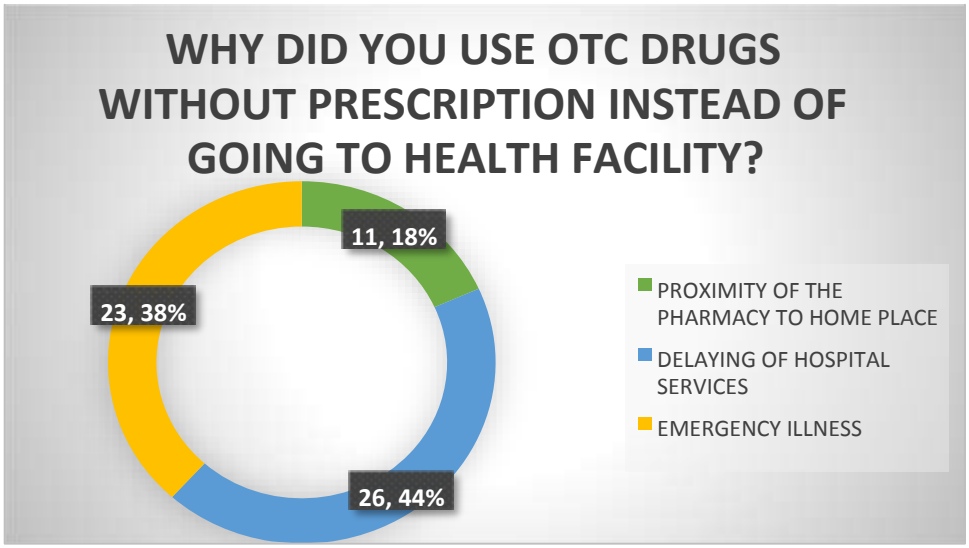

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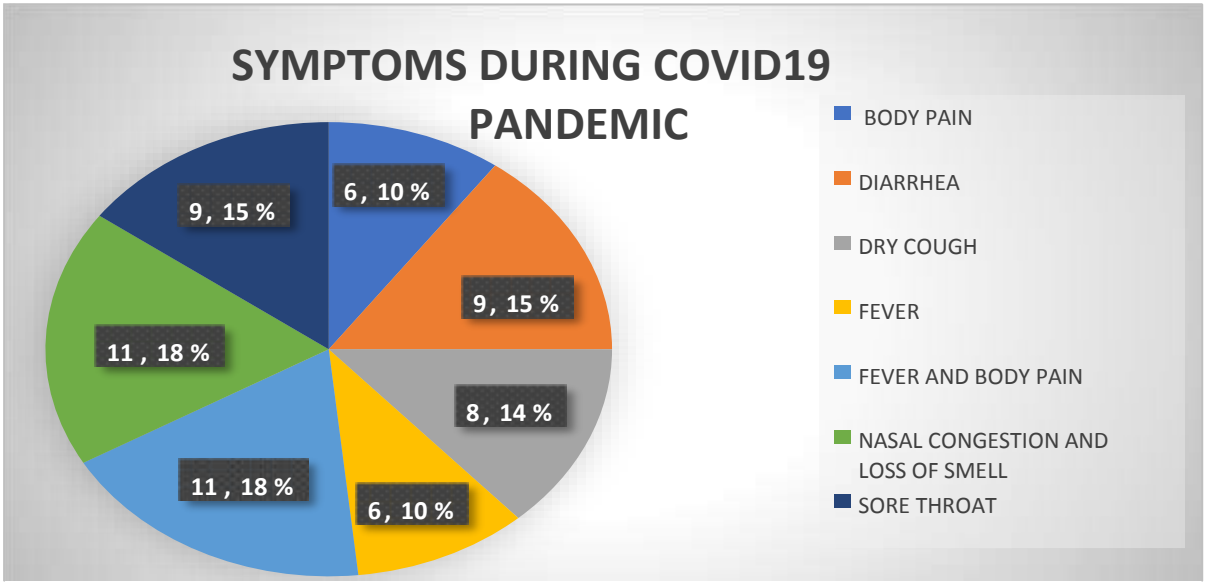
3.4 symptoms attributed to over-the-drug usage

The distribution of symptoms for which the respondents self-medicated with the various drugs we surveyed. The symptoms we surveyed for were fever, dry cough, body pain, nasal congestion, diarrhoea, sore throat. It was observed that for all the symptoms the most used 0TC drug was Paracetamol. In the study, for only fever 6 respondents, 6 for only body pain, 9 for diarrhoea, 8 for dry cough, 11 for fever with body pain, 11 for nasal congestion, 9 for sore throat.

