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A survey on self medication practices in Rajasthan

Yashi Singhal

Sri Aurobindo Centre of New Education, Jodhpur- 342009, India

Abstract

Drug or medicines are required for treatment of ailments but simultaneously these may be equally harmful if not taken under expert's supervision. From this point of view, present study was planned to investigate the practice or malpractice of self medication in population of Rajasthan. It was found that there is a drastically high usage of multi vitamin & mineral supplement consumption without any medical supervision. Youngsters seeking body building for personality enhancing were found to use any random protein supplements in which 50% didn't seek any expert opinion. Usage of antipyretics, analgesics & anti- inflammatory drugs was noted in 60% adult population who didn't preferred to visit a medical practitioner regarding this. Regular health check-up frequency was found in 25% of population that too in those who get reimbursement for this from their employer or any mediclaim policy.

Keywords

Medication, Vitamins, Minerals, Protein powders, analgesics, antipyretics

Introduction

According to pharmacology, a drug is any substance that produces a biological effect in living organism after administration. It is used in treatment and prevention of diseases and promotion of overall health (Wikipedia, 2021). As per US Food & Drug Administration, commonly used drugs are of following types -

Analgesics (pain reliever), antacids that relieve indigestion & heart burn, anti-anxiety drugs, anti arrhythmic that control irregular heartbeats, anti-bacterial or antibiotics that are used to treat bacterial infections, anticoagulants or blood thinners, anticonvulsants to prevent epileptic seizures, anti emetics, anti fungal, anti histamines, anti-diarrheal, anti-hypertensive, anti-inflammatory, antipyretic, anti- viral, barbiturate, beta blockers, bronchodilators, corticosteroids, cough suppressant, diuretics, hormones, oral hypoglycaemic, immunosuppressant, laxatives, sedatives, vitamins etc.

Pharmacokinetics of these drugs is very complex in human body. These drugs undergo a lot of processes inside our body. Their absorption, distribution & protein binding, elimination, biotransformation/ detoxification & interaction with nutrients occur in different ways for different types of drugs (Krishnaswami, 1999). It depends on patient's sex, age,

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genetic makeup, liver function, renal function, obesity, dehydration as well as drug's chemical properties. For example, clearance time of some drugs may be very long in elderly (Jennifer, 2020).

Pharmacodynamics of a drug depends on receptor binding, post receptor effects and chemical interactions (Jennifer, 2020). As per US Food & Drug Administration, side effects of the drugs may be mild like stomach upset, running nose, rashes, fever, drowsiness, headache, diarrhoea etc. On the other hand these may be as fatal as risk of heart attack, abortion, paralysis of some body part, organ failure or even death. Self-medication is a worldwide practice that may prove serious health hazard to human in terms of development of drug resistance. Irrational usage of medicines without medical practitioner's consultation may delay the diagnosis and thereby appropriate treatment also (Bennadi, 2013).

Some researchers have been conducted internationally by various researchers on prevalence of self medication practices. Prevalence of self medication was documented by Selvaraj *et al*. (2014) as 11.9%. Major self-medication was seen in above 40 years males with moderate activities ($P < 0.05$). Headache (19%), abdominal pain (16.7%), fever (31%) was the most common issues where practice of self medication was followed by consulting chemists.

Zeru *et al*. (2020) studied the self medication practice among 792 randomly selected college students & found that more than 396 students followed self-medication. The major factors which affected self-medication are field of study, year of study, income and gender.

Kassie *et al.* (2018) investigated about practice of self-medication and its related causative factors amidst adults of Meket District in Ethopia in 2017. It was concluded that more than 1/3rd among 722 selected adult people practiced self medication & emphasized need of strengthening efforts for community awareness on drug's side effects.

Another study on self-medication was done on bachelor students of a private university of Nigeria by Esan *et al*. (2018). The study revealed that overall 297 out of 324 students practiced self medication. Students used analgesics (71%), antibiotics (10.5%) and anti malarial drugs (33%).Paracetamol (75%) was prominently used drug among all.

As practices of self-medication may prove fatal and can cause health related issues if practiced for a long period of time, so efforts should be done to minimize this malpractice by spreading community awareness. With this viewpoint, present study was planned.

