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**To identify Drug Literacy, causes of its illiteracy, and
need for one platform drug repository**

BY:

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(PG/20/094)

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This is to certify that the dissertation titled

“To identify Drug Literacy, causes of its illiteracy and need for one-platform Drug Repository”

submitted by **Yogita Sharma** Enrollment No **PG/20/094** under the supervision of **Dr. Sumesh Kumar** for an award of PGDM (Hospital & Health Management) of the Institute carried out during the period from **4th April 2022 to 5th June 2022** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

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FEEDBACK FORM

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Dissertation Organization: Ernst & Young India LLP

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Attendance: 100%

Objectives achieved:

Deliverables:

Strengths: Attentive, Perseverant, and dedicated. Can independently own assignments & provide quality deliverables.

Suggestions for Improvement: She needs to practice being assertive and be more visible in forums & discussions.

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):

Signature of the Officer-in-Charge/ Organization Mentor (Dissertation)

Date:

Place:

ABSTRACT

Context

The need for education on drugs has become necessary not only for the young but also for grownups. This is because as studies have shown, so many people take to drug habits but also are ignorant of the long-term effects of their consumption. Some people don't have the information of the drugs they are taking. Many quack doctors in the market prescribed drugs to patients some of them are dangerous drugs. Here the need for drug literacy comes.

NHA's digital intervention to build a Drug repository which is a central database of the approved drugs sold in the market will serve multiple benefits. There are repositories in India like CDSCO, SDA, etc. but there should be a one-platform drug repository containing details of all the drugs present in the Indian market.

Settings and Design

The data was collected from 4th April 2022-5th June 2022. A cross-sectional study was carried out. A semi-structured questionnaire was conducted to identify factors associated with understanding people regarding the drugs they consume whether they are prescribed by doctors or chemists, or they self-consume those drugs, and how a drug repository could be impactful in the favor of drug literacy.

Results

Through the study, it is found that 58.7% of people consume drugs out of which 76.9% search online for drug information. 41.3% of people sometimes do self-medication. 32.7% of people consume medicines prescribed by chemists, out of which 43.3% do not check if the chemist has a valid medical degree. 83.7% of people think that a one-platform drug repository is necessary for India and drug education is important.

Conclusions

The only consistent aim for drug education would be drug literacy. the only consistent aim should be drug literacy. This means that drug education should be provided to students to acquire the knowledge and skills they need to avoid the harmful effects of alcohol and drugs in the real world. The aim, however, must be to help students successfully navigate through conquering good and bad, so they can survive and thrive. Also, government initiatives like having a one-platform drug repository will help people to have access to knowledge of authentication drugs present in the Indian market.

Table of Contents

S. No.	Topic	Page No.
1	Introduction	08
2	Literature Review	09
3	Objectives	10
4	Methodology	10
5	Expected Outcomes	10
6	Results & Discussions	11
	Section 1	11
	Section 2	16
	Section 3	17
7	Recommendations	18
8	Conclusion	18
9	References	19
10	Consent Form	20
11	Questionnaire	21

List of Figures

S. No.	Figure No.	Topic	Page No.
1.	Fig. 1	Distribution of people who consume medicine prescribed by doctors	11
2.	Fig. 2	Distribution of people who seek information from their doctor	11
3.	Fig. 3	Distribution of people who search online information regarding medicine they consume	12
4.	Fig. 4	Distribution of people who do self-medication	12
5.	Fig. 5	Distribution of people who know about the drugs they self-consume	13
6.	Fig. 6	Distribution of people who consume medicine prescribed by chemists	14
7.	Fig. 7	Distribution of people who consume medicine prescribed by chemists and check authentication	14
8.	Fig. 8	Distribution of people who are aware of quack doctors	15
9.	Fig. 9	Distribution of people who had visited quack doctors	15
10.	Fig. 10	Distribution of people who think Drug Education is important	16
11.	Fig. 11	Distribution of people who think Drug Repository is necessary	17

Abbreviations

OTC	Over the counter
HL	Health Literacy
PI	Prescription instructions
DR	Drug Repository
NHA	National Health Authority

INTRODUCTION

Drug Literacy

The need for education on drugs has become necessary not only for the youth but also for adults. This is because as studies have shown, most people take to drug habits but also are unaware of the long-term effects of their actions. Some people don't have the knowledge of the drugs they are taking. Many quack doctors in the market prescribed drugs to patients some of them are dangerous drugs. Some people do self-medication, and some might not be aware of the effects. Here the need for drug literacy comes.⁽¹⁾

Drug literacy can be defined as acquiring the knowledge and skills needed to successfully navigate the world in which we live – a world full of drug-related pressures, promises, and panaceas. Low literacy may be an overlooked contributing factor to patient misuse of prescription medication. One should be cautious to use many kinds of drugs. All drugs are dangerous whether they have any medicinal use. Thus, their manufacture, distribution, and consumption must be carefully controlled.

