

To study and compare source of drug information used by doctors (GPs & specialist), pharmacist and nurses in government & private tertiary care hospitals in Islamabad

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Abstract – The aim of the study was to assess the sources of information/ knowledge used by health care professionals (doctor, pharmacist and nurses). In this study a cross sectional comparative study was conducted in four hospitals (two from public & two from private sector) of Islamabad Pakistan. The study was conducted during the period of March to May 2009. The tool (structure questionnaire form) was design for collection of qualitative and quantitative data. The total sample size was 150, out of which 50 from Doctor, 50 from Pharmacist and 50 from nurses of government and private hospital of Islamabad. After the completion of data, it was analyzed by making variables in Statistical Package for Social sciences (SPSS) Version 16. Then data was entered by coding or making themes for different questions in above mentioned software. Almost 67 variables were made according to make coding & themes of questions of tool. We selected codes yes=1 & no=2. After the completion of data entry, frequencies & percentages were run. Bar charts were made on the Microsoft Excel according to results of SPSS.

Keywords – Drug information, Health care Professionals, Source of information

1. Introduction

Health has been taking priority throughout the world since the beginning of life. Diseases and drugs have been going side by side since the start of life. With the increase in population the disease are also increased due to different reasons, diseases put a great tribal, harmful effect on the society's health and with the discovery of new drugs, there is remarkable decrease in the disease. Pharmaceutical industry has been playing a vital role in the development of new drugs to treat the disease since last three decades. Drug use information is necessary and vital for all the health care providers throughout the world and is a vital factor in ensuring safe drug therapy. Clinicians, in providing health to the society and have the knowledge, understanding, and skills that ensure safe and proper use of medications but they must update their knowledge according to the latest trends as more and more new drugs are being discovered and the previous ones being modified so that they can ensure safe and effective medication use⁽¹⁾.

We sought to establish the sources of information used by pre-scribers. Hypothesizing that differences might exist between general practitioners (GPs) and hospital doctors, and, among both groups, between theory and practice, we investigated the sources considered important and those actually used. (2)

Pharmacists are health related professionals and they are also required up to date drugs related information so that is why they are using some source for the information about

drugs. And her colleagues, medical representatives, medical journals, WHO guidelines, and other sources for update the information and improve their skills. The pharmacist has the knowledge, understanding, judgment, procedures, skill, controls, and ethics that ensure optimal safety in the distribution and use of medication .However, the environment in which the pharmacist operates is very different from that of developed countries. (3)

Most nurses' work in hospitals and the majority of hospital employees are nurses. (4) Hospital nurses spend more time with individual patients than do other health care workers in hospitals. (4)

Sales representatives and drug company literature were used very infrequently as general sources of drug information. The most frequently cited source was the Physicians' Desk Reference. Doctors frequently heard about the drugs from sales representatives and in the case of one of the drugs, sales representatives were the most frequently used source. Drug industry based sources were not the most important source of information influencing the decision to prescribe the new drugs for the first time (5).

2. Methodology

A cross sectional comparative study was conducted in four hospitals (two from public & two from private sector) of Islamabad Pakistan i.e. Pakistan institute of medical sciences (PIMS) and Federal government services hospital (FGSH) from government sector & Shifa international

Hospital & Ali Medical centre F-8 Markaz Islamabad from private sector. The study was conducted during the period of March to May 2009. The tool (structure questionnaire form) was design for collection of qualitative and quantitative data. The tools were approved by pilot testing to reproduce the required results. The total sample size was 150, out of which 50 from Doctor, 50 from Pharmacist and 50 from nurses (18) of government and private hospital of Islamabad. For that purpose we fix an inclusion & exclusion criteria.

Inclusion criteria were as follow:

1. All Nurses and Doctors from selected hospitals.
2. Pharmacists from hospital as well as community pharmacists due to unavailability of hospital pharmacists.

Exclusion criteria were as follow:

1. Doctors from private clinics were not included.
2. Pharmacists from industry & academia were not included.

Data was selected from Pakistan Institute of Medical Sciences & Federal Government Services hospital. The data was collected from doctors & nurses (different departments of PMIS) who are willing to cooperate with us of the. At the start of data collection, pilot testing was carried out which helps to put further modification & giving us reproducible result. For this purpose small number of forms was filled from doctors, pharmacist & nurses. The collected data was analyzed on Statistical Package for Social sciences (SPSS) Version 16 (SPSS). The results were confirmed that tool was correct & gives reproducible results.

Form was filled by self basis when data was collected from nurses. The community pharmacists were also included to complete the data. Different community pharmacies of Islamabad were selected on convenient basis.

After the completion of data, it was analyzed by making variables in Statistical Package for Social sciences (SPSS) Version 16. Then data was entered by coding or making themes for different questions in above mentioned software. Almost 67 variables were made according to make coding & themes of questions of tool. We selected codes yes=1 & no=2. After the completion of data entry, frequencies & percentages were run. Bar charts were made on the Microsoft Excel according to results of SPSS.

3. Results

Information about drug is very important, with respect to the health care professionals, 94% doctors, 100% pharmacist & 92% nurses are required information about drugs.

In public sector information required by health care professional are more as compared to private sector.

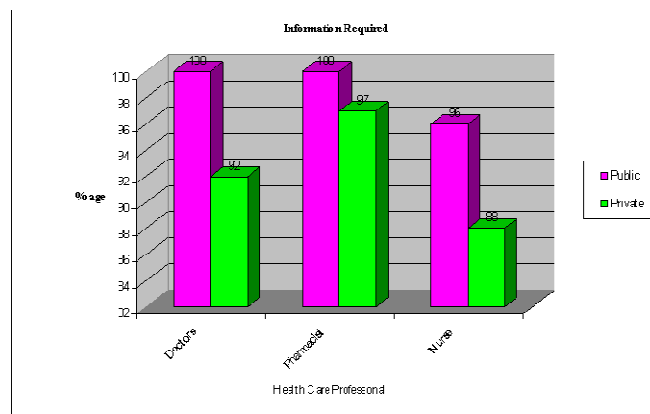


Fig 1. Information required about medication use

Different health care professionals required following types of information about drug's dose, dosage form, drug interaction, indication, sides effects. From the doctor point of view, they focus on drug's strength, side effects & indication. Pharmacists mainly focus on dose, strength & its interaction while nurses required information its dose, dosage form & strength. Collectively the above are more focus on strength.