Aim

- To find out prevalence of self medication practices among population of Rajasthan, India

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Objectives

- To conclusive devise the prevalence of self medication
- To collect data in following heads -

  a. Prevalence of Self medication being practiced

  b. Frequencies of medical professional's visit

  c. Prevalence of self medication as per gender

  d. Prevalence of self medication as per age group

  e. Problems / conditions where self medication practices are followed

  f. Methods used for self medication

  g. Medicine/ supplement consumed

  h. Consequence(s) or any side effect noted or not

Research Methodology

Random sampling technique was used to select samples. Total 500 people were selected for the study. The present study was done using survey method. Online Google form survey was conducted with 15 multiple choice questions. Questions were based on usage of vitamins, mineral supplements, protein powder supplements, usage of analgesics, antipyretics, anti inflammatory medicines & doctor's visit regularity & frequency of regular health check up.

Data sampling: In total 500 adults were selected for the survey by random sampling - 250 males & 250 females of 19 -59 years of age. These were divided into 2 categories: 19 - 35 years (male & female) and 36 - 59 years (males & females).

Inclusion criteria

1. Adults in the age group of 19 - 59 years of age
2. Willing to take part in the survey
3. Healthy adult
4. Selected person should have an access to internet

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Exclusion criteria

1. Person below or above the selected age range

2. Person unwilling or who didn't sent properly filled form were excluded from the study

3. Illiterate people or who didn't had any internet access

4. People who had any serious health problem like diabetes, hypertension, cardiac disease, malignancy, hemiperesis / hemiplegia etc.

Data collection

Collection of data was done using online survey method. For this, Google forms were generated whose link was sent to selected people to gather data under following subheads

1. Self medication practised?

a. Yes, b. No

2. General information: For this, there were compartments to fill their name, age & sex. This information was in subjective answer form.

3. Last visit to doctor or when they visited a medical health professional - this question was also in subjective answer form

4. Do you go to a health care professional for routine health check up or yearly complete body check up?

a. Yes, because it is important, b. Yes because it is mandatory & provided by employer/ covered under mediclaim policy c. No

5. How many times they took medicine themselves during last one year - objective type having 4 options - a. Never, b. 1- 2 times they fall ill, c. 4 - 5 times they fall ill, d. Always when they fall ill

6. What was the health problem or conditions when they used self medication?

a. Fever, b. Cold & cough, c. Body pain/ Headache, d. Acidity, e. Diarrhoea, f. Vomiting

7. Do you consume any multimineral & multi vitamin also without medical health professional's advice?

a. Yes, b. No

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8. Do you consume any nutraceutical or supplementary protein powder also for weight or muscle build up?

a. Yes, b. No

9. How they decide medicine for the particular condition if they didn't visited doctor. The question had 4 options - a. Through internet surfing, b. By telling symptoms to chemist, c. Through self knowledge & d. Through family member's advice

10. Category of medicine purchased?

a. Paracetamol / any other anti pyretic, b. Pain reliever (Analgesic), c. Antacid, d. Multivitamin

11. Did you face any negative consequence or side effect after taking any drug?

a. Yes b. No

12 If yes, what type of side effect did you faced?

a. Nausea, b. Vomiting, c. Stomach upset, d. Skin rashes, e. Any other

13. Kindly specify if any other side effect was experienced? (Subjective)

14. Do you agree that self medication is the right practice?

a. Yes b. No

15. Why did you choose self medication?

a. Distance of health care provider, b. You have sufficient knowledge c. It's not important all the time to visit a health care provider for mild problems, d. Fees taken by health care provider

Statistical Analysis: Percentage and student's 't' test was applied wherever applicable to know any significant difference in results.

Results & Discussions

1. Self medication practised?

Out of 500 people, 55 people didn't practiced self medication. In these 55 people, 35 were males & 20 were females (Graph 1). In total 445 people responded that they practised self medication.