Some medicinal drugs are so dangerous that their use is restricted by law: only doctors and pharmacists may prescribe them to patients. Their use or manufacture is prohibited by law. However, certain drugs are dangerous, have no medicinal value, and yet are legally produced. What is important to understand is that all drugs - legal or illegal - are potentially dangerous. There are several sources from which drugs and other substances can be obtained like quack doctors; (illegal), drug stores; (legal/illegal), hospitals & clinics: (legal), etc.

The production and use of certain dangerous substances have implications for the individual, his family, and his society. As everything and anything is available on google so, there should be some authenticated platform where one can get information about drugs that are present in the domestic market.

Need for a single Drug Repository

Many countries have Drug registries like Canada: Drug Product Database consists of product-specific information of all drugs approved for use in Canada, Israel has a drug repository which consists of various pharmaceutical products and the registration, including various aspects of the drug present.

Although India has a whole mechanism of approval of drugs where the Central Drugs State Control Organization CDSCO, State Drug Licensing Authorities play a vital role. It is responsible for the approval of New Drugs, Conduct of Clinical Trials, laying down the standards for Drugs, control over the quality of imported drugs in the country, and coordinating the activities of State Drug Control Organizations by providing expert advice with a view of bring about the uniformity in the enforcement of the Drugs and Cosmetics Act.

But the lacking is of having a single source of a database of all the drug details present in the domestic market. A single source that consists of all the information on drugs whether Allopathic, Ayurvedic, etc. Such an initiative by the government is much needed to ensure the authentication of the drugs in the domestic market.

The purpose of this study was to identify factors associated with understanding people regarding the drugs they consume whether they are prescribed by doctors or chemists, or they self-consume those drugs, and how a single, one-platform drug repository could be impactful in the favour of drug literacy.

LITERATURE REVIEW

A study has been conducted to understand pharmacy literacy among college-going students and their perception of drug aesthetic values in terms of their effectiveness for common OTC drugs. It was concluded that only most of the students were aware of the medicine which they take. Due to less prevalence of OTC terminology in India students did not know the full form. The study also confirms that pharmaceutical companies need to consider these factors as consumers do take aesthetic considerations of the medicine to its effectiveness.(2)

Another study conducted in a medical college in India aimed to assess the health literacy (HL) of patients having diabetes mellitus, their understanding of prescription instructions (PI), and the correlation between HL and understanding of PI. To conclude, diabetic patients with low HL levels will have difficulty understanding PI. Hence, an alternative comprehensive strategy needs to be adopted in clinical practice for these patients to provide them with the instructions to take medications properly.(3)

In another study Evaluation of Health Literacy Status Among Patients in a Tertiary Care Hospital in Coastal Karnataka, India study was carried out to find out the HL levels among patients attending a tertiary care hospital. It was assumed that the general education levels may not reflect true HL status. Given the results of this study, it can be concluded that

patients' HL skills should not be taken for granted and adequate attention should be paid to educating and briefing patients whenever patients are required to interpret and understand healthcare-related documents.(4)

Objectives

1. To survey the extent of knowledge consumer has about their prescribed drugs.
2. To determine the major cause of drug illiteracy.
3. To determine the need for one platform drug repository for drug literacy.

Methodology

- **Study Design:** Cross-sectional study design
- **Study Population:**
 - a) People who are on prescribed drugs.
 - b) People who consume any kind of drugs without a prescription.
- **Study Period:** The study is conducted from 1st April 2022 to 1st June 2022
- **Research Instrument:** A survey with a semi-structured questionnaire.
- **Sample Size:** Convenience sampling of up to 100 participants surveyed through a Google form.
- **Data Analyse Tool-** Excel is being used for data analysis,
- **Ethical Considerations:** This study will be submitted for ethical review to the IIHMR student research review board. Then data collection with informed consent was conducted during April and June 2022 corroborating the period of the summer internship. Research ethics principles about informed consent, the confidentiality of data, and individual privacy were followed.

