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A cross sectional study of patients knowledge and attitude towards the drug-drug interactions in Coimbatore district, India

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Abstract

The current objective of this study was to assess the patient's knowledge and attitudes toward the drug-drug interactions, a survey instrument included questions about the patient's demographic information, familiarity with drug-drug interactions, usage of other system of medicines and the patient's comfort level when discussing drug-drug interactions.76% believed that drugs won't produce any interactions with other drugs. 58% of participants indicated that they were taken both allopathic and other system of medicines without the notification of physician. 64% of the respondents were stated that they were not able to communicate with the physician properly. The result of the current study reveals that the patients not having enough knowledge about drug-drug interactions and further indicates that the communication issue is a major factor for the drug-drug interactions. Hence the remedy suggested for reducing the drug-drug interactions are to enhance the time of counseling, and providing seminars, awareness, and programs regarding the need of effective communication and drug-drug interactions information to the overall population.

Keywords: Allopathic drugs, Communication, Physician, Interactions

1.Introduction

A drug interaction is a state in which a substance disturbs the activity of a drug when both are administered simultaneously. This action can be an antagonistic or synergistic or a new effect can be caused that neither produces on its own. Normally, interactions between drugs come to drug-drug interaction. But, interactions may also exist between drug-food interactions, as well as herb-drug interactions. People receiving antidepressant drugs such as monoamine oxidase inhibitors should not consume food containing tyramine as hypertensive crisis may produce. These interactions may occur out of accidental misuse or due to lack of knowledge about the active ingredients involved in the relevant substances[1,2].

It is simple procedure to position these pharmacological interactions in the exercise of medicine. If a patient is consuming two drugs and one of them enhances the effect of the other it is possible that an overdose may produce. The interaction of the two drugs may also enhance the risk that side effects will appear. On the other hand, if the action of a drug is decreased it may reduce the therapeutic activity because of under dosage[3]. It should also be considered that there are interactions that, from a theoretical perspective, may occur but in clinical practice have no important outcomes.

The pharmaceutical interactions that are of unique interest to the system of medicine are principally those that have undesirable effects for an organism. The risk that a pharmacological interaction will appear enhances a function of the number of drugs consumed by a patient at the same time. Drug interactions may be the outcome of different processes. These processes may comprise alterations in the pharmacokinetics of the drug, such as modifications in the absorption, distribution, metabolism, and excretion of a drug. Otherwise, drug interactions may be producing the pharmacodynamics properties of the drug [4,5].

The change in an organism's response on consumption of a drug is a vital factor in pharmacodynamics interactions. These variations are extremely difficult to classify given the extensive

variety of modes of action that exist and the fact that many drugs can produce their effect through a number of distinct mechanisms. This wide range also means that, in all but the maximum obvious cases, it is essential to investigate and recognise these mechanisms. The rational suspicion occurs that there are further unknown interactions that known ones[6].

Alterations in the effect of a drug are produced by changes in the absorption, transport, distribution, metabolism or excretion of one or both of the drugs assessed with the predictable behaviour of each drug when consumed individually. These variations are occurring because of the modifications in the concentration of drugs[7]. A study states that, adults older than 55 in US, 4% are acquiring medication that put them at chance of a major drug interaction. Potential drug-drug interactions have enhanced over time and are more familiar in the low educated elderly even after regulatory for age, place of residence, sex, and comorbidity[8, 9].The aim of this study is to investigate the knowledgeand attitude towards the drug-drug interactions among the patients in Coimbatore, India.

2. Methods

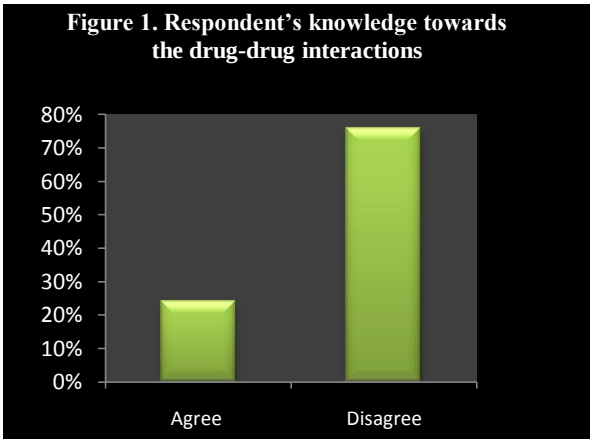
This study was carried out using a cross-sectional design; a pretested, pre-validated structured and anonymous questionnaire was administered to a sample of 620 South Indian adults (anybody who appeared to be 18 years old or above) after obtaining verbal informed consent to participate in the study. The research assistants collected the questionnaire from respondents after completion on the spot. The questionnaire was developed by reviewing available questionnaires in the literature. The survey questions was initially created in English, and then translated into regional language. Researchers interviewed patients if they were unable to read the survey questions. Survey completion was voluntary, no incentives were provided, and the subjects were assured that their responses would be kept confidential [10,11]. Consequently 6 revised questions were used in the questionnaire. Data were collected between March to May 2014. Participant's knowledge and attitude towards the drug-drug interactions were evaluated.