In the case of only body pain, predominant drug consumed was diclofenac (6[100%]). For diarrhoea, loperamide (6[67%]) followed by bismuth subsalicylate (3[33%]); for dry cough, dextromethorphan cough syrup (5[63%]) and codeine cough syrup (3[38%]); for only fever, paracetamol (6[100%]); for fever with body pain, paracetamol (6[55%]) and ibuprofen (5[45%]); for nasal congestion, pseudoephedrine (5[45%]) and normal saline nasal spray (6[55%]); for sore throat, azithromycin (5[56%]), amoxicillin (2[22%]) and cetirizine (2[22%]).

The frequency of the drug usage for each drug is collected and analysed. The frequency of the drug usage is separated into two categories as drug usage less than or equal to 3 days and drug usage more than 3 days. The drugs used less than or equal to 3 days; diclofenac [66%], loperamide [83%], bismuth subsalicylate [66%], dextromethorphan cough syrup [60%], codeine cough syrup [33%], paracetamol [50%], ibuprofen [60%], pseudoephedrine [60%], normal saline nasal spray [66%], amoxicillin [50%], azithromycin [60%], cetirizine [50%]. The remaining percentage of the drugs are used more than 3 days.



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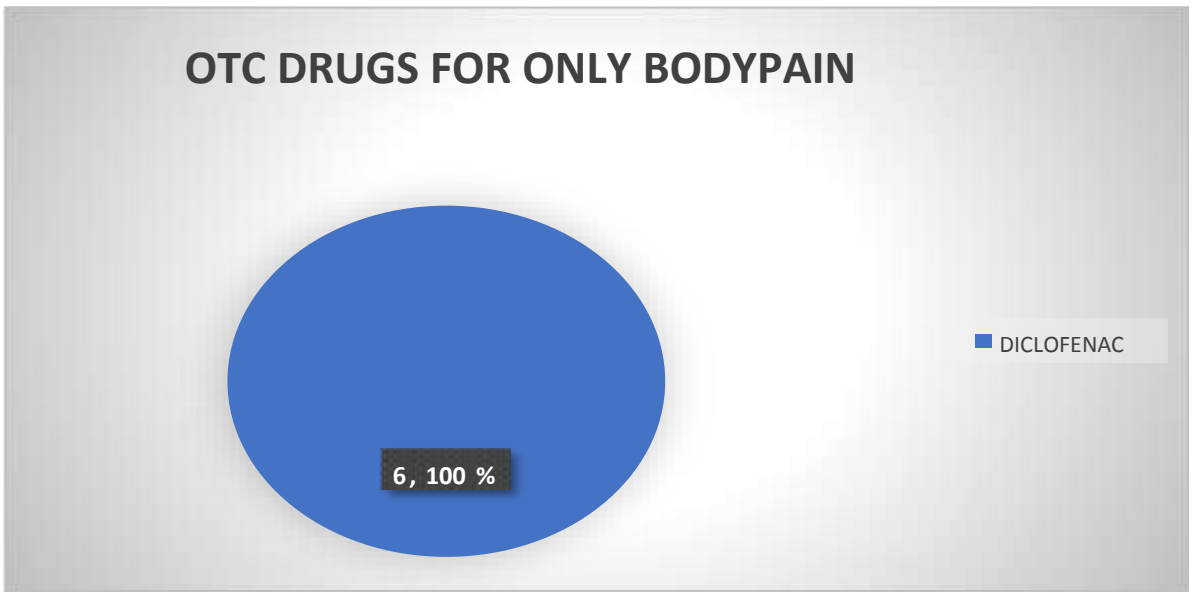