	Drug related Information					
	Dose	Dosage form	Drug interaction	Indication	Side effects	Strength
Doctors	50%	44%	70%	76%	82%	90%
Pharmacist	78%	54%	62%	52%	60%	68%
Nurses	88%	72%	20%	42%	24%	50%

Table 1. Drug related information required by health professional

For the collection of the above explained information about the drug, different sources are used by different health care professional out of which 59% internet source is used & 3% leaflets are used, in between vales of other sources are plotted as shown in figure 2.

When we compare values of different sources with respect to health care professional, doctor used internet (80%) as a source of information. While pharmacist also using internet (76%) as a source of information & with respect to Nurses, they used senior (doctors & head nurses) as sources of information as in figure 3.

Information about drug is searched on self or assistant basis, because of different reasons explained by health care provider. Doctors & nurses are doing search more on assistant basis i.e. (22% & 24%) respectively as compare to pharmacist as indicated in figure 4.

In public sector search for required information is better than private sector because they do search on all basis such as (daily, weekly, bimonthly & on need basis).

	Daily	Weekly	Bimonthly	On Need Basis
Public Sector	30%	23%	17%	28%
Private Sector	18%	15%	1%	57%

Table 2. Comparative time taken in private and public sectors

For the searching of information about drug & for updating the knowledge the information, health care professional spend the below mentioned time interval of whole a day in which they study about the drug's related information.

With respect to health care professional doctors as compared to pharmacist & nurses have less time due to some reasons.

	1/2 Hour	1 Hour	2 Hours	3 Hours
Doctors	28%	46%	22%	4%
Pharmacist	2%	60%	38%	0%
Nurses	14%	66%	14%	6%

Table 3. Time taken by healthcare professionals to study drug information

In public sector health care professional have less time for searching for a information for a drug's feature, as compare to private sector due to different reasons i.e. busy schedule, work load, increase number of patients in public facility.

With respect to all professionals doctors are so much busy that they have no time for the search for the required information about the drug's new features as compared to pharmacist & nurses.

The following reason health care professional do not have enough time for searching new information about drugs as given in figure 5.

For the acquiring for new knowledge for a drug or drugs doctors, pharmacist & nurses are using different type & numbers of sources which are explain in figure 6.

For the selection of information source, different features are considered. In public sector health care professional are focus that information source should be precise while in private sector they are consider an update source as in figure 7.

Collectively, it is clear that health care professional required all type of features regarding drugs as presented in figure 8.

From three group's doctors & pharmacists required information to update their knowledge while nurse's point of view they focus on answer a query as in figure 9.

The following graph present the collective values of sources that are use to update knowledge. Out of which textbook are used by health care professional to update their knowledge as in figure 10.

Doctors are using textbooks (58%) for update the knowledge, with respect to pharmacist, they use internet (38%) & nurses are using colleagues (60%) for the update of their knowledge as in figure 11.

Reliability on medical representative knowledge is presented in table 4.

Reliability of information by medical representative						
		yes	no	dont know	to some extent	Total
Facility	Public	53%	32%	12%	01	100%
	Private	58%	18%	22%	0	100%

Table 4. Reliability of drug information on medical representative knowledge

From the health care professional point of view, the information provided by medical representative is correct or not as in figure 12.

4. Discussion

Drug use information is necessary and vital for all the health care providers through out the world and is a vital factor in ensuring safe drug therapy. Clinicians, pharmacists and nurses are the stake holders in providing health to the society and have the knowledge, understanding, and skills that ensure safe and proper use of medications but they must update their knowledge according to the latest trends as more and more new drugs are being discovered and the previous ones being modified so that they can ensure safe and effective medication use.

Sources of drug used by doctor's nurses and pharmacists are many and include their colleagues, seniors, pharmaceutical company representatives, formularies, textbooks, data sheets, guidelines, internet, medical journals Etc. However it is unclear from the literatures, which sources are most widely used in practice and are they sufficient for a safe therapy. ⁽⁶⁾ They are using these sources for the sake of acquiring new knowledge; update their previous knowledge regarding new drug features or its modified features or its uses in other indication, strength, side effect etc.

From the Pakistan point of view, the research condition is so worsen that is why no base line data is available still at this time. This will help us to gather a base line data about the present sources of information & their reliability, authenticity, its use & it will also help to assess the different approaches of health care professional (doctors, pharmacist & nurses) about the drug's sources & assessing all difficulties which they are facing.

This study was conducted in four tertiary care public & private hospitals of Islamabad, Pakistan during the period of March-June 2009. The whole data was conducted & study was financed on self basis. The whole study was completed within three months. The prospective data was collected, during the collection of data doctors & nurses were found to be more cooperative than pharmacist. The doctors & pharmacist understood the form easily, while nurses were not able to understand the form & form was filled on self basis by taking information from them.

The inclusion criteria was doctors, pharmacist & nurses of selected facilities were selected & as the total number of hospital pharmacists were not much to fulfil the data so community pharmacists were also included on the other hand exclusion criteria was all the doctor & nurses from clinics & pharmacist of academia & industries were excluded.

In this study it was concluded that 96% doctors, 100%

pharmacist & 92% nurse were strongly accepted that they need the information about the drugs. For the acquiring the information for the drugs they use different types of sources such as Textbooks, Internet, Colleagues, Seniors, Pharmaceutical company representatives, Formularies, data sheets, guidelines, medical journals, Pharmacopoeias etc. as compare to public & private sectors doctors, pharmacist & nurses ratio for requiring the knowledge is far better than private sectors. All three health care professional have different approaches about the drug sources that they used it for taking information about drug's dose, strength, drugs interaction, and indication, sides' effects. Different health care professional required following type of information about drug. Strength, side effects & drugs interaction (90%, 82% & 76%) drug related information doctors required, dose, strength & drug interaction (78%, 68% & 62%) drug related information required by pharmacist while nurses required dose, dosage form & indication (88%, 72% & 42%) drug related information required by nurse respectively.

