

Attitudes Of Medical Students Towards Relationship With Pharmaceutical Company: Do We Need A Change?

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ABSTRACT:

Purpose: Promotion by pharmaceutical company often takes advantage of mental shortcuts. Significant deficiencies have been found in student's knowledge about pharmaceutical marketing expenditures, professional ethics and accuracy of drug information. The purpose of study was to assess the attitudes of medical students towards relationship with pharmaceutical companies and drug promotion by them. **Methods:** To assess the attitudes, a pre-validated questionnaire consisting of 18 questions was designed. Questionnaire was distributed when a series of lectures were scheduled for the entire medical class (253 medical students). Completed questionnaires were collected at the end of the session and analysis was done using statistical methods. **Results:** Overall 81% of the medical students were of the opinion that pharmaceutical companies should be allowed to interact with them at the college level. About 95% believe that the information given by MRs is reliable and confirmation of the claims is not required (75% students). Overall 68% students believe that drug promotional offers never compromise the decision making of the physicians. About 70% students think that physicians should be compensated with gifts by medical representatives whenever their drugs are prescribed. **Conclusion:** The medical students are generally not opposed to interact with MR at some point of time or receive gifts from them. Also many students may not be conscious potential subconscious expectations of give-and-take relationship. Perhaps, the insight gained from our study will be used to reinforce the existing teaching curriculum with added emphasis on this issue.

Keywords: Medical Students, Pharmaceutical Company, Medical Representatives, Gifts, Attitudes.

INTRODUCTION:

People tend to use "mental shortcuts" to make quick decisions without the time and effort required to study the pros and cons of all the options. Use of "mental shortcuts" is often an unconscious automatic process and involves relying on others. If others are trustworthy then "mental shortcuts" will usually lead to the best answer. Prescribers often use "mental shortcuts" because they lack the time and sometimes skills required to determine the optimum therapy. Promotion by pharmaceutical company often takes advantage of "mental shortcuts."

Doctors interact with the pharmaceutical industry in various ways. Most common are direct face-to-face visits from company representatives. The main promotional thrust of a pharmaceutical industry is through its medical representatives (MRs). MRs are at the doctor's clinic to promote their companies' products. MRs profoundly affect the way a doctor prescribes. Their bottom line is "prescribe my drug". This is only one way that drug

companies try to influence the doctor's prescription. There are other ways too such as giving away gifts, drug samples, sponsorship of conferences etc.

Despite a dramatic increase in direct-to-consumer advertising, nearly 90% of the pharmaceutical industry's marketing budget is still aimed at physicians including medical students [1]. Many are concerned that drug company marketing poses serious ethical problems that can weaken the physician-patient relationship [2,3]. It is felt that physician-industry interactions may influence physician's decision making and lead to inappropriate prescribing. This potential conflict of interest adds a non medical dimension to patient care which can do more harm than good.

As the major source of information to a majority of doctors and pharmacists, MRs have a role in helping practitioners to know about the drugs available in the market and their costs. It is the practitioner's duty to use MRs while taking care not to be unduly influenced by their sales pitch. There is nothing inherently improper about any of these interactions, provided that the medical profession, collectively and individually, is fully and openly aware of the effect of the interactions and make sure that all such interactions are transparent to the community, and that doctors are capable of negating any undesirable effects on their prescribing habits. At present, none of these provisions are being met.

The drug industry, the medical profession and the patient have a unique relationship. The industry makes products which it cannot sell to the patient (consumer) directly. On the other hand, the medical profession cannot treat the patient without drugs produced by the industry. Thus the industry and medical profession are interdependent with a common aim. The primary objective of this joint effort is to alleviate pain and suffering. The secondary objective is to be rewarded for this effort. The drug industry expects a profit and the physician expects a suitable reward. There is nothing improper in these objectives [4].