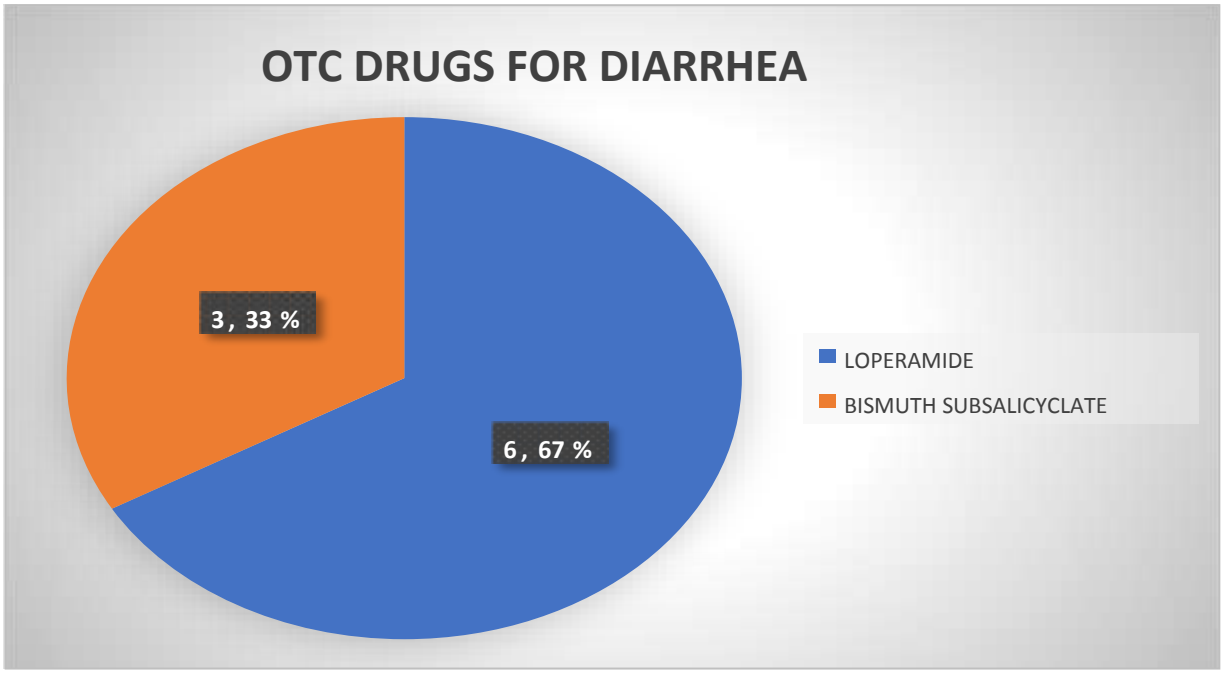

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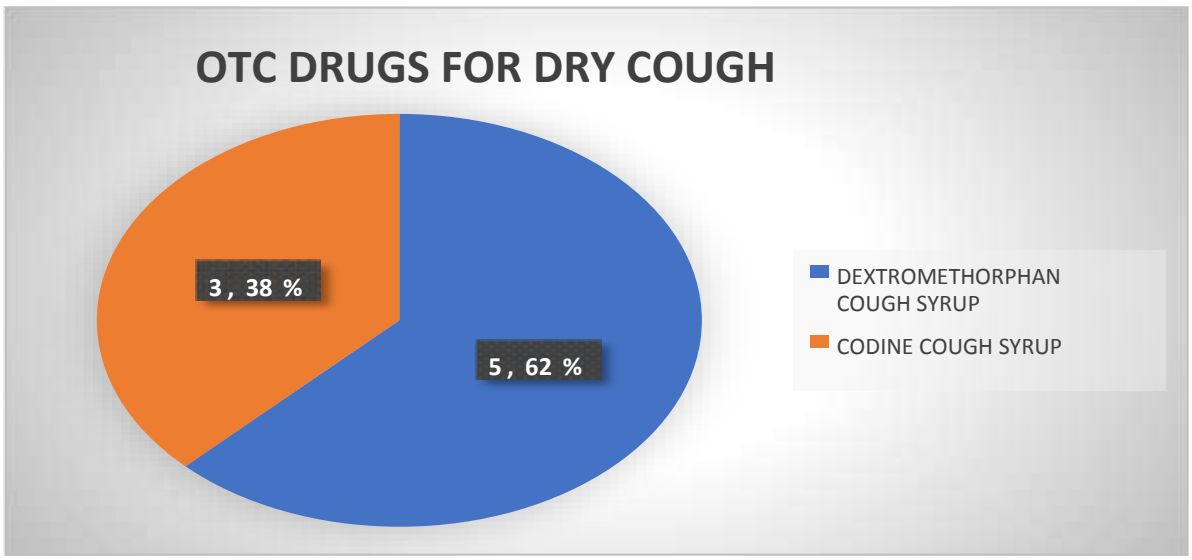