2. General information

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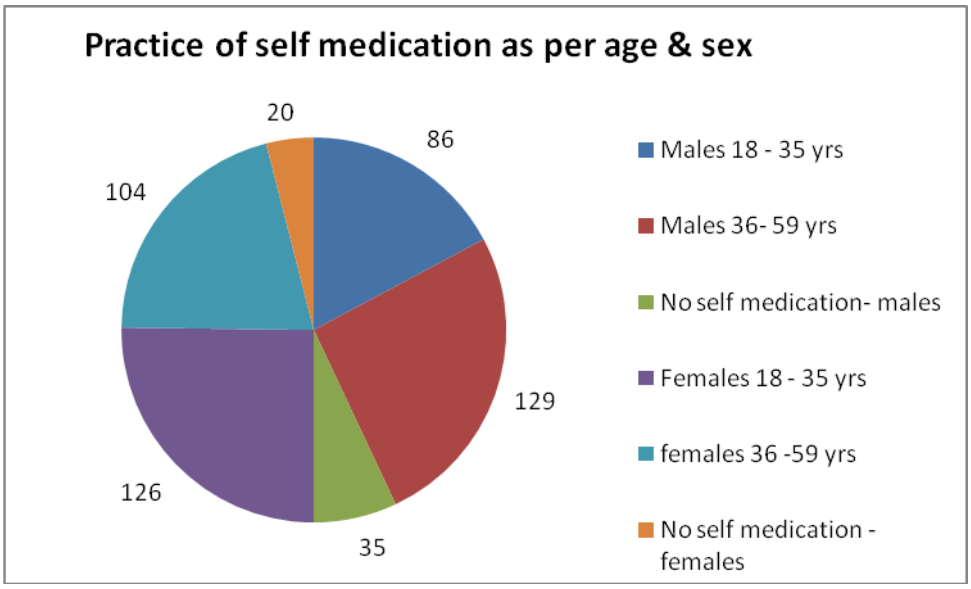
In total 500 people were selected for the study in which 250 were males & 250 were females. Out of the 215 males who practised self medication, 40% fall down in the age group of 19-35 years while 60% were from age of 36-59 years. In females, 55% were from age of 19-35 years. On the other hand, practice of self-medication in 36-59 years of age group females was noted as 45% (graph 1).



The graph 1 is showing prevalence of self medication at a more rate in females as compared to males. It may be due to they felt it cumbersome or problematic to visit to a healthcare professional. The results are in consonance with the findings of Ketis *et al*., 2011 although the data was not statistically significant. When effect of age was studied, it showed that practice of self medication was 20% more ($p<0.05$) in males of the age group of 36-59 years than their counterparts. In females, self medication was 10% more in younger females although the data was statistically not significant.

3. Last visit to doctor or when they visited a medical health professional - Out of 445 people who practised self medication

Category	Number	Frequency of health care provider visit in last 1 year
Male (19- 35 yrs)	86	Twice
Male (36 - 59 yrs)	129	Thrice
Females (19 - 35 yrs)	126	Didn't go
Females (36 - 59 yrs)	104	Once

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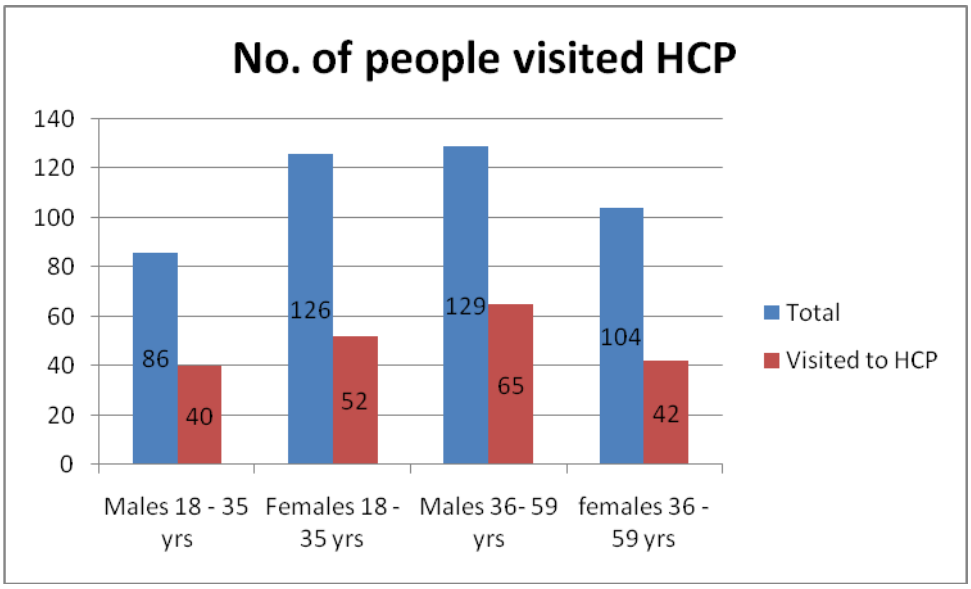
Table 1: Frequency of healthcare professional visit during last 1 year

Table 1 is showing frequency of health care professional by different category of people. It is showing that elder adult males and females went more to visit health care professional in comparison to their younger counterparts. Younger females avoided visit to doctor. It may be due to time taken in visit or distance or they don't think it is important or they knew what they should take. Similar types of results were found by Ketis *et al*. (2011).

