

Role of Clinical Pharmacists in Unraveling the Myths Related to Pharmacological Care in General Population

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Abstract: Myths related to health are common and arise for a variety of reasons. When it comes to health it is best to rely on the information based on facts. Treatment becomes more difficult if myths overcome the therapeutic instructions, which ultimately leads to deterioration of the health care services. The main objective of the study was to find out the attitude of the general community on myths of health care management, to give pharmaceutical counseling to clear myths, and to re-evaluate the attitude of community on their past myths. A community based survey was conducted on 200 study subjects in the Mangalore region for a duration of 6 months was conducted as per the Ethics Committee of Srinivas Institute of Medical Science and Research Centre. The subjects included in the study were adults above 18 years of age, who can understand English/Malayalam. Data were analysed with the help of excel 17 and SPSS 20. While analyzing the data from a total of 200 subjects, it was observed that 92(46%) subjects were male and 108(54%) were female. The subjects in the present study were not aware or doesn't have adequate knowledge regarding the myths and facts related to health care. The study found that 71-80% of subjects were following the myths and was not aware of the fact. And after giving the counselling the study exhibited that majority of our subjects started to unfollow the misconceptions. Our study speculate the role of the pharmacist to rule out the myths regarding health care and lifestyle by giving counselling to the community and after reassessing, we could find a change in people's attitudes towards the myths. Through our counselling, we are able to bring awareness among common people about drug administration so we are able to prevent the risk that may occur due to misconceptions among common people. Thus this study analyses the effectiveness of clinical pharmacists in giving the perception regarding myths and can decrease the burden of the other health care professionals.

Keywords: Misconception, Facts.

1. Introduction

The WHO (world health organization) defines Health as a state of complete physical, mental and social wellbeing. It refers not only to the absence of disease but the ability to recover and rebound back from illness and other problems. Factors which

are important for good health include genetics, the environment, relationships, and education. A healthful diet, exercise, monthly check-ups, and coping strategies can all enhance a person's health [1]. Myths adheres to public minds because we stick on to the biases we already have in the first place. Often people only select and choose information that are matching to what we had been already believed in. Pharmacological myths persist for many reasons, including medical assumptions, case reports, and tradition they have been followed. Few areas of life are as full of misinformation and evaded facts as personal health. It's an arena where the coldly scientific and the deeply emotional overlap, so it's not surprising that some things would get misstated or misrepresented [2]. If we see the adverse side of the treatment part, according to Naranjo's causality assessment scale 44.93% of patients were found to have possible relation with the drug. As per WHO scale the 44.57% of patients were found to have probable as highest. Most of the reactions were mild (48.85%) according to Hartwig and Siegel severity assessment scale. The major class of drugs leading to ADRs was reported as Antibiotics (35.33%). The types of drug therapy problems occurring most often were incorrect information (misinformation) (40.7%), prescription clarification (39.6%), clinical problems (10.4%), and inappropriate drugs (9.3%) [3].

With this worse healthcare provider and patient ratio, we are struggling to give proper health services to the required ones. And it becomes more horrible if some myths start rumoring around the health care system. Treatment becomes more difficult if myths overcome the therapeutic instructions, which ultimately leads to deterioration of the health care services. The widespread of information technology (IT) brings many potential benefits to health care. Also, problems with IT can disturb the delivery of care and increase the likelihood of latest, often unforeseen, errors that affect the security, quality of clinical care and can even cause patient harm. Our capacity to reap the benefits of IT and manage new threats is contingent

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upon understanding how IT problems can disrupt care delivery and pose threats to patient safety.

Myths keep alive by telling and retelling. They even have value: in other contexts they're a source of comfort, and help people explain where they come from, why universe is as it is, and why things are the way they're. However, they shouldn't have any such privileged place in evidence informed public health. As new data become available, we would encourage public health practitioners and researchers to eliminate myths when opportunities present themselves to do so as part of a commitment to evidence-informed public health practice and the evolution of public health training programs and curriculum. We have presented a selection of prominent and pervasive myths in public health. As the field continues to grow and debate, more myths likely will be generated and it is fully acknowledged that there is a larger set of myths in our field [4].