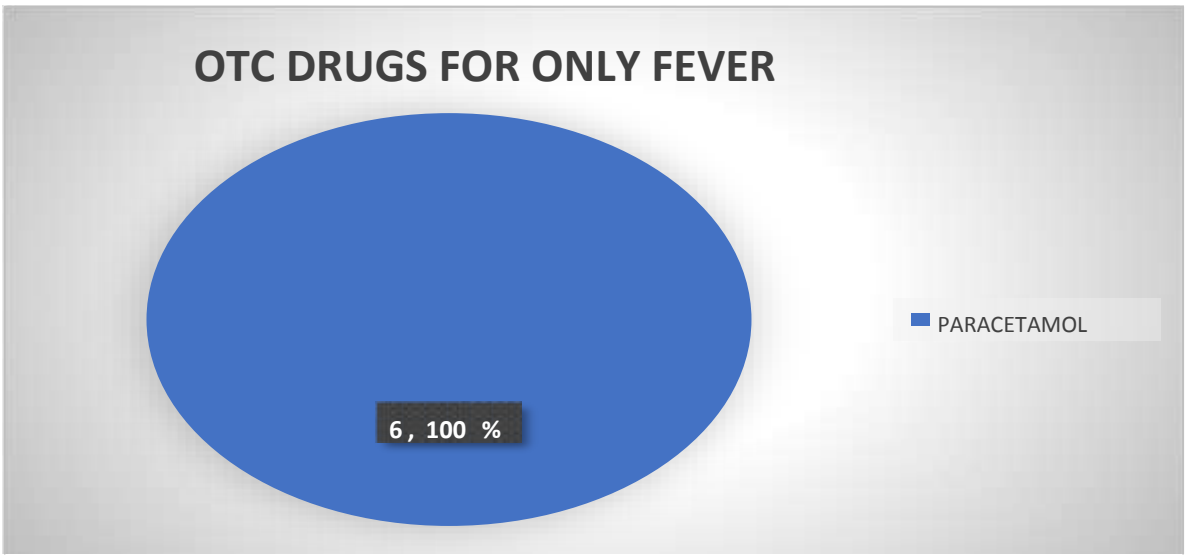

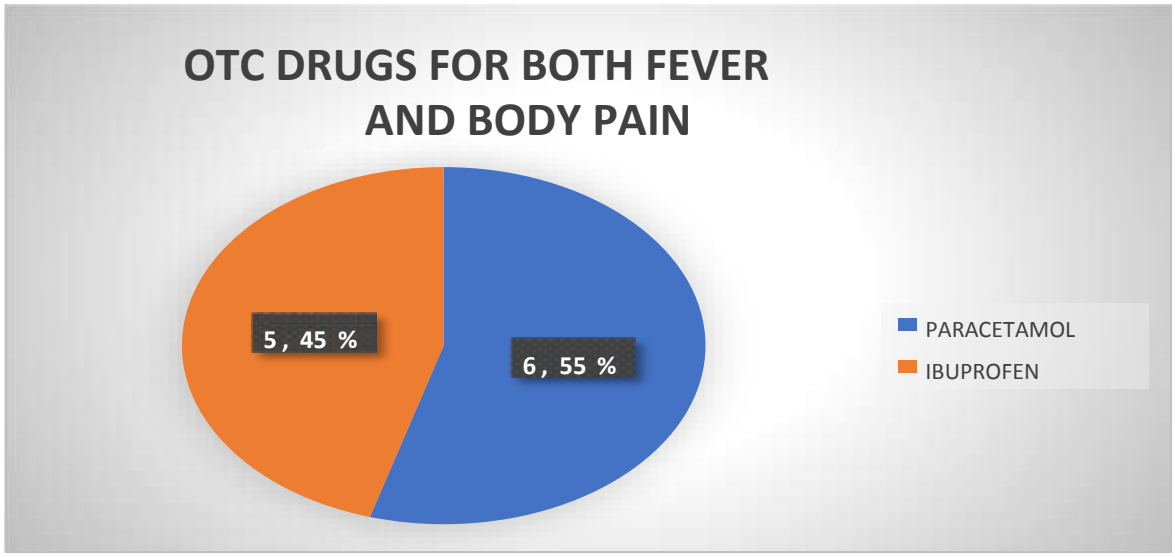

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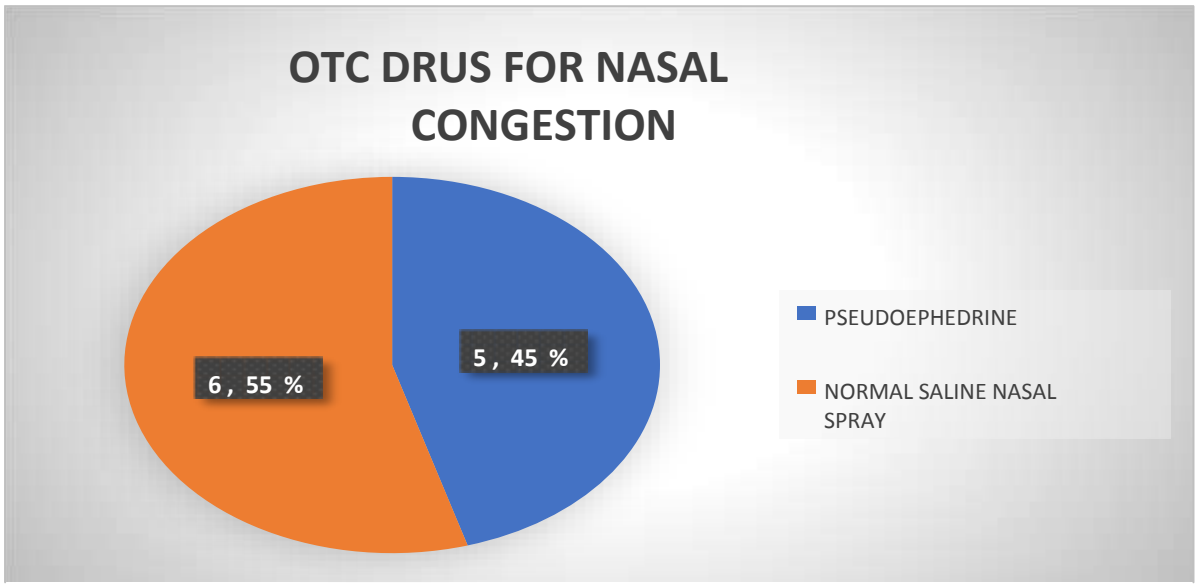