As in all partnerships, there can be conflict between the partners. One major area of conflict is the industry's tendency to influence doctors. Pharmaceutical companies often use effective methods of influence in combination with misleading "logic". This may have adverse impacts on prescribing. More frequent and/or intense exposure to promotion correlates with increased prescribing volumes and more expensive and less appropriate prescribing [4]. Two reviews of literature have examined the extent of the physician-pharmaceutical company interactions and its impact on physician behavior and found strong evidence that such interactions have a negative impact on physician knowledge, attitude, and behavior [2,5].

If drug promotion leads to better prescribing, more scientific use of medicines or improved cost-effectiveness then there would be no concern. But on the contrary, heavy promotion of new drugs leads to widespread prescribing and use before the safety profile of these products is fully understood. Newer and more expensive medicines displace older, less costly ones without evidence of an improvement in outcome [6]. This has ethical implications for doctors, as it affects the trust required in the doctor-patient relationship. Doctors need to recognize they are affected by drug marketing, and take steps to maintain their independence from the pharmaceutical industry [7].

The first interaction of doctors and the pharmaceutical industry often occurs in medical colleges. From free pens and writing pads, lunches to sponsoring educational seminars, medical students are snowed under the medical freebies. Critics argue that allowing drug companies to offer gifts to medical students may influence the student's prescribing behavior when they become physicians [8].

Significant deficiencies have been found in student's knowledge about pharmaceutical marketing expenditures, professional ethics in interacting with drug companies and accuracy of drug information from medical representatives. So medical colleges should do more to educate students about pharmaceutical marketing strategies and how these strategies may affect prescribing behavior [9,10].

Objectives: The purpose of the present study was to assess the current attitudes of medical students towards relationship with pharmaceutical companies and drug promotion by them. The broad objectives included:

- To observe their willingness to interact with MRs and to assess their knowledge of Drug Promotional Offers.
- To assess the trust placed on the information provided by MR and need for crosschecking it.

- To assess their understanding of the aim of pharmaceutical drug promotion and to know their views on need for drug promotion by pharmaceutical company.

MATERIAL & METHODS

To assess the attitudes of Medical Students at Smt. Kashibai Navale Medical College & Hospital (SKNMC), Pune towards relationship with pharmaceutical companies and drug promotion by them, a questionnaire was designed. The questionnaire was previously prevalidated in a study done by Joseph B et al [10] and after adding some items; complete questionnaire was prevalidated in small group of resident doctors at SKNMC, Pune. After the approval of Institutional Ethics committee, it was administered to the study participants. The study population included First year MBBS (100 students), Second year MBBS (88 students) and Third year MBBS (65 students) willing to voluntarily participate in the study. The study was carried out on a day when a series of lectures were scheduled for the entire medical class in the same room. The questionnaire was distributed to every student during 10-15 minutes break time after morning lectures. Three sessions were administered in total, one for each medical class. At each session, a short presentation about the purpose of the study and its implication was delivered. Information sheet and the consent form were distributed to every student prior to the start of study.

The questionnaire consisted of total 18 questions. The first part of the questionnaire included the personal information of the medical student including age, sex, year of study and whether or not the student had a one of the parent who was a doctor. While in the second part, questions were formulated to elicit their personal beliefs and test them using hypothetical situations so as to assess their attitude with respect to the points mentioned in aims and objectives. The final question was open ended asking the student to describe their views about the interaction between medical students and the pharmaceutical industry. Completed questionnaires were collected at the end of session and analysis was done using statistical methods. No incentives in any form were given for completing the questionnaire.

Statistics: For each question, we calculated the percentage of students responding in each category. Responses to the questions were analyzed such that first response ('always') and second response ('sometimes') indicates agreement with the statement while the third response ('never') indicates disagreement with the statement. The responses of the medical students to the questions were analyzed as percentage of those surveyed who agree or disagree with the statement.

OBSERVATION & RESULTS

Total 253 medical students participated in the study. Altogether 253 students participated in the study voluntarily. About 60% of the students were male and 40% were female. 44% of first year students who participated in the study were having one or both of their parents as doctors, while 32% of second year and 35% of final year students were having doctor parents.