2. Methodology

A survey-based interventional study on 200 study subjects in the Mangalore region for a duration of 6 months. The study protocol was approved by the Institutional Ethics Committee of Srinivas Institute of Medical Science and Research Centre, Mukka, Mangalore (Reference number: 2019/10/28/6). The study population included in the study were adults above 18 years of age, who can understand English/Malayalam. Inform consent form were prepared in Malayalam and English and same were used. Before selection of subjects the consent form was orally explained to the study subjects before filling it. Data were analysed with the help of excel 17 and SPSS 20.

3. Result

Demographic Details of Study Population

A total of 200 subjects were enrolled in the study. From the collected data it was observed that 92 (46%) subjects were male and 108 (54%) were female.

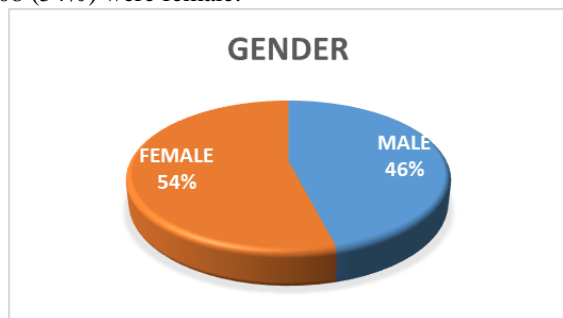


Fig. 1. Demographic details of study population

Demographic Details According to Educational Qualifications

Out of the 200 subjects 143 (71.5%) had education level up-to post-graduation, 11 (5.5%) had High school, 27 (13.5%) had Intermediate level education, while 4 (2%) had Middle school, 5 (2.5%) were Primary school and 10 (5%) did not declare educational level.

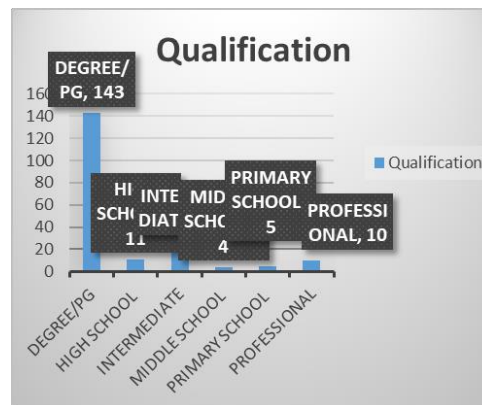


Fig. 2. Demographic details according to educational qualifications

A. Assessment of knowledge

After analysing the report, it was understood that out of 200 samples, 83 (41.5%) people disagreed with “When medication brings your blood pressure down you can stop taking it” and but the number increased to 186 (93%) when same was asked post-counselling during follow up. In pre counselling survey only 27 (13.5%) people disagreed to “If you’re really hurting, you can ignore the label and take more pills” but after counselling it was up to 163 (81.5%). For the myth “I feel better so there is no need to continue taking my prescription medication” 36 (18%) people disagreed before counselling which improved after counselling and reached to 158 (79%). While analysing on myth “Generic medications have more side effects than the brand”, about 106 (53%) people disagreed before counselling which increased to 182 (91%) people in post counselling follow up. 116 (58%) disagreed to the myth “Medication can be swallowed with the sip of any drink” but post counselling it climbed to 182 (91%) people. Out of 200 participants 106 (53%) people disagreed to “Antibiotics are an effective treatment to relieve for cold & flu symptoms” and after counselling it became 170 (85%). 62 (31%) people disagreed to “Your doctor doesn’t need to know which vitamins you take” before counselling and it increased to 151 (75.5%) after counselling. Out of the total 200 subjects it was found that 55 (27.5%) people disagreed to “I have borderline diabetes so I don’t need to worry” pre counselling and it increased to 151 (75.5%) post counselling. 116 (58%) people disagreed to “Dementia is a natural part of aging” before counselling and it shoots up to 181 (90.5%) after counselling (Table 1).