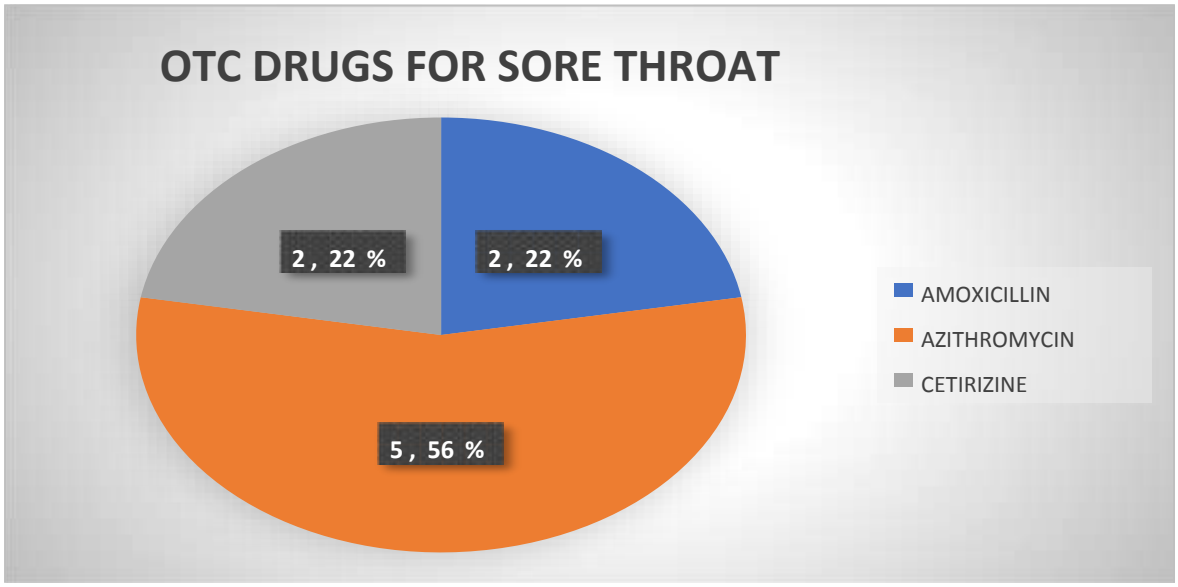

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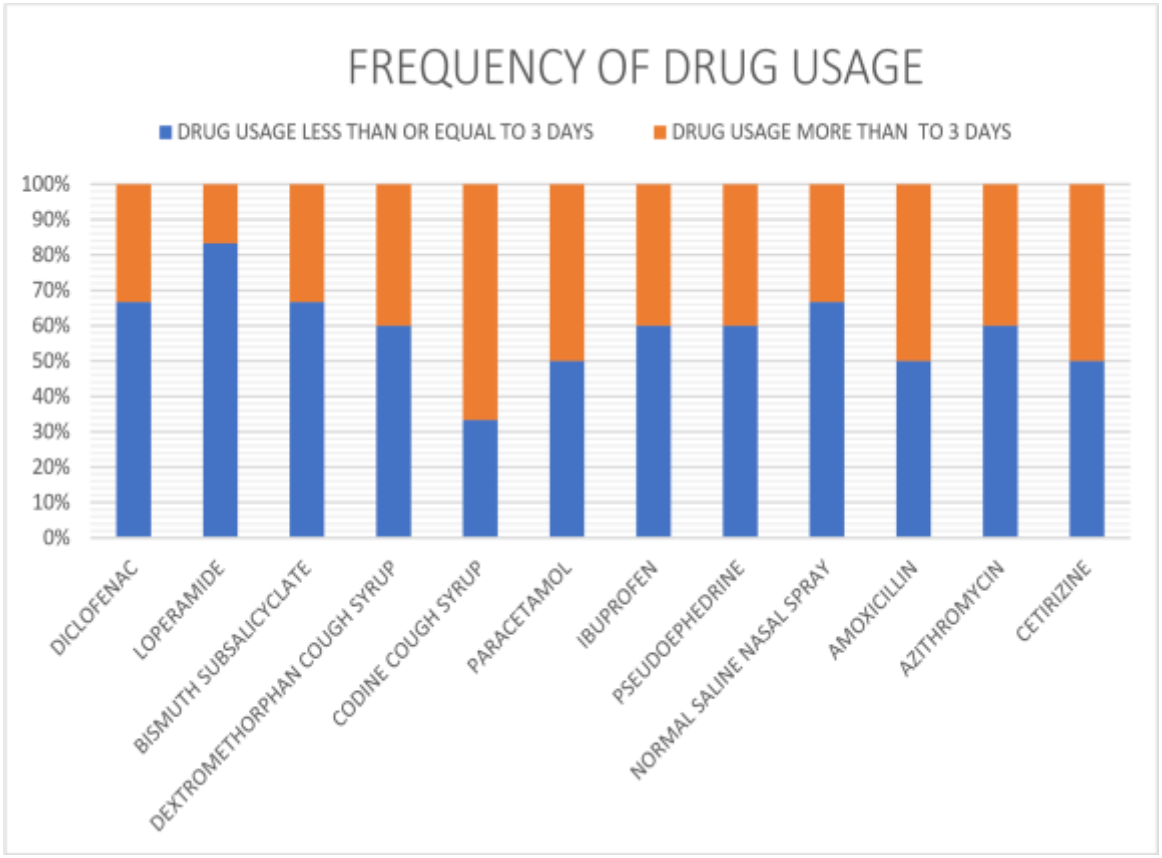

IV. DISCUSSION:

This study aimed to estimate the knowledge, causes, and OTC drugs used for the prevention and/or treatment of COVID-19 among doctors in Saveetha medical college and hospital, Chennai.Though self-medication for minor illnesses is approved WHO, but with caution (7).

The estimation of the knowledge level and the reasons for self-medication practices for COVID-19 perceived treatment or prevention, as well as associated determinants, are of great importance due to their consequent effect on the fight to control and mitigate the disease. Our study has demonstrated the knowledge on over-the-counter drugs use related to COVID19 in which 87% respondents accepted OTC as a type of self-medication. This finding is less compared a study done in Nigeria (11,12,13) and overseas (8,9) among the whole population. Self-medication was higher with more advanced education, more in middle income earners, female and those below age of 40 (14).

Our study identified the reasons for taking OTC drugs for perceived treatment or prevention of COVID-19 in Saveetha medical college and hospital, as fear of stigmatization or discrimination, fear of being quarantined or self-isolation, fear of infection, or contact with a suspected or known case of COVID-19.The list of reasons also included a delay in receiving treatment at the health facilities, influence of friends, unavailability of drugs for the treatment, and influence of media. The others were emergency illness, delay in receiving hospital services, distance to the health facility, and proximity of the pharmacy. We acknowledge the fact that some of our findings are different from those reported previously by earlier studies for self-medication, although these were not for COVID-19. For instance, emergency illness had been reported as a reason for self-medication (15,16); others were delay in receiving treatment at health facilities and hospital services (15,17),proximity of the pharmacy to home and charges at a health facility (15,16).

Our study reported that paracetamol was the drug most consumed.Acetaminophen standard therapeutic oral dose is 0.5–1 g every 4–6 h to a maximum of 4 g/day, but more importantly it has a dose-dependent toxicity (18). Acetaminophen can cause hepatoxicity after major overdose (19) and severe liver damage has been observed with long-term use even at therapeutic doses in patients with alcoholic liver disease or viral infections (20). Furthermore, it has been reported that long-term consumption of acetaminophen carries a potential risk factor for chronic renal failure (21),

cardiovascular, gastrointestinal and even mortality (22). Therefore, acetaminophen is a drug to consume with caution especially considering that its sales has increased significantly during the COVID-19 pandemic (23).