Expected Outcomes

- The extent of knowledge consumer has about the drugs they consume
- Major causes of drug illiteracy
- Need for a one-platform drug repository that can be a boon for drug literacy.

Results & Discussions

Some of the findings in this study have been based on secondary data analysis and it is divided into three sections corroborating the three objectives of this paper

Section 1: To survey the extent of knowledge consumer has about their prescribed drugs.

- a. People who are on prescribed drugs.

Out of the study population, 58.7% of people consume medicine prescribed by the doctor

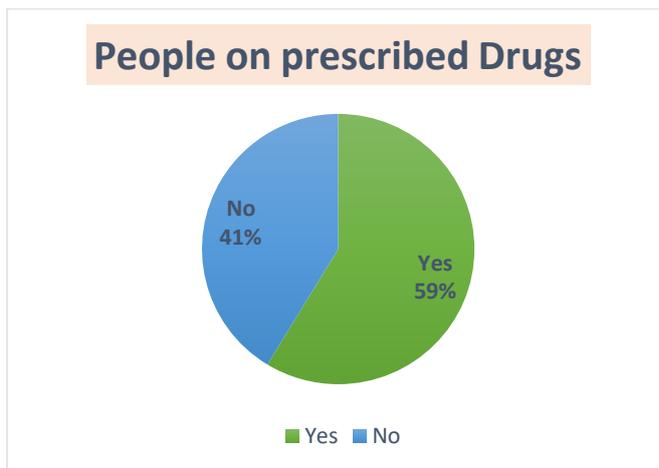


Fig 1: Distribution of people who consume medicine prescribed by the doctor

70.2% study population seek information regarding the medicine they have been prescribed by the Doctor & 76.9% of people also search online for the information regarding medicines they consume.

Seek information regarding medicine from their doctor

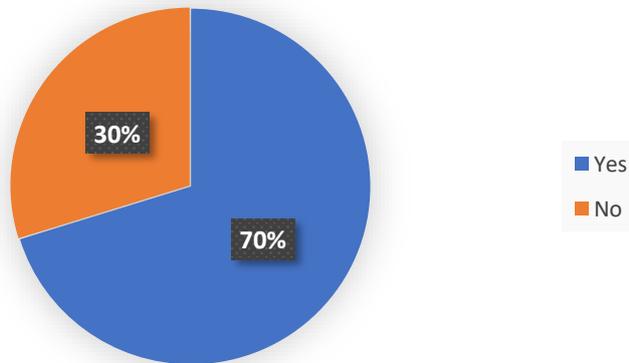


Fig 2: People who seek information regarding medicine from their doctor

Search Online regarding medicine they consume

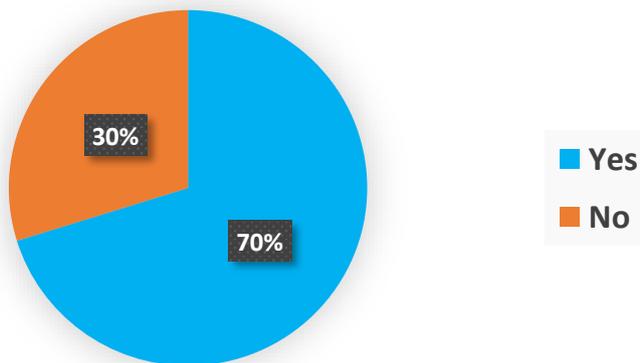


Fig 3: People who search online information regarding medicine they consume

This depicts:

- As we can see, there are a lot of people who consume medicine prescribed by doctors, some of them seek knowledge of the drugs they have been prescribed from the doctor whereas the majority google for the information regarding the medicine.
- Communicating with a doctor about the medications you are prescribing is a positive approach. While the Internet is among the leading sources of information about health and medicine, with a growing number of Internet users seeking it health-related information if there is no supervision or medical or expert advice. It is

therefore essential to assess information seeking behaviour and trends and the related relevant factors, promote more secure use of the Internet for health purposes.

b. People who consume any kind of drugs without a prescription.