It was found that overall 81% of the medical students were of the opinion that pharmaceutical companies should be allowed to interact with them at the college level. Also it was observed that when they were asked about their awareness of attractive promotional offers of pharmaceutical companies, about 48% were aware of more than four types of offers ranging from drug samples, gifts, sponsoring tours, direct sale of drug at low price and arranging college events. In addition, 81% students were attracted towards quality of drug promotion by MR and 51% were attracted towards their familiarity with particular brand promoted by MR time to time, while 54% were giving importance to the newness of product (table 2).

Out of 253 students participated, 94% students were of the opinion that pharmaceutical companies should be allowed to sponsor different college events in a medical college. About 95% students believe that the information given by MR is reliable and confirmation of the claims made by MR is not required (75% students). Overall 68% students believe that drug promotional offers never compromise the decision making of the physicians. Also, opinion of the drug to be prescribed and opinion of brand to be prescribed by physician is not changed by the drug promotion by MR, as believed by 64% students (table 3).

About 70% students think that physicians should be compensated with gifts by medical representatives whenever their drugs are prescribed. Also, 74% students think that promotional gifts and samples are necessary to prescribe the same advertised drug or brand. When they were questioned about their preference to prescribe one drug out of three drugs from three different companies which are identical in terms of price, efficacy, and safety, 71% students were of the opinion that they would preferentially prescribe a drug from one of the companies that would provide them with expensive gifts over those from companies that would not (table 4).

As shown in figure 1, overall 69% students were willing to accept the gifts, 55% students were willing to accept gifts of moderate cost, 15% cheap gifts, & 30% students were willing to accept only expensive gifts.

As shown in figure 2, about 60% students believe that drug promotion by MR tells something new, 31% believe that it reminds or re-enforces them what they already know and only 9% students believe that drug promotion by MR does not serve any purpose. Also, when they were asked about their views about pharmaceutical companies, 29% students believed that pharmaceutical companies are fundamentally on the same side as doctors and patients and should be regarded as an important part of health care system (response 1), while 57% students thought they are primarily interested in profit; however they still try to work in the best interest of doctors and patients (response 3). Only 14% were of the opinion that they are fundamentally interested in profit and are never on the side of either doctors or patients (response 2).

Figure 3 depicts attitudes of medical students towards completeness of information given by MR. About 93% students believe that information about indications of drugs given by MR is complete, while 73% believe that information about contraindications of drugs given by MR is complete, and 65% students believe that information about adverse drug reaction given by MR is complete.

DISCUSSION

The present study helps to present an interesting snapshot of how “future physicians” in medical colleges view interactions with pharmaceutical industry and also to stimulate the discussion about the issues concerning the relationship between medical students and the pharmaceutical company.

In a survey of medical students by Barnes and Holcenberg, contact with drug company representatives during medical school was acceptable to over 50% [11]. In our study 81% of students did not rule out interacting with the MR during the course of their undergraduate medical education. This might indicate that the students believe in their ability to make unbiased decisions despite drug companies’ marketing. Another explanation might be probably; that the students who have received more education about the industry during pharmacology training have the better understanding of industry’s agenda and therefore, feel more comfortable interacting with the industry. However, as per Monaghan MS et al. majority of medical students simply do not have the knowledge to fully understand the deep concealed impact of marketing and drug promotion [9]. Many other studies have also suggested that most students support student-MR interactions and feel that the pharmaceutical industry has an important role in medical education [9,12].

Initial study by Hodges found that if a physician-in-training receives more money and promotional gifts, there are more likely chances that physician-in-training believe that discussion with representatives did not affect prescribing [13]. Our results are in agreement with studies examining physician’s attitude towards gifts from drug companies [14,15]. Bret et.al found that physicians make distinctions about the ethical acceptability of gifts based on the monetary value of the gifts; low cost gifts were more acceptable than expensive gifts [15]. Many consider gifts from MR appropriate, particularly if the gifts are of minimal value [12,14,16]. Critics argue that receipt of gifts, no matter how small, is accompanied by a subconscious expectation of give-and-take association [3,17]. Accepting gifts establishes an implicit relationship between physician and MR with a vague, but real obligation.