Percentage	Pre	Post
0-10%	5	0
11-20%	26	0
21-30%	46	0
31-40%	36	0
41-50%	38	0
51-60%	21	0
61-70%	22	29
71-80%	4	81
81-90%	2	58
91-100%	0	32

The table shows the percentage of people who said the correct answers before the counselling and after the

counselling. Before the counselling only a few number of al did a study titled, “Crushed tablets: Does the administration

Table 1
Knowledge regarding Healthcare related Myth and Fact

Health care related myths		Pre		Post		chi-square with Yates correction	P value
		Count	%	Count	%		
When medication brings your blood pressure down you can stop taking it.	Agree	117	58.5%	14	7%	118.10	< 0.00001
	Disagree	83	41.5%	186	93%		
If you're really hurting, you can ignore the label and take more pills.	Agree	173	86.5%	37	18.5%	182.7068	< 0.00001
	Disagree	27	13.5%	163	81.5%		
I feel better so there is no need to continue taking my prescription medication.	Agree	164	82%	42	21%	146.54	< 0.00001
	Disagree	36	18%	158	79%		
Generic medications have more side effects than the brand.	Agree	94	47%	18	9%	69.75	< 0.00001
	Disagree	106	53%	182	91%		
Medication can be swallowed with the sip of any drink.	Agree	84	42%	18	9%	55.60	< 0.0001
	Disagree	116	58%	182	91%		
Antibiotics are an effective treatment to relieve for cold & flu symptoms.	Agree	94	47%	30	15%	46.39	< 0.00001
	Disagree	106	53%	170	85%		
Your doctor doesn't need to know which vitamins you take.	Agree	138	69%	49	24.5%	77.77	< 0.00001
	Disagree	62	31%	151	75.5%		
I have borderline diabetes so I don't need to worry.	Agree	145	72.5%	49	24.5%	90.33	< 0.00001
	Disagree	55	27.5%	151	75.5%		
Dementia is a natural part of aging.	Agree	84	42%	19	9.5%	53.56	< 0.00001

people said the correct answers. That is only 4 people were between 71-80% while only 2 people were in category 81-90%. So we can understand that out of 200 people less than 10 people have a good knowledge regarding the myth. The rest of the people were following the myths that persist in the society. Before the counselling 5 people came between 0-10%, 26 people came between 11-20%, 46 people came between 21-30%, 36 people came between 31-40%, 38 people came between 41-50%, 21 people between 51-60% and 22 people between 61-70%. After the counselling a drastic increase in the number of people who answered the correct answers were noticed. Nobody came below 60%. 29 people came between 61-70%, 81 people came between 71-80%, 58 people came between 81-90% and 32 people came between 91-100%. That is after the counselling many people started to ignore the myth that was persisting in our society.

4. Discussion

Myths can cause deteriorating effect on patient's health. The myth related to health care services not only increases the burden on the healthcare system but also worsening the condition of patients. Kishore J et al did a study titled “Myths, beliefs, and perceptions about mental disorders and health-seeking behavior in Delhi, India” and concluded that myths and misconceptions are significantly more common in rural areas than in urban areas and also among medical professionals. They also reported that the people need to be communicated to change their behaviour and develop a positive attitude so that health-seeking behaviour can improve [5]. One of the common myth found in the general population is “Medication can be swallowed with the sip of any drink” through our study we analysed the attitude of the common people, most of the people were not aware of the fact that it can't be taken with any sip of drink it may lead to alteration of drug release. Y Manrique et

of food vehicles and thickened fluids to aid medication swallowing to alter drug release” study concluded that thickened fluid has the potential to retard or decelerate drug dissolution when used at the thickest levels. People are not aware of the drug food interactions that may lead to several adverse effects, for e.g, swallowing Simvastatin with grape fruit may lead to the alteration of drug metabolism [6].

On the analysis of the response of question, “Antibiotics are an effective treatment to relieve for cold & flu symptoms.” we found that most people are taking antibiotics unnecessarily for cold and flu symptoms and the common people are not aware of the fact that taking antibiotics for cold may lead to the development of antibiotic resistance. Arch G Mainous III et al did a study titled “Antibiotics and upper respiratory infection: do some folks think there is cure for the common cold.” Study suggested that majority of persons receiving treatment for common cold are given prescription for unnecessary antibiotics and this unbounded practice may lead to greater antibiotic resistance and unnecessary use of health care resources [7].

Attitude of people towards pre diabetic conditions in our study we found that most of the people are taking less care on pre diabetic condition only few people are taking care of their blood sugar value. Most of the people thinks that they are having borderline diabetes so they don't need to worry they are not aware of the fact that taking less care may lead to serious conditions. Earl S. Ford et al did a study titled “Pre diabetes and risk for cardiovascular disease A systemic review” this study found that hyperglycemia is a known risk factor for cardiovascular diseases [8].