5. Conclusion

This data shows that there is a great need of continuous medical education for health care professional including doctors, nurses and pharmacists. Drug information could be obtained different sources including books, magazines and internet.

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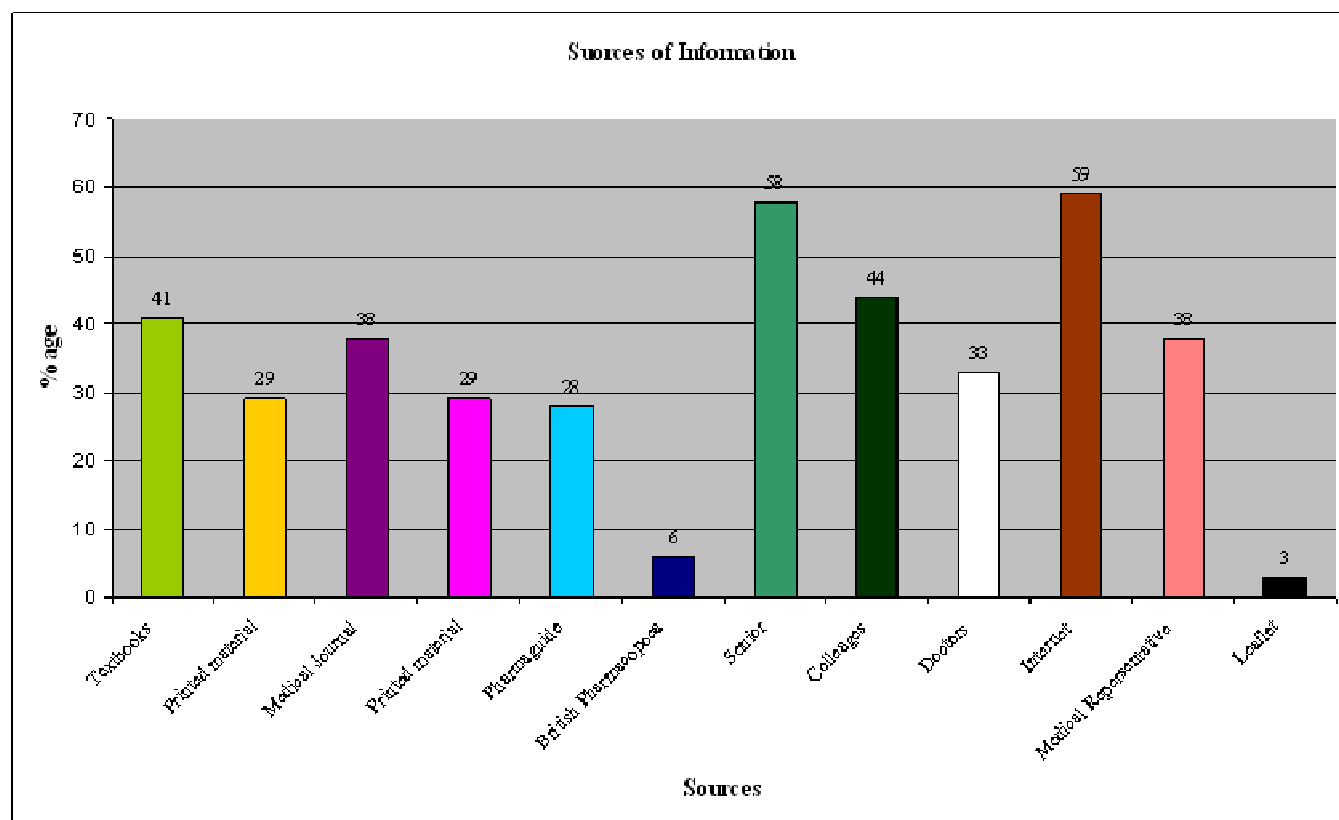