3. Results

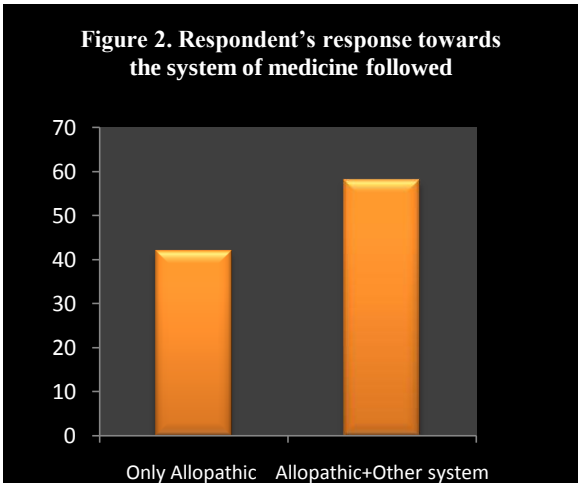
A questionnaire was distributed to the total of 620 members and the majority of respondents (45%) were female and 55% were males (Table 1). 76% believed that drugs won't produce any interactions with other drugs. Only 24% showed the knowledge about the drug-drug interactions (Figure 1). From the study, maximum of respondents indicated that they were less knowledgeable about drug-drug interactions.

Table 1: Distribution of data of the 620 respondents

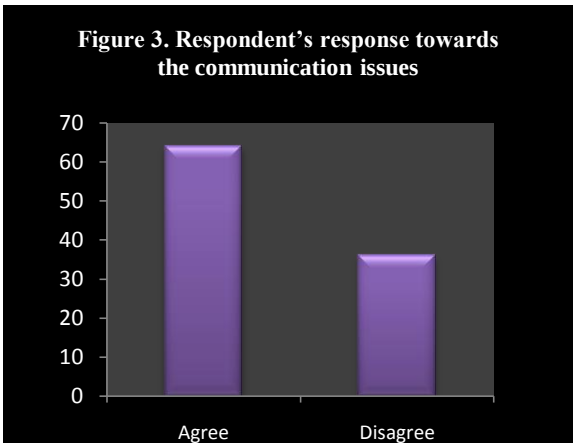
Male		Female	
Number	**Percentage**	**Number**	**Percentage**
341	55	279	45



42% of respondents stated that they were used only the allopathic medications.58% of participants indicated that they were taken both allopathic and other system of medicines without the notification of physician (Figure 2). This statistics further prove that the majority of the patients were not aware of the drug-drug interactions can be occurring with drugs and other system of medicines.



In our current study, two third of respondents (64%) were stated that they were not able to communicate with the physician properly. 36% of the patients indicated that their communication level is good with the physician (Figure 3). The patients were not able to explain properly about the use of medicines (other system of medicines) for the management of disease. This further indicates that the communication issueis a key factor for the drug-drug interactions.



4. Discussion

The information needs of community pharmacists differed considerably from general practitioners, and pharmacists were overwhelmed by inappropriate alerts because of a lack of specificity of their drug-interaction systems. Substantial improvement of drug-interaction software systems is thus required at least in two important aspects, the suppression of inappropriate alerts and the tailoring to the needs of the user[12,13].

One of the important factors to have an impact on general adult is the communication issues with the physician. In fact, several earlier studies have reported that patient's improper communication was the most cited reason for physicians' drug-drug interactions[6,12]. Therefore, a major change in effective communication is required to reduce the drug-drug interactions and to raise awareness about proper patient-physician communication that will help to improve the better outcome.

The current study reveals that, the patients were had less knowledge about the drug-drug interactions and the interaction of the allopathic drugs and other system of medicines.Therefore, there is a lack of effective communication with the physician regarding the use of drugs and other system of medicines. To resolve this issue, future interventional guidelines need to improve the knowledge about the communication of drugs with physician among South Indian people.

To achieve this, the authors suggest a number of necessary keystones for to avoid communication issues. Those are, enhancing the time of counseling, and providing seminars, awareness, and programs regarding the need of effective communication with the physician regarding the other system of medicines they followed and drug-drug interactions information to the overall population.

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