4. Do you go to a health care professional for routine health check up or yearly complete body check up?

As shown in graph 2, in the category of 19-35 years, males & females didn't go to a health care professional for routine visit or full body check up, although 40 males out of 86 went to gym instructor & 52 females out of 126 visited dietician or dentist for cosmetic purposes. In elder section, 50% of adult males & 40 % of adult females visited health care professional for routine or full body check up as it was a facility provided by the employer or it was covered under mediclaim policy. This was significantly low number ($p<0.01$) of people as compared to total number.



Graph 2 Number of people visited health care professional (HCP)

5. How many times they took medicine themselves during last one year?

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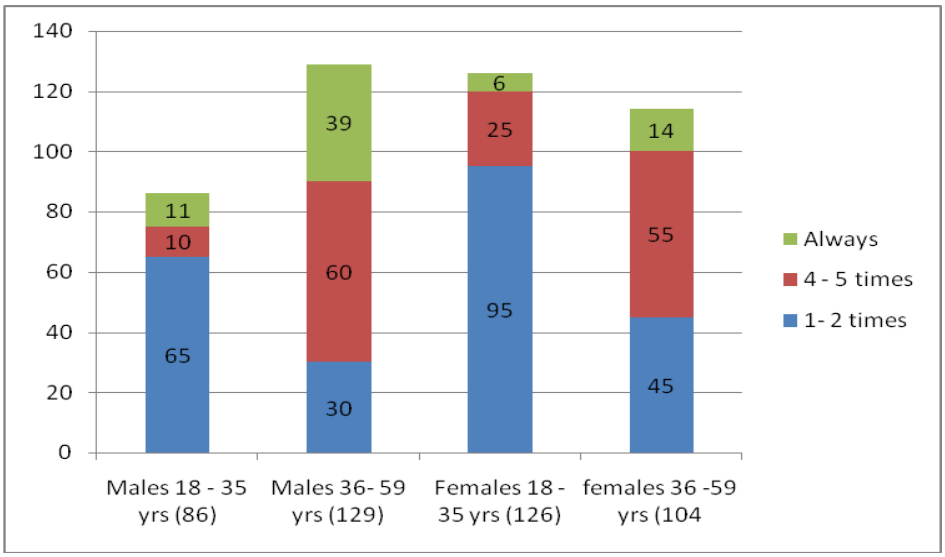

Graph 3. Frequency of self medication during last 1 year in different age & sex groups

As shown in Graph 3, it is clear that 95% females in the age group of 18 - 35 years took self medication 1- 2 times during last 1 year, while 36 - 59 years of male showed maximum frequency of self medication, i.e., sixty percent people in this group practised self medication 4 -5 times which was remarkably significant number ($p<0.01$) of people.

6. What was the health problem or condition when they used self medication - As per graph 4, its evident that majority of self medication was practised for acidity (49.44%) followed by fever (22.47%) & headache (13.48%). Usage of antacids is remarkably high ($p<0.01$) when compared to other groups. Present findings are in very much agreement with Esan *et al*. (2018) who also presented drastic use of antipyretic & analgesics followed by antimalarial drugs. This is because acidity is the most common problem of today's time due to faulty diet & lifestyle.