Fig 2. Sources used as reference for information

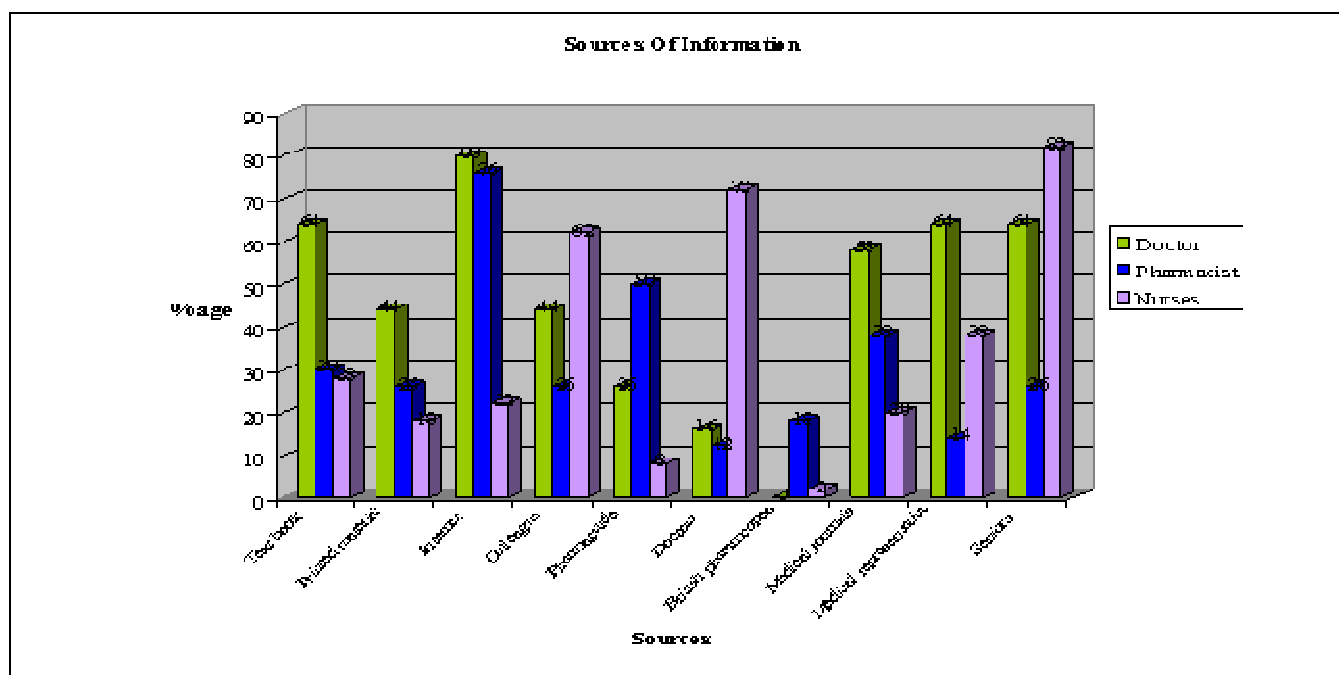


Fig 3. Sources of information used by healthcare professionals

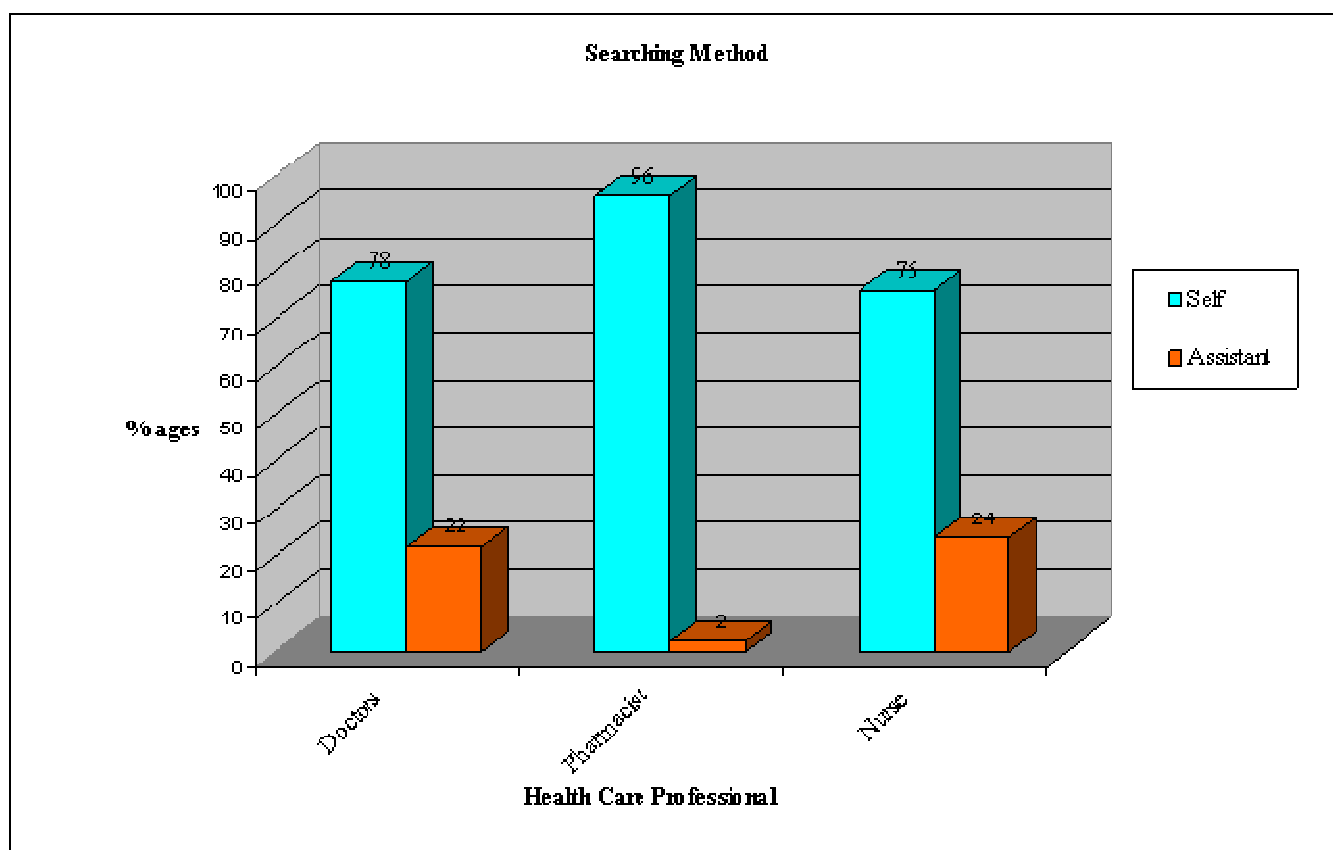


Fig 4. Methods used to obtain information by physician

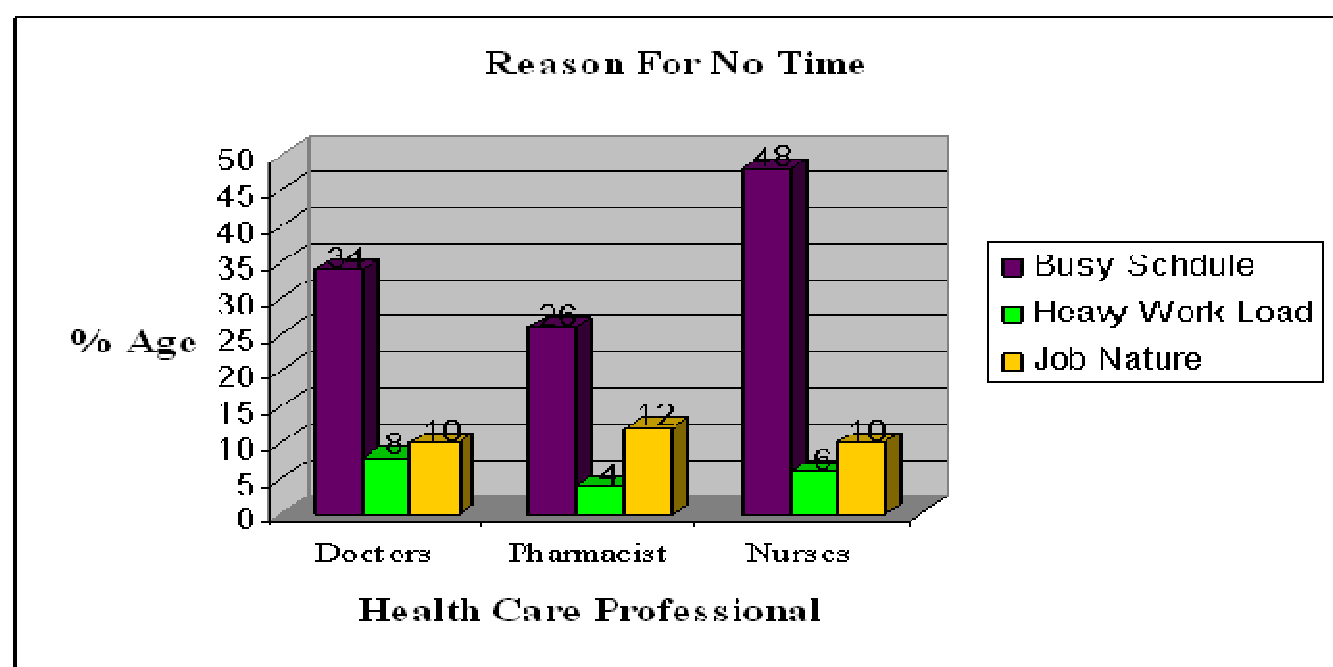


Figure 5. Reasons for no time to study drug information by healthcare professionals