Out of the study population, 41.3% of people do self-medication sometimes, 33.7% of people rarely do self-medication, and 18.3% people don't do self-medication. Of the population 52.9% of people have knowledge of the drug they self-consume, 34.6% people sometimes have the knowledge and 12.5% don't have knowledge of the drug they self-consume.

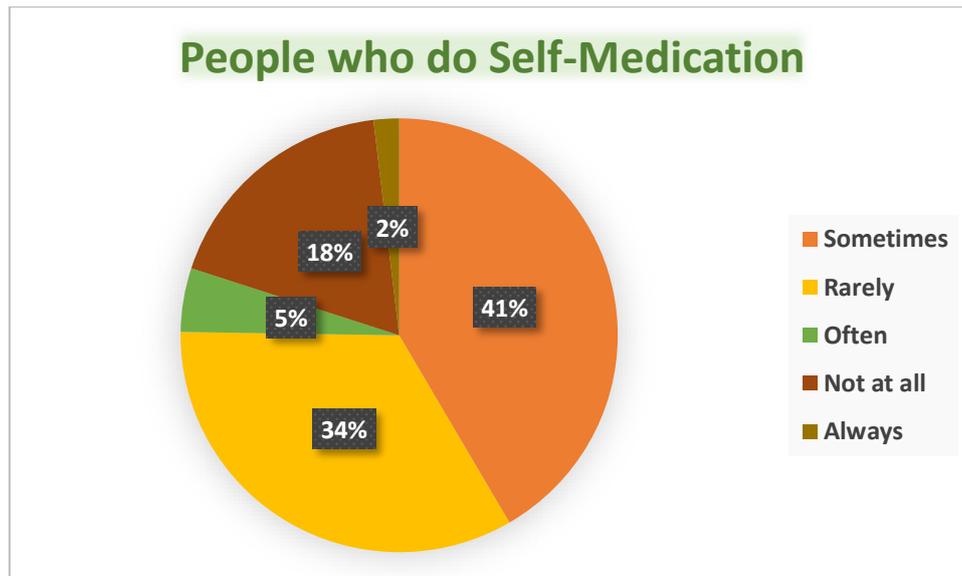


Fig 4: People who do self-medication

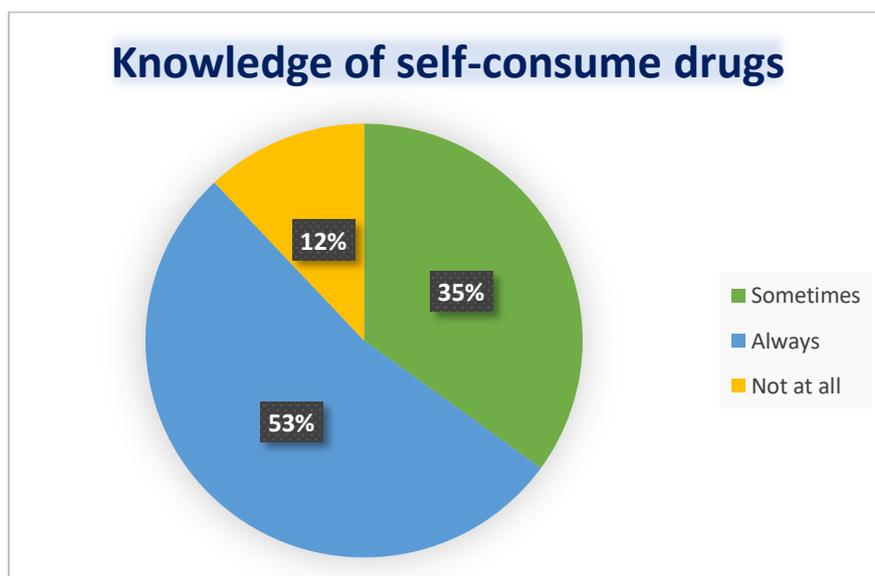


Fig 5: People who have knowledge of the drugs they self-consume

From the above scenario, we can get that,

Self-medication has been identified as the most common type of self-care. It is defined as self-prescribing drugs to resolve health problems without the help or advice of an expert. This is usually done using synthetic or handmade medications according to the advice of unskilful individuals, including the use of old prescriptions for themselves, their friends, and family members, the reuse of existing medications at home, and non-compliance with prescribed dose changes.