Ibuprofen was the second drug most consumed in our study even though it has been reported that this NSAID increases the risk of developing thromboembolism in COVID-19 patients (24). It also needs to considered that ibuprofen alone or in combination with acetaminophen could mask the fever during COVID-19 infection causing a delay in diagnosis and treatment (25).

Azithromycin was the predominant drug used for treating sore throat during COVID-19 in our study. Azithromycin is believed to be one of the safest macrolides (26) but there is conflicting information on the risk of arrhythmia.The Italian Drug Agency (AIFA) stated that the use of azithromycin, alone or in combination with hydroxychloroquine/chloroquine, for the treatment of COVID-19 patients is not recommended, unless bacterial superinfections occur (27). However, the benefit–risk profile of these drugs in COVID-19 patients is still coming to light.

Regarding the consumption of drugs for dry cough, our study reported that 63% of the respondents with the symptoms took dextromethorphan, as a preventive measure. For diarrhoea, 67% of the respondents with the symptoms took bismuth subsalicylate, as a preventive measure.

V. CONCLUSION:

The important finding of the study was the use of different over-thecounter medications for the prevention and treatment of perceived COVID-19 symptoms by the doctors in tertiary health centre. Over-the-counter drugs is a significant self-medication measure, especially during the COVID-19 pandemic. Various drugs were used for COVID-19 related symptoms without sufficient scientific evidence. Paracetamol was the most consumed drug, but there was also a significant use of antibiotics like azithromycin and amoxicillin. Paracetamol, ibuprofen, diclofenac, loperamide, bismuth subsalicylates, dextromethorphan cough syrup, codeine cough syrup, pseudoephedrine, normal saline nasal spray, cetirizine, amoxicillin, azithromycin were the most used medications for the prevention and treatment for COVID-19 related symptoms because of fear of being quarantined, fear of contact with an infected person, emergency illness, and delaying of the hospital services. Continuous awareness and sensitization about the risks of self-medication are warranted. Our results should be taken with care and not interpreted as a recommendation to self-medicate nor to use these drugs thinking that they will improve symptomatology.

REFERENCES:

[1]. World Health Organization, scientific findings and knowledge on COVID-19.

[2]. Rohan Kumar Ochani, AmeemaAsad, Farah Yasmin, SimranBatra, et al. COVID-19 pandemic: from origins to outcomes. A comprehensive review of viral pathogenesis, clinical manifestations, diagnostic evaluation, and management (2021)

[3]. 3.Meral Yüce , ElifFiliztekin , KorinGasiaÖzkaya, et al. COVID-19 diagnosis -A review of current methods (2020)

[4]. Jean Franco Quispe-Cañari,a Evelyn Fidel-Rosales,a Diego Manrique,aJesúsMascaró-Zan,a Katia MedalithHuamán-Castillón, et al. Self-medication practices during the COVID-19 pandemic among the adult population in Peru: A cross-sectional survey. (2021)

[5]. Onchonga David. A Google Trends study on the interest in self-medication during the 2019 novel coronavirus (COVID-19) disease pandemic. Saudi Pharm. J. 2020;28(7):903–904. doi: 10.1016/j.jsps.2020.06.007.

[6]. Matias T., Dominski F.H., Marks D.F. Human needs in COVID-19 isolation. J. Health Psychol. 2020;25(7):871–882. doi: 10.1177/1359105320925149.

[7]. World Health Organization. The Role of the Pharmacist in Self-Care and Self-Medication. Report of the 4th WHO Consultive Group on the Role of the Pharmacist. Geneva: World Health Organization (1998).

[8]. Dilie A, Gualu T, Haile D, Zuleta FA. Knowledge, attitude and practice of self-medicationamong health science students at Debre Markos University, Northwest Ethiopia. J Public Health and Epidemio. (2017) 9:106–13. doi: 10.5897/JPHE2017.0926.

[9]. Ateshim Y, Bereket B, Major F, Emun Y, Woldai B, Pasha I, et al. Prevalence of self-medication with antibiotics and associated factors in the community of Asmara, Eritrea: a descriptive cross-sectional survey. BMC Public Health.