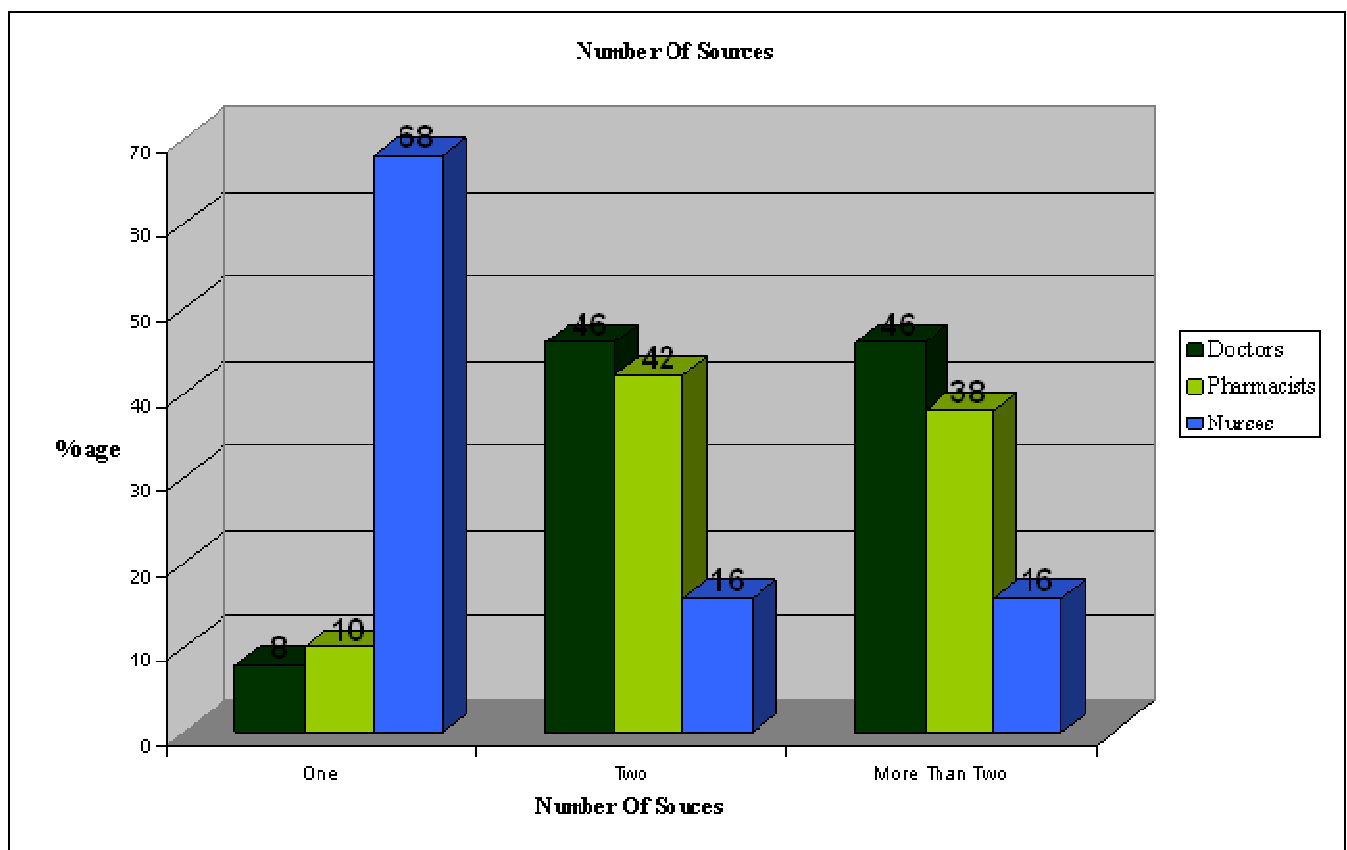


Figure 6. Sources of new drug information

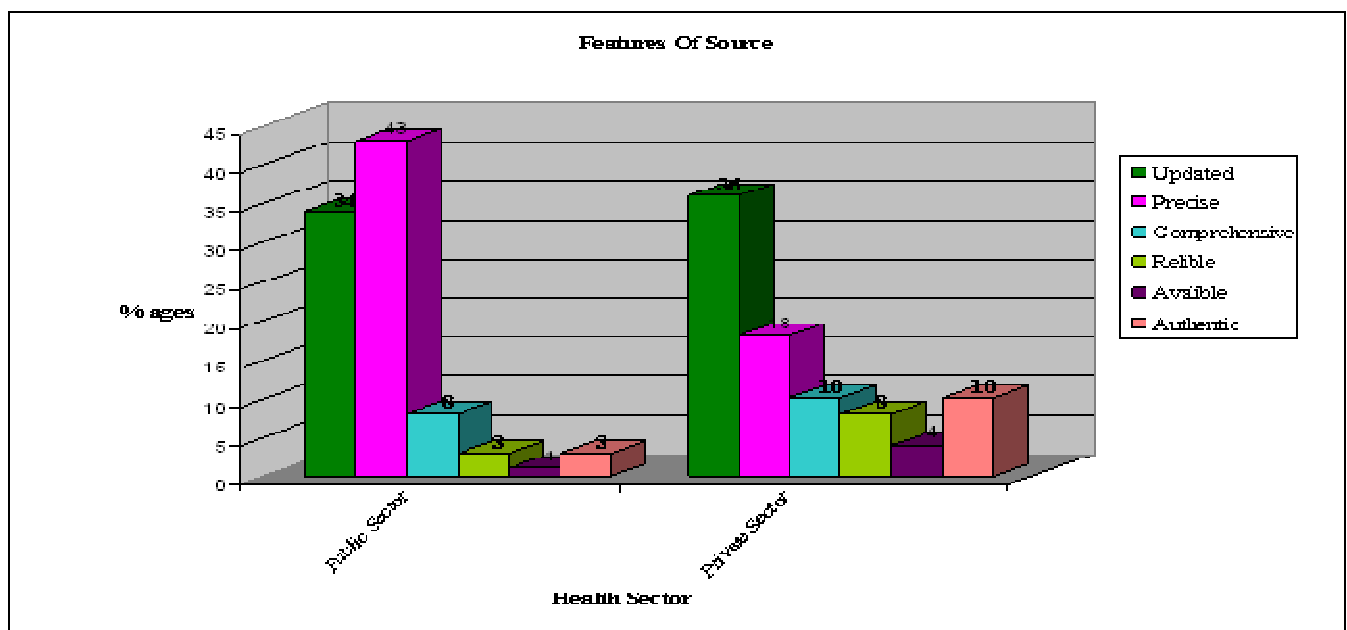


Figure 7. Features of sources for drug information selection