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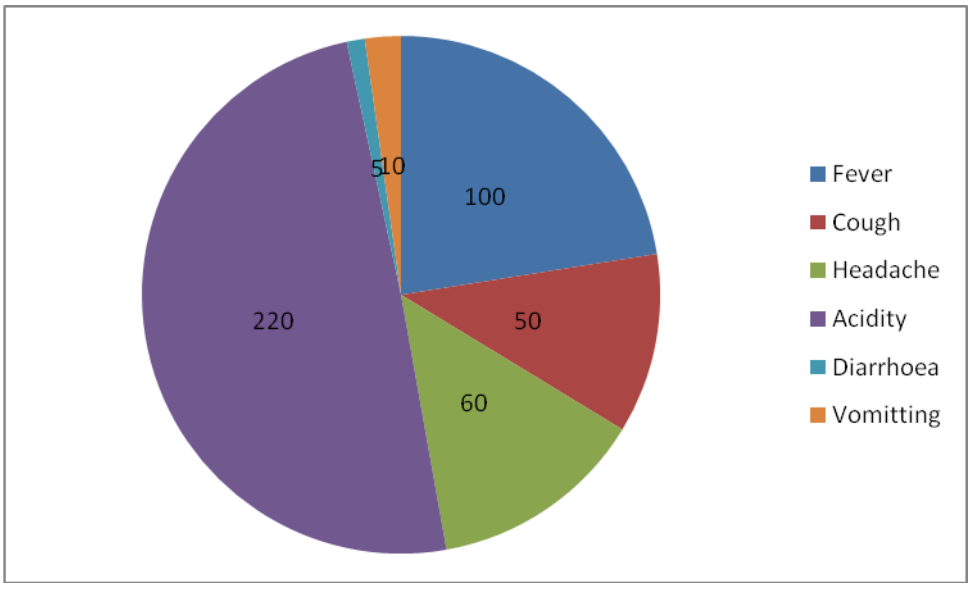

Graph 4. Conditions where self medication practised

7. Do you consume any multi mineral & multi vitamin also without medical health professional's advice?

Graph 5 is showing that 70.36% females in the age group of 18 - 35 years females practised self medication for multi vitamins that was follwed by females (36 - 59 yrs) 67.30%, males (36 - 59 yrs) 45.73% and males (18 - 35 yrs) 29.03%.

It may be attributed to the fact that younger females used it for cosmetic point of view as multi mineral & vitamins are associated with clean & glowing skin & acne free face that is evident by study of Keen & Hassan (2016) who depicted that this vitamin gives our skin a protective covering from various harmful effects of Ultra Violet rays of the sun by acting as an antioxidant or free radical scavenger.

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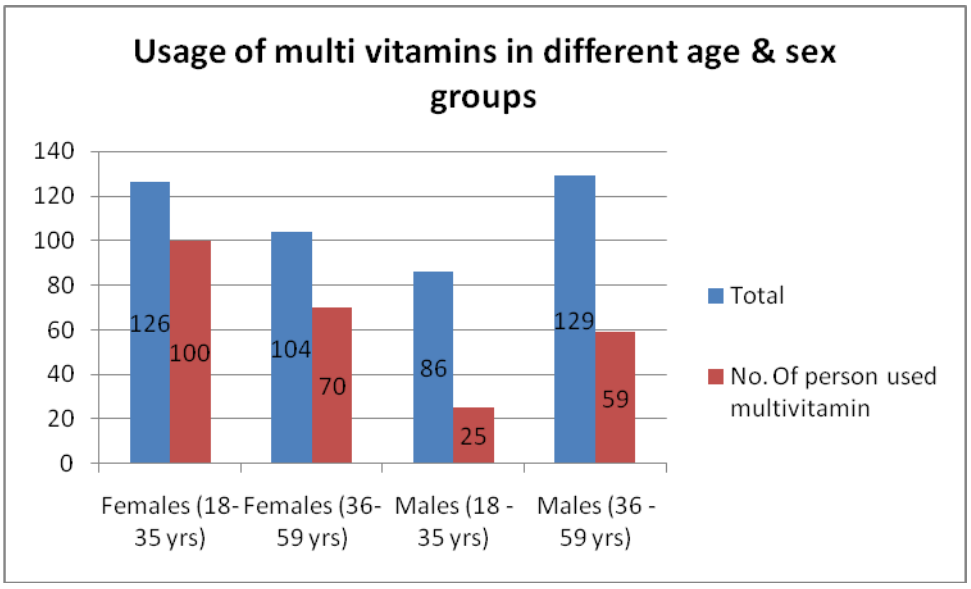

Graph 5. Usage of multi vitamins without doctor's prescription in different age & sex groups

8. Do you consume any nutraceutical or supplementary protein powder also for weight or muscle build up?

In response to this question, males between age group of 18 - 35 yrs were on top than any other group (Table 2). Majority of them were taking this after suggestion of gym instructor or by influence of other people coming to gym for a more masculine personality. Pasiakos *et al*. (2015) described role of protein supplements on building up of muscle mass in trained and untrained adults.