However, self-medication cannot be considered a completely safe action, but there are potential risks, such as misdiagnosis, delay in seeking appropriate treatment and medical advice, unnecessary use of high doses of drugs, submission of rare drugs, but severe and dangerous side effects, poor treatment choices, masking of serious illnesses, risk of addiction, addiction, antibiotic resistance, and rising health costs due to rising mortality rates and longer hospitalizations that can be problematic for certain vulnerable populations, including the elderly.

c. Prescription from Chemists

From the study, it is also seen that 32.7% of people sometimes consume medicine prescribed by the chemists, 29.8% of people rarely consume medicine prescribed by the chemists, and 26.9% of people never consume medicine prescribed by the chemists.

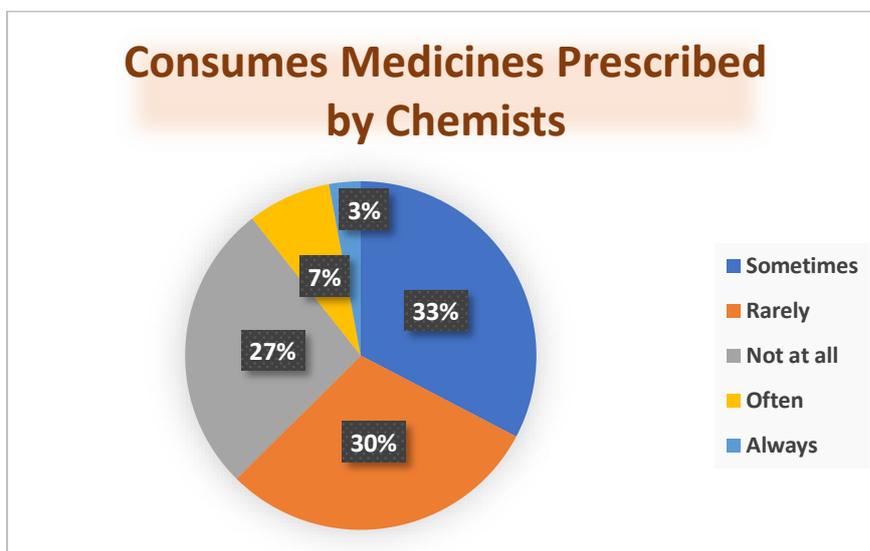


Fig 6: People who consume medicines prescribed by Chemists

Of the study population, 43.3% of people do not check if the chemist has a valid medical degree before they ask for a prescription from the chemist. 26% of people always check, 14.4% people sometimes check and 16.3% of people rarely check.

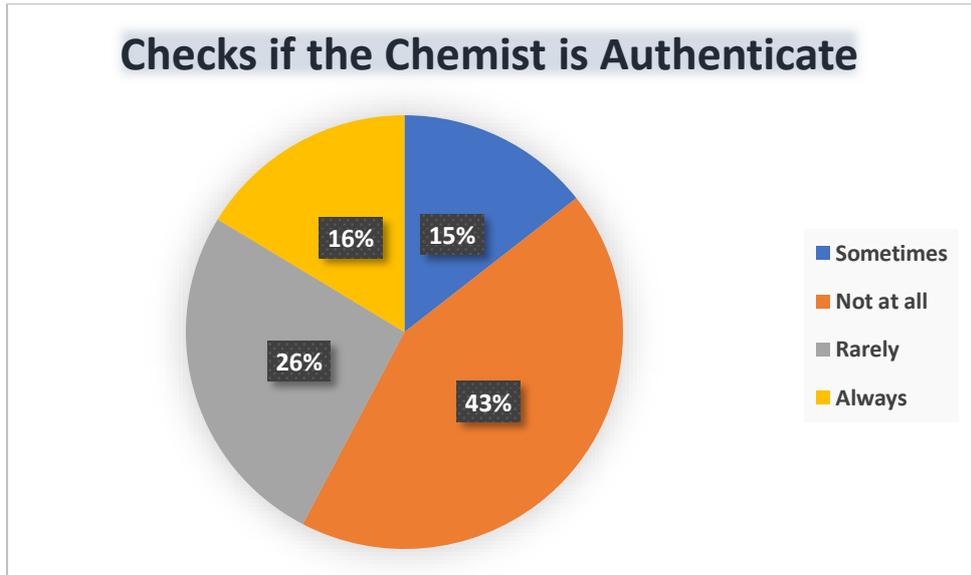


Fig 7: People who consume medicines prescribed by Chemists check the authentication

This depicts that: -

There are so many pharmacies in India, some of them have valid medical degrees whereas some drug stores are illegal. This could be one of the major causes of selling the potentially dangerous drug. There are studies that have shown that banned drugs are freely available in medical stores. (5)

d. Awareness of Quack Doctors

Out of the study population, 58.7% of people are aware of the term quack doctors whereas 41.3% of people don't know.