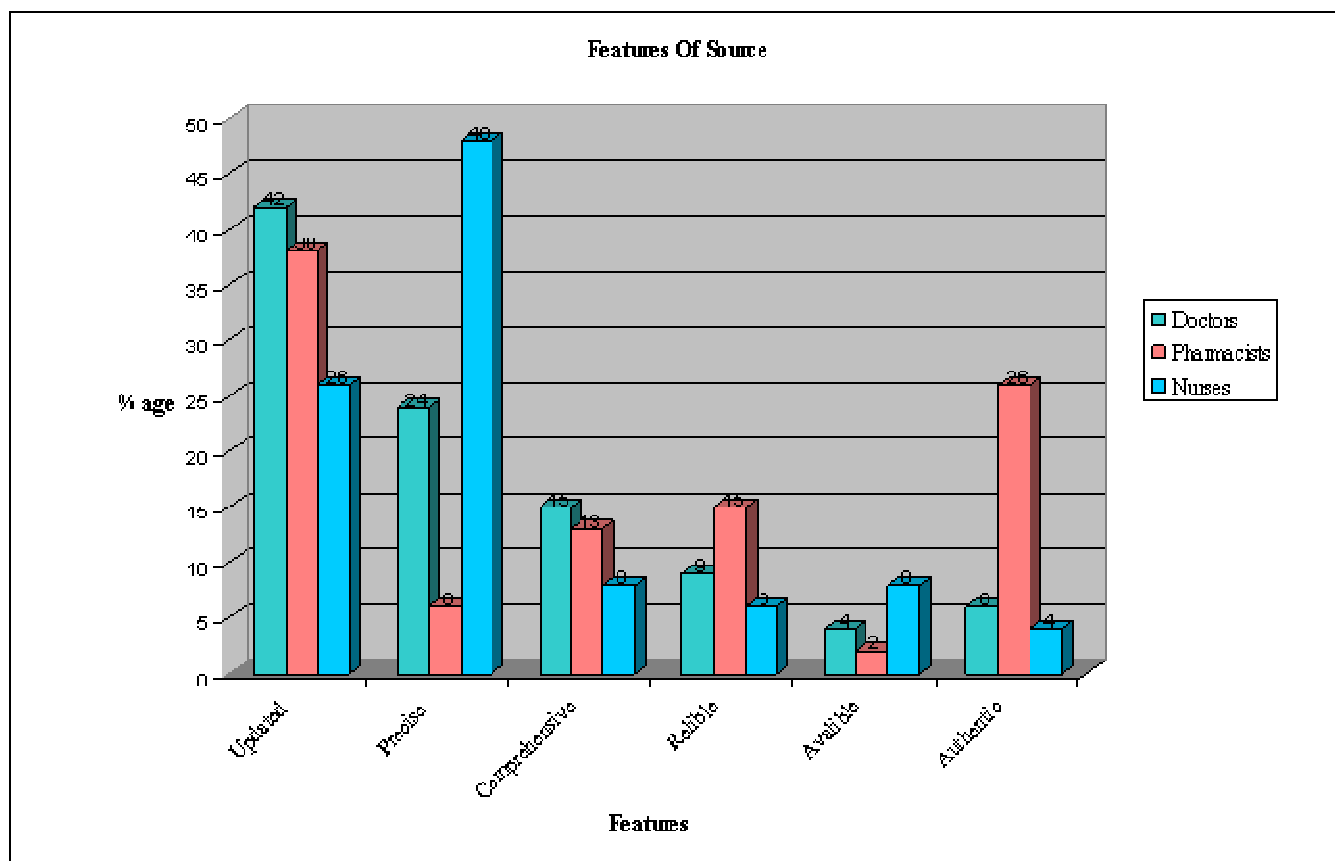


Fig 8. Features of sources of drug information

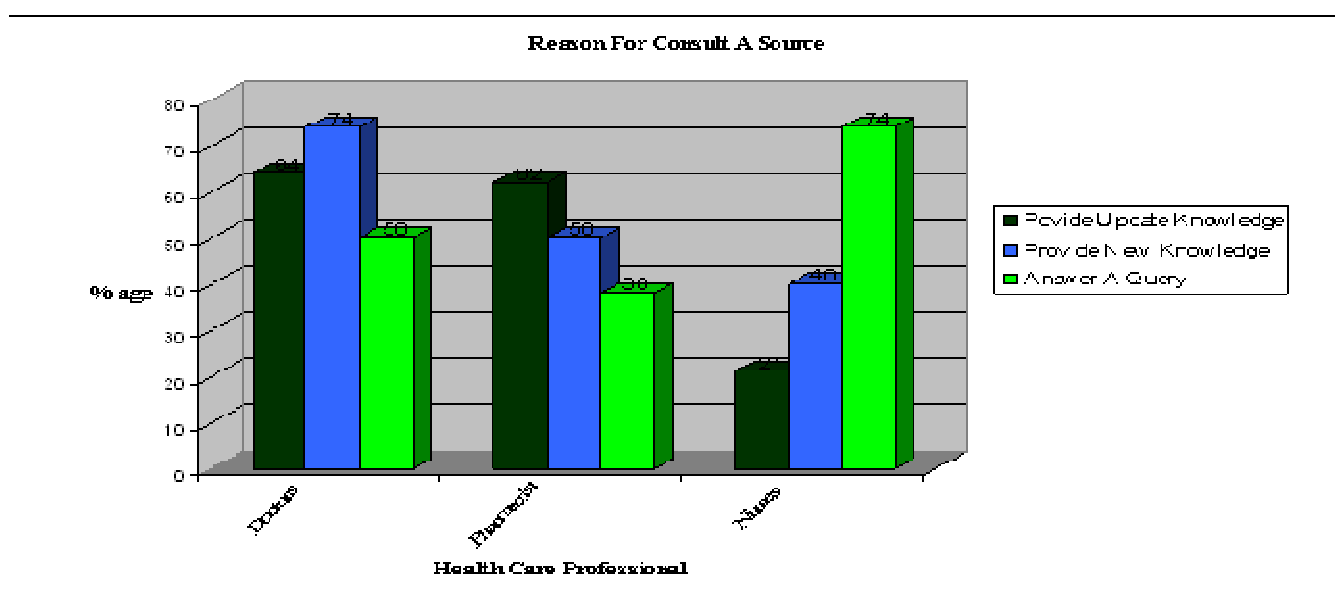