Category	Total	No. of people consumed protein supplement
Males (18 - 35 yrs)	86	68
Males (36 - 59 yrs)	129	15
Females (18 - 35 yrs)	126	10
Females (36 - 59 yrs)	104	Nil

Table 2. Consumption of protein supplement by different age & sex groups

9. How they decided medicine for the particular condition if they didn't visited doctor.

In regards of this question, majority of youngsters showed internet surfing was the method for selection of any medication, while for adults population, telling symptoms to chemist

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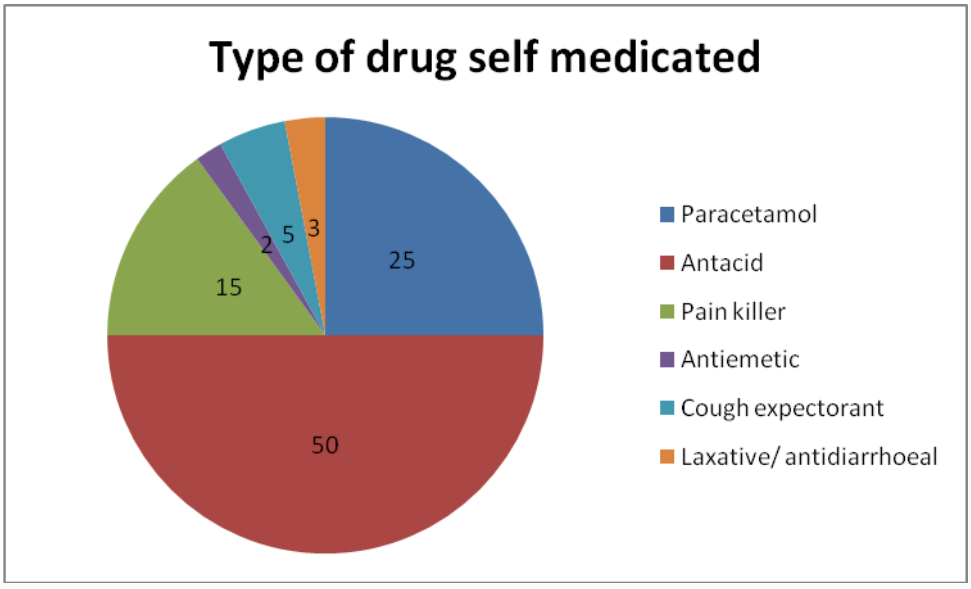
was most practised trend for choosing any drug. Adult females consumed drug after some family member's advice.

10. Which medicine they consumed ?

a. Paracetamol / any other anti pyretic, b. Pain reliever (Analgesic), c. Antacid, d. Anti emetic, e. Cough expectorant, f. Laxative/ antidarrheal



In response to this question, majority of patients 50% ($p<0.01$) consumed antacids followed by paracetamol (30%) that is an antipyretic and pain killer (analgesics) 20% as shown in graph 4. This is similar to the results of Esan *et al*. (2018).

11. Did you face any negative consequence or side effect after taking any drug?

Majority of people didn't face any major side effect only some minor problems were notified like nausea, acidity or loose motions after taking these medications. But it may create multiple drug resistance syndrome if taken irrationally as evidenced by the study of Rather *et al*. (2017).

12. Do you agree is self medication the right practice?

Majority of people (350 out of 445) ($p<0.01$) agreed that this is not a right practice still they were following it just because of comfort & convenience.

Conclusion

The present study showed the practice of self medication by different age & sex groups. Out of 500, 55 people didn't follow self medication. Remaining 445 who practised self medication, were divided into four categories: a. Females (18 - 35 yrs) - 126, Females (36-

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59 yrs) - 104, c. Males (18 - 35 yrs) - 86 & d. Males (36- 59 yrs) - 129. The data showed statistically ($p<0.05$) high usage of medicines without doctor's prescription. Usage of protein supplement was more in younger males while younger females presented a trend of high consumption of multi mineral & vitamins. Majority of people (78.65%) were agreed that it's not a right practice as it may cause some serious hazard like drug reaction or drug resistance if taken for prolonged period of time. Therefore there is a need to make people aware for rational use of medicines with health care professional's prescription only.

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