Hyman P L et al found that majority of trained students feel that it is not appropriate for students to accept gifts from industry during formal curriculum and the medical school should take a role guiding students’ interaction with the industry [18]. As in our study, the study population also included untrained students; overall finding was towards acceptance of gifts. Our results also indicates a prevailing perception among students that the

pharmaceutical company although driven by profit, still fulfils an important role in enabling physicians to offer treatment to their patients. Only rarely physicians admit that their prescribing habits have been affected by interactions with MR [19,20]. However, substantial evidences exist that gifts do influence both prescribing behaviors [2,5]. Other studies have demonstrated that majority of residents felt that their own prescribing behavior could not be influenced by such interactions, but they did not believe that others' behavior could not be influenced.

In our study considerable percentage of students (95%) believed that the pharmaceutical companies generally present accurate information about their products. This finding may be a concern as some studies suggest that drug information provided by MR and drug advertisement are inaccurate [21,22]. In one study, Wofford JL and Ohl CA, found that while students agreed that the degree of bias from MR information was substantial, only 44% of students felt that MR were influential with regard to physicians' prescribing habits [23].

A question designed to test the effect of drug promotion on the future prescribing practices of medical students showed that when presented with a choice of drug identical in terms of efficacy, price and safety 71% of the students would prescribe the drug from the company that provided them with expensive gifts than the drug from a company that did not provide gifts. This shows that many medical students are not too concerned about the potential concealed reciprocity and not aware about the strings attached to the gifts provided by drug companies. While this state of affairs may seem benign, it could put them in a dangerous situation where they are more susceptible to future ethical compromises and can erode the trust and demoralize the physician-patient relationship.

It is especially important to understand the vulnerability of the students to pharmaceutical company marketing tactics and influences as the habits learned or acquired during training persists into their later careers. It is encouraging to note, however, that studies have shown educating medical students about the potential dangers of drug companies' marketing is effective in changing the attitudes of medical students towards receiving gifts. American workgroup recently challenged academic medical centers to take the lead in voluntarily instituting more stringent regulations. They recommended completing banning faculty and trainees from accepting gifts of any size from pharmaceutical companies, prohibiting the provision of drug samples, and eliminating manufacturer support of CME programs [1]. Several students proposed that the medical colleges should develop a policy to regulate industry interaction with students. The dean of the medical education at the time suggested that the student body should be surveyed to determine their opinions about pharmaceutical involvement in medical education [18].

Are more stringent regulations the only answer to the problems associated with student-pharmaceutical company interactions is matter of debate. Some believe that regulations and policies that advocate for a complete lack of contact with MRs during college curriculum and training would leave them unprepared to deal with marketing strategies of pharmaceutical industry after the completion of curriculum or residency. This has led to questions about whether educational interventions can play a role in changing students' attitudes about pharmaceutical company and thereby counteract the negative outcomes of student-pharmaceutical company interactions.

So, considering this state of affairs and the fact that the opinions that graduating medical students carry into residency and that guide their physician-industry interactions may largely be the same opinion that they carried into medical college curriculum, it is the need of hour that medical colleges should do more to educate students about pharmaceutical marketing strategies and how these strategies may affect prescribing behavior.

LIMITATIONS: The limitations of this study should be recognized. First, our survey took place at a single academic medical centre affiliated with a private hospital. Students' attitudes might be different at a state supported institution or at institutions where there are restrictions. While it is hoped that the students surveyed at this medical college represent a true cross-section of majority of medical students, the actual attitudes of medical students at other colleges may vary. Future research could extend the survey to medical students at other medical colleges. Another direction for future investigation would be to design a prospective long term (up to completion of training /internship) follow-up study to study the influence of this attitude during early college exposure on their latter practice and prescribing patterns.