Fig 9. Different reasons for consulting a source about drug information

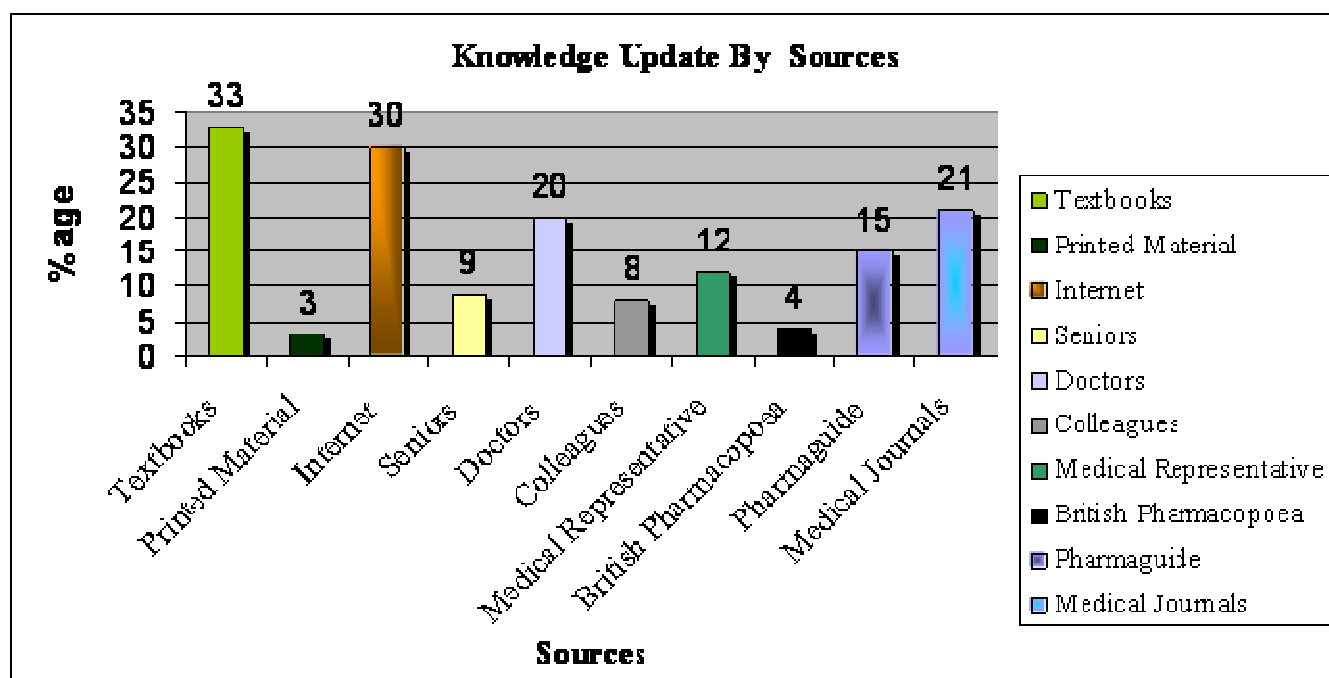


Fig 10. Sources to update drug knowledge