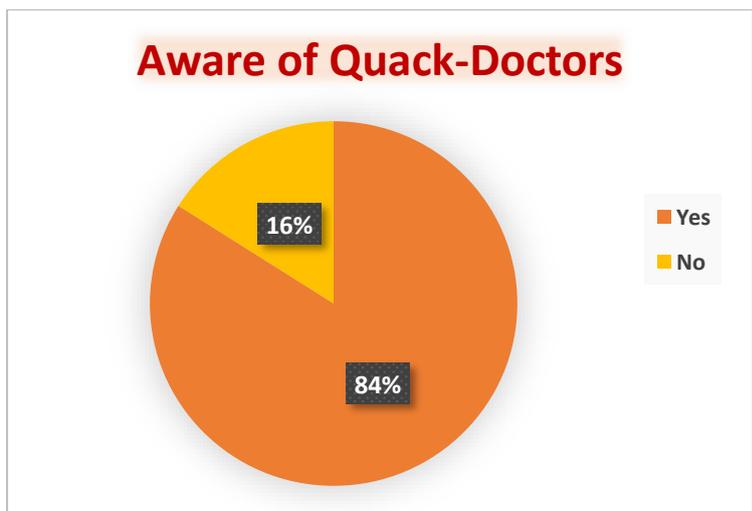


Fig 8: People who are aware of the quack doctor

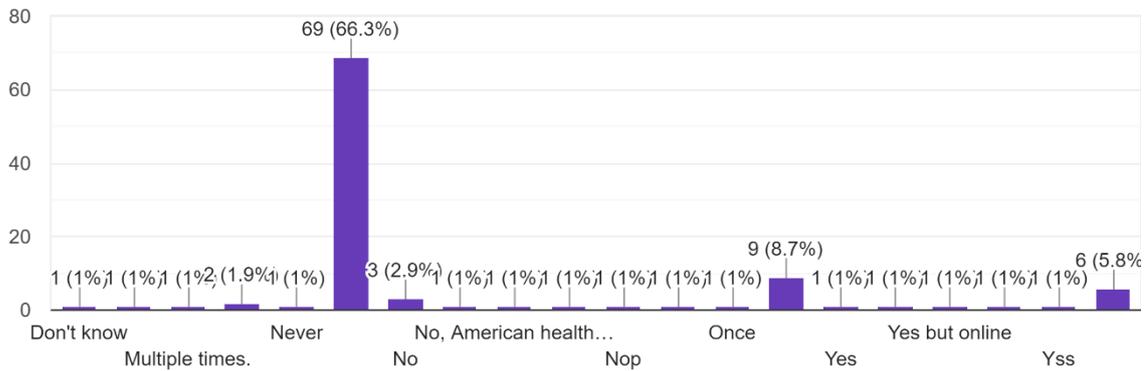


Fig 9: People who had visited quack doctors.

Quack doctors- an unqualified person who claims medical knowledge or other skills.

There are many people who had an encounter with quack doctors. According to a study it has been reported that the number of quacks is increasing in India, both in urban and rural areas. It is estimated that about 10 lakh quacks are practicing allopathic medicine, out of which 4 lakhs belong to practitioners of Indian Medicine (Ayurvedic, Sidha, Tibb, and Unani). The health of gullible individuals, including the poor, the seriously ill, women and children, is at stake. There are some act & rules which has been framed by the government. But still, clinics of quack doctors can be seen in local areas.(6)

Section 2: To determine the major cause of drug illiteracy.

