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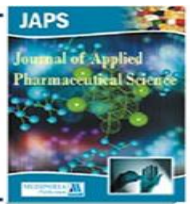

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An Analysis and Comparison of Commonly Available Prescribing Information Resources in North Indian Set Up

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ABSTRACT

To determine the prescribing information resources and the types of information about new drugs that Indian doctors perceived as important before prescribing and how they keep their information upto date . Also to determine if hospital doctors and General practitioners differed in their use of the sources. Two hundred general practitioners (GPs) and 200 hospital doctors were asked to rate information sources in terms of their importance for prescribing 'old' and 'new' drugs, and then to name the source from which information about the last new drug prescribed was actually derived. The study was carried out by information collection, by filling a questionnaire. Among 200 GPs, the Monthly Index of Medical Specialties (MIMS), pharmaceutical representatives and medical journal articles were most frequently rated as important for information on both old and new drugs . Among 200 hospital doctors, Refreshers courses by Govt.(Trainings),Monthly Index of Medical Specialties (MIMS) , and Hospital clinical meetings were of greatest importance. Information on the last new drug prescribed was derived from a broad range of sources. GPs and hospital doctors differ in their utilization of the prescribing information resources .This study generates the information that can be sought to help in shaping the development of health policy and the implementation of the Primary Health Care Strategy.

Keywords: prescribers, prescribing information, prescribing information resources, evidence based medicine, rational prescribing.

INTRODUCTION

The drug explosion of the past 40 years has given prescribers a wide range of choices in many areas of therapeutics. It appears, however, that rather than facilitating the ideal of rational drug use, this array of riches has instead posed difficulties as evidenced by studies describing under-dosing, inappropriate or unnecessarily expensive drug use, and polypharmacy (Hogerzeil, 1995; Donoghue et al., 1996; Laumann et al., 1998; Nyquist et al., 1998; Liu et al., 1994–1995; Strauss et al, 1999). The prescribing information resources available to clinicians are many and include pharmaceutical company representatives, formularies, textbooks, data sheets, guidelines, electronic data sources, and medical journals. It is unclear from the literature, however, which sources are most widely used in practice. The issue is of some importance given current focus on evidence-based medicine and moves in many countries to encourage quality use of medicines.

Prescribing decisions based on information derived from objective or peer-reviewed sources may differ from those based on information that is open to commercial or personal bias (McGettigan et al, 2001). Countries spend major part of their health budgets on provision of medicines and the key issues that concern policy makers are geared towards containing the cost of medicines and safeguard their quality (Singh. 2005). Safe prescribing requires accurate and practical information about drugs. The current sources of prescribing guidance influence practical prescribing decisions (Cox, et al, 2010). Our objective is to determine the prescribing information resources and the types of information about new drugs that Indian doctors perceived as important before prescribing and how they keep their information up to date . Also to determine if hospital doctors and General practitioners differed in their use of the sources. A review of national and international literature was conducted to ascertain key indicators, measures, and questions for the study (Arroll et al., 2005).

MATERIAL & METHODS

A retrospective study in which a random, nationally representative sample of two hundred general practitioners (GPs) and two hundred hospital doctors were asked to rate information sources in terms of their importance for prescribing 'old' and 'new' drugs, and then to name the source from which information about the last new drug prescribed was actually derived. The study was carried out by information collection- by filling a questionnaire. Data collection was carried out by telephone interview and /or in person interview. Interview averaged 10-15 minutes in length and covering topics specific to the use of prescribing information sources was conducted. 'Old' drugs are defined as those that had been on the market for more than 5 years at the time of the survey; 'new' drugs are those that had become available within the past 5 years (McGettigan et al, 2001). A review of national and international literature was conducted to ascertain key indicators, measures, and questions for the study. This ensured that the data collection would answer relevant research questions and ensure comparability with similar international research.

Information collection – questionnaire design

Potential sources of information for prescribing and factors and sources of information that might have influence on prescribing behaviour, were ascertained from previous studies. Additionally, potential sources unique to Indian set up or under-researched in previous approaches, were added. The questionnaire is well-structured and will be easily comprehended by study participants. Potential information sources are listed as follows and respondents will also have the option of indicating other personally used sources.

Statistical analyses

This retrospective study would have 80% power to detect a difference of ≥15% between the two groups for each of the resource for the Prescribing information resources for old and new drugs (Tables 1 and 2). A chi-square analysis was performed to detect if there were differences between GPs and hospital doctors in the sources preferred (Emden et al, 2008).

Table. 1 : Percentage of **GPs** rating important for information on `old' drug,`new' drugsand the last new drug prescribed.

	Information resource	Prescribing information resources for Old drugs , (n=200)	Prescribing information resources for New drugs , (n=200)	Prescribing information resources for Last new drug , (n=200)
1.	Monthly Index of Medical Specialties (MIMS)	85%	71%	73%
2.	Medical journal articles	3%	31%	21%
3.	British National Formulary (BNF)	1%	2%	3%
4.	Pharmaceutical representatives	52%	89%	79%
5.	Conferences / Workshops	38%	56%	53%
6.	CME's (Continuing Medical Education)	10%	55%	39%
7.	Hospital clinical meetings	4%	5%	7%
8.	Medical Encyclopedia	7%	11%	9%
9.	Drug Monographs	43%	48%	41%
10.	Internet (Web Sites)	45%	66%	*53%*
11.	Orange book from US FDA	3%	6%	2%
12.	Refreshers courses by Govt.(Training)	0%	0%	0%
13.	Drugs and Therapeutics Bulletin	5%	3%	5%
14.	Pharmacists Chemists	0%	0%	0%
15.	Other personally used sources	4%	8%	3%

Table. 2: Percentage of **hospital doctors** rating important for information on `old' drug,`new' drugs and the last new drug prescribed.