CONCLUSION: The medical students are generally not opposed to interact with MR at some point of time or receive gifts from them and feel comfortable to receive gifts of low to moderate monetary value. Also many students may not be conscious of the goals of various pharmaceutical marketing strategies and potential subconscious expectations of give-and-take relationship. Perhaps, the insight gained from our study will be used to reinforce the existing teaching curriculum with added emphasis on this issue and to further stimulate discussion about the issues concerning the relationship between medical students and the pharmaceutical company and there is ray of hope as educating medical students about the potential dangers of drug companies' marketing is effective in changing the attitudes of medical students towards receiving gifts.

For better or worse, strategies used by pharmaceutical company do seem to affect student's attitudes. Drug samples, gifts and even industry designed CME alter the perceptions of students in favor of pharmaceutical industry. Also, the information given by MRs both formally and informally can be misleading and can alter the behavior in undesirable ways. It is not enough to take a stand on one side or another of this issue on the basis of political or monetary principles. In settings where banning physician or medical students-pharmaceutical interaction is simply impractical or not possible, there are other alternatives that can be pursued such as educational interventions.

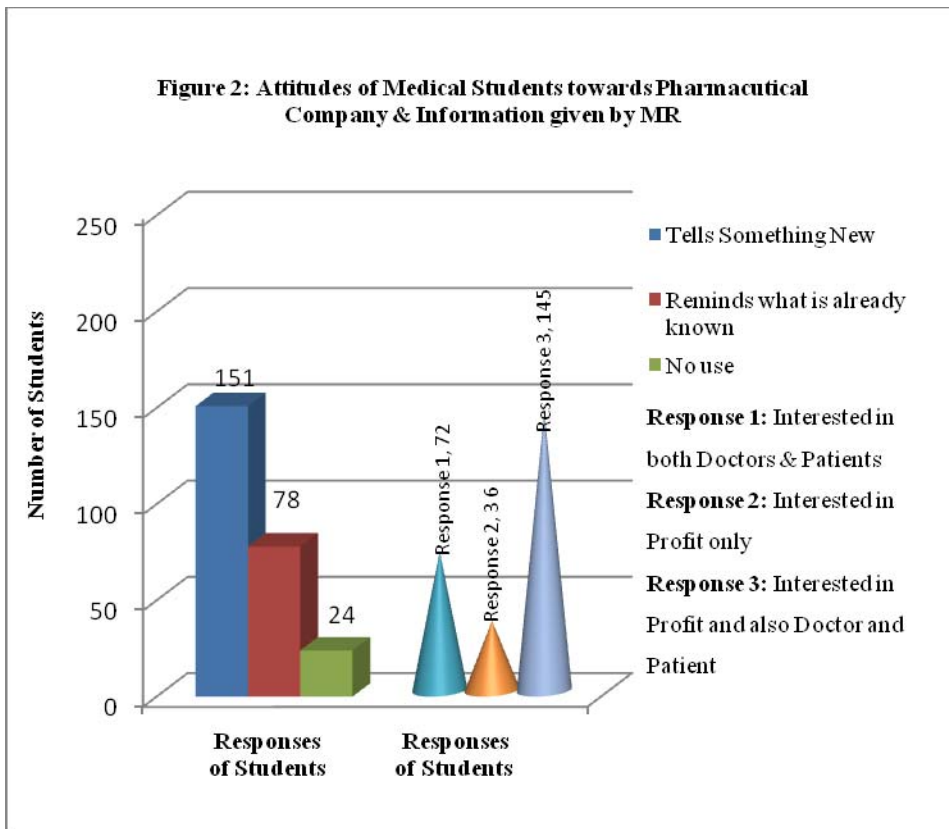
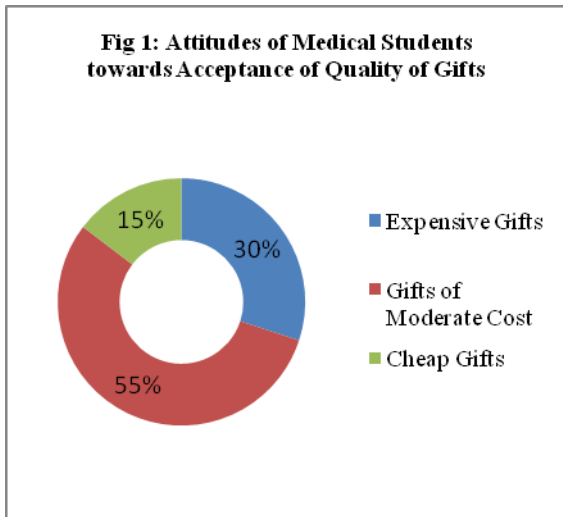
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DISCLAIMER: The views expressed in this manuscript are those of the authors and do not necessarily reflect the position or policy of the department or the institution.