Through our study we came to know that most of the people agreed that “If they're really hurting, they can ignore the label and take more pills and only few disagreed. They are not aware of the serious adverse effects that occur while taking more pills and it can be fatal. For e.g. paracetamol overdosing it can lead

to liver failure, encephalopathy, hypoglycemia, kidney failure. Silvia S Martins *et al* did a study titled “Worldwide prevalence and trends in unintentional drug overdose: A systematic review of the literature” this study revealed that overdose deaths, drug overdose is not just an urban problem; there is significant increase in over dose deaths in rural areas also. It is due to the lack of proper awareness among the common people [9]. Barnes MN *et al* did a study titled “Reducing Inappropriate Antibiotic Prescribing for Acute Respiratory Tract Infections” study says that Pharmacists can play a significant role in educating, counselling patients and providers about the impact of inappropriate prescribing, making alternative non-prescription recommendations to providers and patients who are seeking options for symptom alleviation, and dealing at the forefront of antibiotic stewardship efforts [10]. In the same manner this study also has clearly shown that percentage of people following the myth were very high, prior to the counselling. The pharmaceutical care in the form of counselling, to create awareness among the general public has emerged as an effective tool. It will not only reduce the burden on health sector due to health complication resulted because of myths, but also reduce the health care cost for the patients.

5. Conclusion

Nowadays a lot of myths persist in our society for many reasons including health care. Development of drug resistance, medication adherence, and other drug related problems are the after effects of these misconceptions among common people. Currently, our study shows that these myths related to health care are ruling more among the people which may increase the burden on the health care system but also worsening the condition of patients. In this study, an effort has been made to give the counselling to clear the myths and to recess the attitude of the community on their past myth. Our study focuses on what pharmacists can do to rule out the myths regarding the health

care by providing counselling to the community and after reassessing, we could find a change in people's attitudes towards the myths. By providing counselling, we are able to bring awareness among common people about drug administration so we are able to prevent the risk that may occur due to misconceptions among common people. Thus, this study analyses the effectiveness of clinical pharmacist in giving the perception regarding myths and can decrease the burden of the other health care professionals.

References

- [1] Jadad A, O'Grady L. How should health be defined? *BMJ*.2008;337
- [2] The 20 Health and Wellness Myths That Can Negatively Influence Your Well-being [Internet]. *Develop Good Habits*. 2020 [cited 29 February 2020]. Available from: <https://www.developgoodhabits.com/health-myths/>
- [3] Smith C, Christensen D. Identification and Clarification of Drug Therapy Problems by Indian Health Service Pharmacists. *Annals of Pharmacotherapy*, vol. 30, no. 2, pp. 119-124, 1996
- [4] Viehbeck S, Petticrew M, Cummins S. Old Myths, New Myths: Challenging Myths in Public Health. *American Journal of Public Health*. vol. 105, no. 4, pp. 665-669, 2015.
- [5] Kishore J, Gupta A, Jiloha RC, Bantman P. Myths, beliefs and perceptions about mental disorders and health-seeking behavior in Delhi, India. *Indian journal of Psychiatry*, vol. 53, no. 4, pp. 324, 2011.
- [6] Manrique Y, Lee D, Islam F, Nissen L, Cichero JA, Stokes J, Steadman KJ. Crushed tablets: does the administration of food vehicles and thickened fluids to aid medication swallowing alter drug release?. *Journal of Pharmacy & Pharmaceutical Sciences*, vol. 17, no. 2, pp. 207-19.
- [7] Mainous III AG, Hueston WJ, Clark JR. Antibiotics and upper respiratory infection: do some folks think there is a cure for the common cold?. *Journal of Family Practice*, vol. 42, no. 4, pp. 357-62, 1996.
- [8] Ford ES, Zhao G, Li C. Pre-diabetes and the risk for cardiovascular disease: a systematic review of the evidence. *Journal of the American College of Cardiology*, vol. 55, no. 13, pp. 1310-7, 2010.
- [9] Martins SS, Sampson L, Cerdá M, Galea S. Worldwide prevalence and trends in unintentional drug overdose: a systematic review of the literature. *American journal of public health*, vol. 105, no. 11):e29-49, 2015.
- [10] Barnes MN, Cleveland C, Williams L. Reducing Inappropriate Antibiotic Prescribing for Acute Respiratory Tract Infections. *US pharmacist*, vol. 41, no. 7, pp. 16-9, 2016.