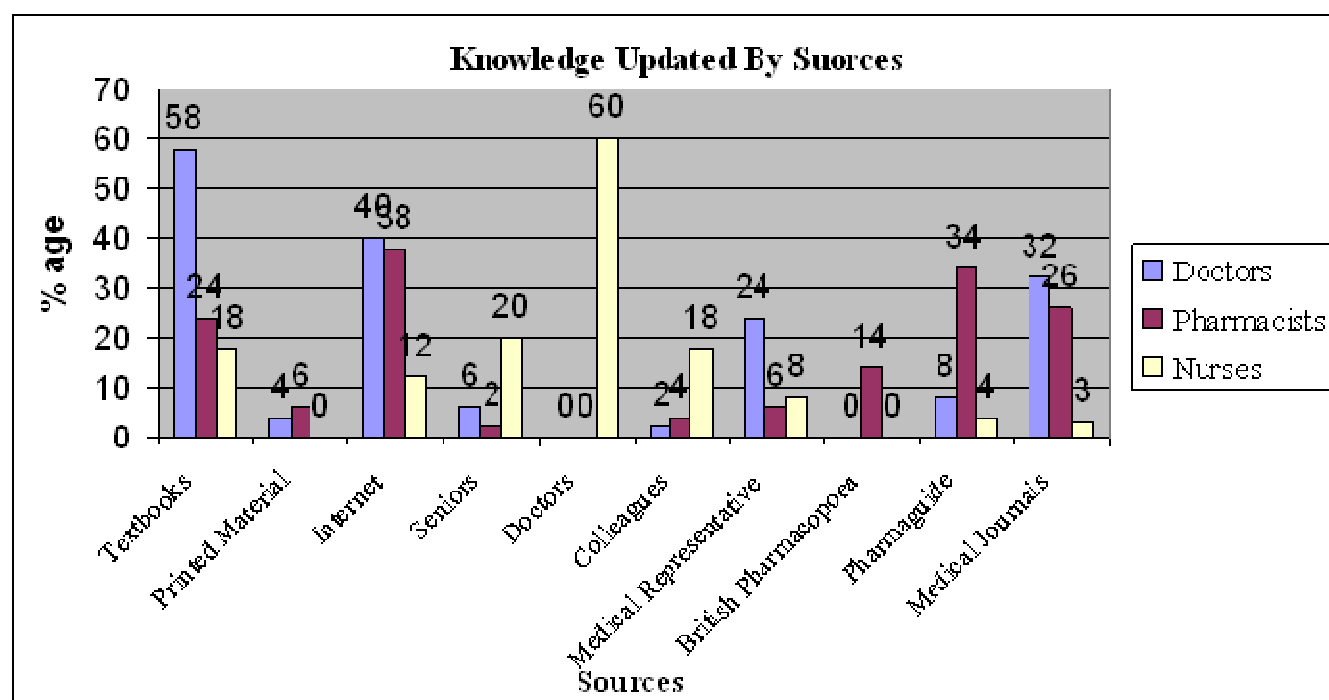


Fig 11. Sources to update drug knowledge

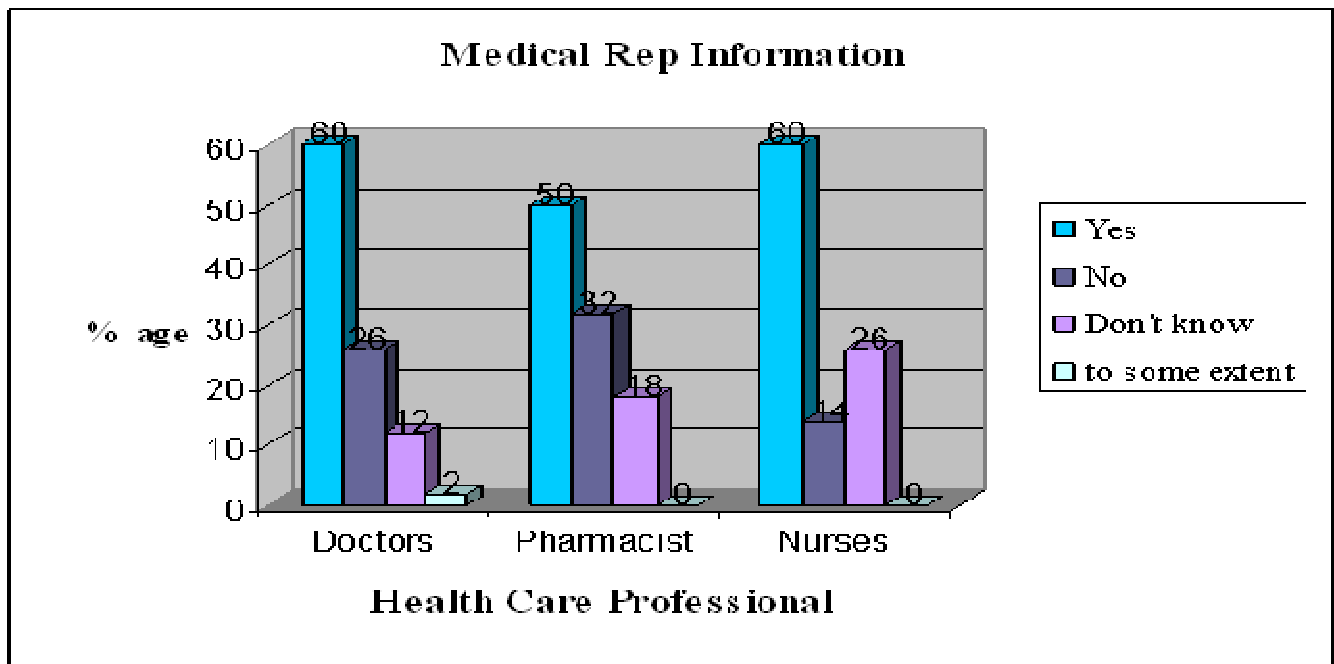


Fig 12. Drug information obtained from medical representative