(2019) 19:726. doi: 10.1186/s12889-019-7020-x

[10]. 11.Ayanwale MB, Okafor IP, Odukoya OO. Self-medication among rural residents in Lagos,Nigeria. J Med Trop. (2017) 19:65–71. doi: 10.4103/jomt.jomt_51_16

[11]. 12. Babatunde OA, Fadare JO, Ojo OJ, Durowade KA, Atoyebi OA, Ajayi PO, et al. Self-medication among health workers in a tertiary institution in South-West Nigeria. Pan Afr Med J. (2016) 24:312. doi:

[12]. 10.11604/pamj.2016.24.312.8146

[13]. Antony ikewegbom, Clement kevinedet, Olatunderaimi, et al. SelfMedicationPractices and Associated Factors in the Prevention and/or Treatment of COVID-19 Virus: A Population-Based Survey in Nigeria.

[14]. Shankar PR, Partha P, Shenoy N. Self-Medication and Non-Doctor Prescription Practice in Pokhara Valley, Western Nepal: A Questionnaire-Based Study. BMC family practice. 2002;3:17.

[15]. Horumpende PG, Said SH, Mazuguni FS, Antony ML, Kumburu HH, Sonda TB, et al. Prevalence, determinants and knowledge of antibacterial selfmedication: a cross sectional study in North-eastern Tanzania.PLoS ONE. (2018) 13:e0206623. doi: 10.1371/journal.pone.0206623

[16]. 16. Jember E, Feleke A, Debie A, Asrade G. Self-medication practices and associated factors among households at Gondar town, Northwest Ethiopia: a cross-sectional study. BMC Res Notes. (2019) 12:153. doi: 10.1186/s13104019-4195-2

[17]. Sadio AJ, Gbeasor-Komlanvi FA, Konu RY, Bakoubayi AW, Tchankoni MK,Bitty-Anderson AM, et al. Assessment of self-medication practices in thecontext of Covid-19 outbreak in Togo. BMC Public Health. (2020) 21:58. doi: 10.21203/rs.3.rs-42598/v1

[18]. Roberts Emmert, Nunes Vanessa Delgado, Buckner Sara, Latchem Susan, Constanti Margaret, Miller Paul, Doherty Michael, Zhang Weiya, Birrell Fraser, Porcheret Mark, DziedzicKrysia, Bernstein Ian, Wise Elspeth, Conaghan Philip G. Paracetamol: not as safe as we thought? A systematic literature review of observational studies. Ann. Rheum. Dis. 2016;75(3):552–559. doi: 10.1136/annrheumdis-2014-206914

[19]. Prescott Laurie F. Therapeutic misadventure with paracetamol: fact or fiction? Am. J .Ther. 2000;7(2):99–114.

[20]. Day Richard O., Graham Garry G., Whelton Andrew. The position of paracetamol in the world of analgesics. Am. J .Ther. 2000;7(2):51–54.

[21]. McLaughlin J.K., Lipworth L., Chow W.H., Blot W.J. Analgesic use and chronic renal failure: a critical review of the epidemiologic literature. Kidney Int. 1998;54(3):679–686. doi: 10.1046/j.1523-1755.1998.00043.x.

[22]. Roberts Emmert, Nunes Vanessa Delgado, Buckner Sara, Latchem Susan, Constanti Margaret, Miller Paul, Doherty Michael, Zhang Weiya, Birrell Fraser, Porcheret Mark, DziedzicKrysia, Bernstein Ian, Wise Elspeth, Conaghan Philip G. Paracetamol: not as safe as we thought? A systematic literature review of observational studies. Ann. Rheum. Dis. 2016;75(3):552–559. doi: 10.1136/annrheumdis-2014-206914.

[23]. Romano Sónia, GalanteHeloísa, FigueiraDébora, Mendes Zilda, Rodrigues AntónioTeixeira. Time-trend analysis of medicine sales and shortages during COVID-19 outbreak: data from community pharmacies. Res. Soc. Admin. Pharm. 2020 doi: 10.1016/j.sapharm.2020.05.024.

[24]. Rad Arjomandi, Arian Robert Vardanyan, Tas Natalie R. Ibuprofen and thromboembolism in SARS-COV2. J. Thrombosis Haemostasis. 2020 doi: 10.1111/jth.14901.

[25]. FavalliEnnio Giulio, Ingegnoli Francesca, De Lucia Orazio, Cincinelli Gilberto, Cimaz Rolando, Caporali Roberto. COVID-19 infection and rheumatoid arthritis: Faraway, so close! Autoimmun. Rev. 2020;19(5) doi: 10.1016/j.autrev.2020.102523.

[26]. Goldstein EJC, Owens RC, Nolin TD. Antimicrobial-associated QT interval prolongation: pointes of interest. Clin Infect Dis. 2006;43(12):1603–1611.

[27]. Italian Medicines Agency (AIFA). Hydroxychloroquine for the treatment of COVID-19 adult patients. 2020.