From the study people, 94.2 % think that drug education is important

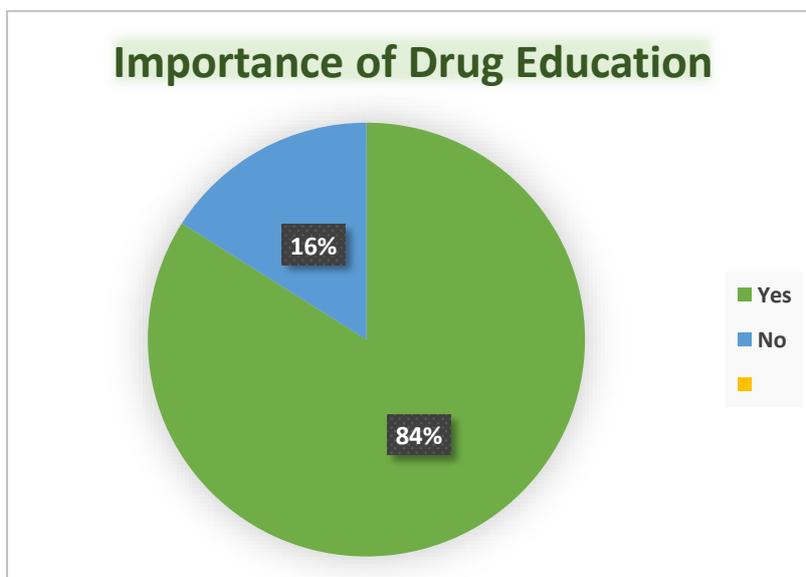


Fig 10: People who think drug education is important

According to the study population, below are the major causes of drug illiteracy

- 1) Lack of awareness & education
- 2) No proper instruction to the patient by doctors.
- 3) No curriculum in schools.
- 4) Self-diagnosis & internet searches
- 5) People using the internet to find details of drugs that are not always correct
- 6) People consult chemists for medicines.
- 7) Encounter with quack doctors.
- 8) Increased fraudulent medicines and unknown diseases
- 9) Lack of initiative by the government to educate people about drugs their effects and the precautions to be taken.
- 10) Poor infrastructure of Pharmacies in India.
- 11) The drug traffickers and the doctors who are overprescribing these substances should be prosecuted.

Section 3: To determine the need for one platform drug repository for drug literacy.

Out of the study population, 83.7% of people think that having a one-platform Drug repository for all the information on various drugs in India is necessary.

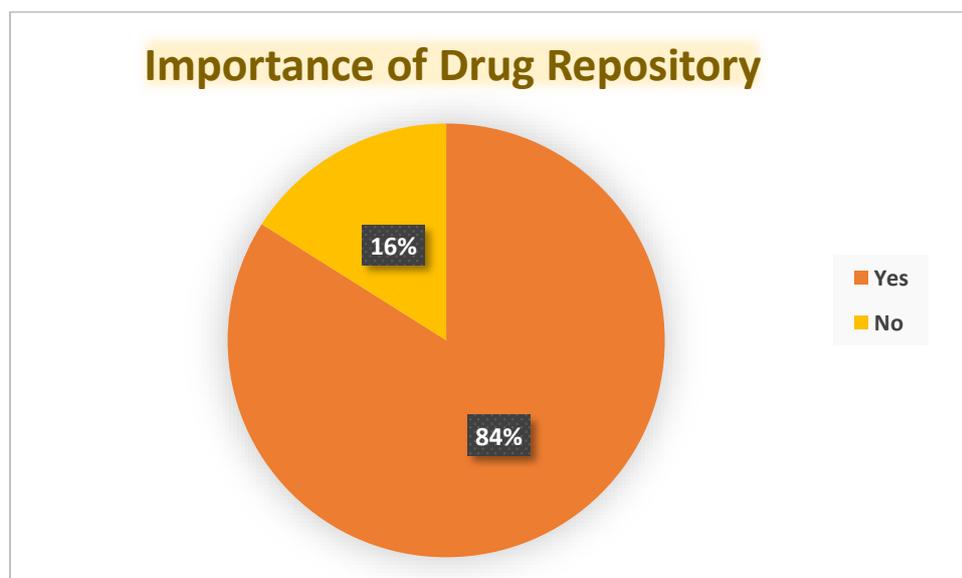


Fig 11: People who think a drug repository is necessary

Having a Drug Repository of India will help in the authentication of drugs available in the Indian market. They will help in improving health care quality and safety.

Here, NHA's envision to have a one-platform drug repository comes into role.

Currently, medical IT systems use their master drug database, its components, and codes to spot individual drugs. This results in problems with interoperating medical records and information across systems. The lack of a single source of truth for medical drugs, generics, and substances adds to the problem.