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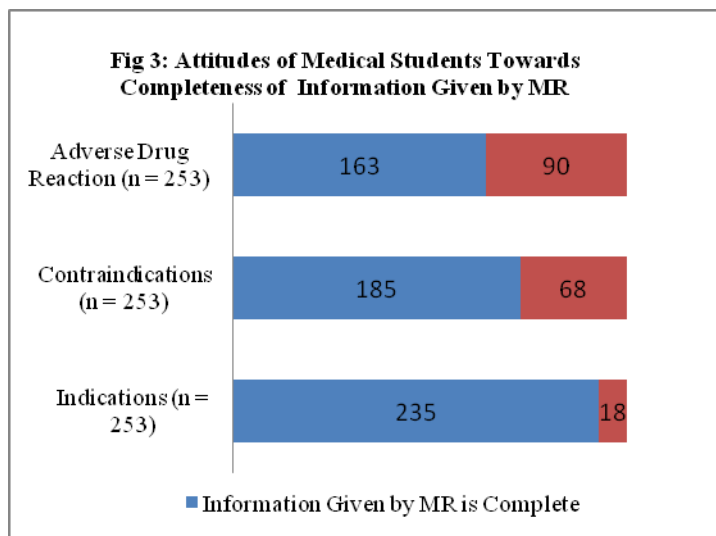


Table 1: Demographic Characteristic of Students

Year of Study	Male	Female	Having Doctor Parents
First Year Students (n=100)	58	42	44
Second Year Students (n=88)	63	25	28
Final Year Students (n=65)	31	34	23

Table 2: Willingness of Medical Students to Interact with MRs and Their Awareness of Drug Promotional Offers by Pharmaceutical Companies

Responses (n=253)		Number of Students
Willing to Interact with MR		205
Awareness of more than		122
Four promotional offers		
Attraction towards	Quality of Promotion	205
	Familiarity with Brand	128
	Newness of Product	136

Table 3: Attitudes of Medical Students towards Drug Promotion by MR and its Influence on Prescription Pattern

Responses (n=253)	Always	Sometimes	Never
	n (%)	n (%)	n (%)
MR should be allowed to sponsor Seminars / College Events	129 (51)	109 (43)	15 (6)
Information given by MR is reliable	34 (13)	206 (82)	13 (5)
Claim Confirmation is Necessary	24 (9)	41 (16)	188 (75)
Promotional Offers Compromise Decision Making	17 (7)	64 (25)	172 (68)
Drug promotion Changes Opinion of Drug	38 (15)	52 (21)	163 (64)
Drug promotion Changes Opinion of Brand	47 (19)	44 (17)	162 (64)

Table 4: Attitudes of Medical Students towards Gifts Offered by Medical Representatives

Responses (n=253)	Always	Sometimes	Never
	n (%)	n (%)	n (%)
Gifts should be Given to Doctor	78 (31)	100 (39)	75 (30)
Gifts are necessary	57 (23)	130 (51)	66 (26)
Prescribe only drugs coupled with Gifts	70 (28)	110 (43)	73 (29)
Will accept Gifts if offered	175 (69)	0	78 (31)