S . no.	Information source	Prescribing information resources for Old drugs , (n=200)	Prescribing information resources for New drugs ,(n=200)	Prescribing information resources for Last new drug , (n=200)
1	Monthly Index of Medical Specialties (MIMS)	66%	71%	75%
2	Medical journal articles	3%	5%	19%
3	British National Formulary (BNF)	6%	2%	2%
4	Pharmaceutical representatives	33%	43%	46%
5	Conferences Workshops	29%	48%	23%
6	CME's (Continuing Medical Education)	19%	25%	37%
7	Hospital clinical meetings	71%	79%	56%
8	Medical Encyclopaedia	17%	13%	6%
9	Drug Monographs	23%	28%	*24%*
10	Internet (Web Sites)	35%	36%	*52%*

11	Orange book from US FDA	7%	4%	1%
12	Refreshers courses by Govt.(Trainings)	65%	81%	77%
13	Drugs and Therapeutics Bulletin	9%	2%	4%
14	Pharmacists Chemists	1%	3%	1%
15	Other personally used sources	7%	6%	6%

RESULTS

General practitioners

Monthly Index of Medical Specialties (MIMS) was cited as the most important prescribing source of old (85%) and new drugs (71%) . General practitioners clearly discriminated between the importance of Pharmaceutical representatives for the prescribing of new drugs (89%) and the last new drug (79%) . Internet was rated as an important source of information for both the old (45%) and New drugs (66%) . Conferences / Workshops(38% Vs 56%) and CME's (Continuing Medical Education) (10% Vs 55%)were rated as more frequently cited sources for new drugs than old drugs.

Hospital doctors

Hospital clinical meetings (71%) and Refreshers courses by Govt.(Trainings) (65%) and Monthly Index of Medical Specialties (MIMS) (66%) were the most frequently cited sources of drug information for the old drugs . The same trend was very closely followed by the newer drugs Hospital clinical meetings (79%) and Refreshers courses by Govt.(Trainings) (81%) and Monthly Index of Medical Specialties (MIMS) (71%) were the sources of information for the newer drugs . Refreshers courses by Govt.trainings (77%) and Monthly Index of Medical Specialties (MIMS) (77%) were the most frequently referred sources of information for the last new drug.

ANALYSES

General practitioners and hospital doctors were compared for the information sources rated as important for prescribing new drugs (Tables 1 and 2) . Chi-Square analysis was performed to compare common items. For the prescription of old drugs those sources of information which were referred rarely like British National Formulary (BNF) , Medical journal articles , CME's (Continuing Medical Education) , Orange book from US FDA , Drugs and Therapeutics Bulletin , Pharmacists / Chemists and other personally used sources for which frequency of referral was less than 15 % was ignored for comparison between the two groups.

The P value for significance was < 0.05. For the old drugs, GPs were more likely than hospital doctors to refer MIMS (P<0.001) as prescribing information resource. Compared with GPs, hospital doctors rated their hospital clinical meetings (P<0.001) and refresher courses (P<0.0001) as prescribing information resources for the old drugs. For new drugs GPs were more likely than hospital doctors to refer Pharmaceutical representatives (P<0.0001) as prescribing information resource. Compared with GPs, hospital doctors rated their hospital clinical meetings (P<0.005) and refresher courses (P<0.0001) as prescribing information resources for the new drugs .In the chi-square analysis undertaken to determine any differences between GPs and hospital doctors in the sources cited for the last new drug prescribed (Tables 1 and 2), there were significant differences in the proportions citing pharmaceutical representatives (79% vs. 46%) as the source of information for the last new drug prescribed (chi-square=12.07, d.f.=1,P value < 0.005). There were no differences for Monthly Index of Medical Specialties (MIMS) (GPs 73% vs. 75% hospital doctors) and medical journals utilization (GPs 21% vs. 19% hospital doctors). Internet was given equal importance by the GP's and the hospital doctors .

DISCUSSION

GPs and hospital doctors differ in the extent to which they used the various information sources. A study by Jones et al (2001) on Prescribing new drugs a qualitative study of influences on consultants and general practitioners showed introduction of a new drug usually occurs proactively by means of extensive advertising and academic detailing provided by the pharmaceutical industry rather than dissemination of independent scientific data (Prosser et al, 2003). Our study findings comply with this study as there were significant differences in the proportions citing pharmaceutical representatives (79% vs. 46%) as the source of information for the last new drug prescribed . The academic sources of information must be referred more frequently. This pattern is of interest, may reflect the influences of social systems (Rogers M, 1995) and communications media (Mohr et al, 1990). GPs often work alone or with just a few colleagues, and pharmaceutical representatives may represent the main opportunities to encounter `change agents' (Avorn et al, 1982). The dominance among hospital-based doctors of hospital-based information sources suggests that prescribers get maximum benefit from the refresher courses. But for both the groups of doctors internet (web sources) are the emerging sources of drug information and in future may lead to a change of trend altogether .

CONCLUSION

This study generates the information that can be sought to help in shaping the development of health policy, the provision of information that doctors seek to practice evidence based medicine and also in a wider sense, the implementation of the Primary Health Care Strategy.

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