The Drug Repository is proposed to be a single, up-to-date repository of all the drugs present in the domestic market. It constitutes the main source of information for all other databases and lists and facilitates the exchange of normalized data between all systems. There are different countries that have drug registries of their own.

Limitations

- The sample size is small to determine significant areas of the study
- Research on Drug Literacy is complex, and it requires a comprehensive approach.
- Considering the studies short duration its scope was limited.
- The study was restricted and not precise due to the nature of the online mode of research
- The scope of the work is limited due to the nature of the study

Recommendations

Drug education in school curriculums can promote safety, such as how to use anti-opioids in overdose situations, and what are the dangers of various substances.

Drug Education assesses the complex ways in which drugs impact the health and wellbeing of individuals, families, communities, and societies.

Explore and appreciate diversity related to the reasons people use drugs, the impact of drug use, and the social attitudes toward diverse drugs.

Conclusion

Drug education is suffering from a lack of clear aims. Public opinion and legal standing do not reflect true levels of harm and the messages they convey concerning drugs are incoherent. For instance, some drugs, like heroin, are demonized, whereas other forms of the same drug are found in numerous painkillers. Likewise, young people are told to avoid drinking alcohol, yet everywhere it is promoted as part of the “good life or fun life.”

In this context of mixed messages, the only consistent aim should be drug literacy. This means that drug education should be provide to students to acquire the knowledge and skills they need to avoid harmful effects of alcohol and drugs in the real world. We can still teach them to avoid certain substances or to only use substances at certain times. The aim, however, should be to help students successfully navigate through competing claims of right and wrong, so they can survive and flourish.

Also, government initiatives to have a master repository like other countries will act as a source of authentic information for the country.

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Annexure

Consent Form

Dear sir/madam,

You are requested to volunteer for “General awareness regarding drug literacy”. The study will be supervised by the second-year student of IIHMR, DELHI, Yogita Sharma. You will be required to answer a questionnaire to discover the level of exposure to promotional activities regarding Drug Literacy & Drug Repository. You have the right to withdraw if you wish to discontinue the study at any point in time. All the transcripts from the study will be anonymous and locked after use. The study will last approximately for 5mins.

I _____ give permission to take part in the study.

Signature:

Date:

Questionnaire on General awareness regarding Drug Literacy

1. Name
2. Email ID
3. Age
 - a) 18-25
 - b) 26-35
 - c) 36-50
 - d) 50-above
4. Gender
 - a) Male
 - b) Female
 - c) Prefer not to say
5. Profession
6. Do you consume any kind of medicine?
 - a) Yes
 - b) No
7. If Yes, the Reason for consumption
8. Is the medicine prescribed by the Doctor?
 - a) Yes
 - b) No
9. Do you seek information regarding the medicine you have been prescribed by your doctor?
 - a) Yes
 - b) No
10. Do you search online for the information regarding medicines you consume?
 - a) Yes
 - b) No
11. Do you do Self-Medication (Consuming medicines without consulting doctors)?
 - a) Sometimes
 - b) Rarely
 - c) Often
 - d) Always
 - e) Not at all

12. Do you have knowledge of the Drug you self-consume?
- a) Sometimes
 - b) Always
 - c) Not at all
13. Do you consume medicines prescribed by Chemists?
- a) Sometimes
 - b) Rarely
 - c) Often
 - d) Always
 - e) Not at all
14. Do you check if the chemist has a valid medical degree before purchasing your medicine?
- a) Sometimes
 - b) Rarely
 - c) Always
 - d) Not at all
15. Are aware of the term quack doctors? (Quack doctors-an unqualified person who claims medical knowledge or other skills)
- a) Yes
 - b) No
16. Have you ever visited any quack doctor?
17. Do you know about Drug Registry?
- a) Yes
 - b) No
18. Are you aware of any existing drug registry in India?
- a) Yes
 - b) No
19. If yes, please mention
20. Do you think having a one-platform Drug registry for all the information of various drugs in India is necessary?
- a) Yes
 - b) No
21. Are you aware of Drug Registries of other countries?
- a) Yes
 - b) No
22. If Yes, Name the registry and country.

23. Do you think Drug Education is important?

- a) Yes
- b) No

24. What do you think is the major cause of drug illiteracy?

25. Suggest any ways by which the gap of drug illiteracy could be filled.