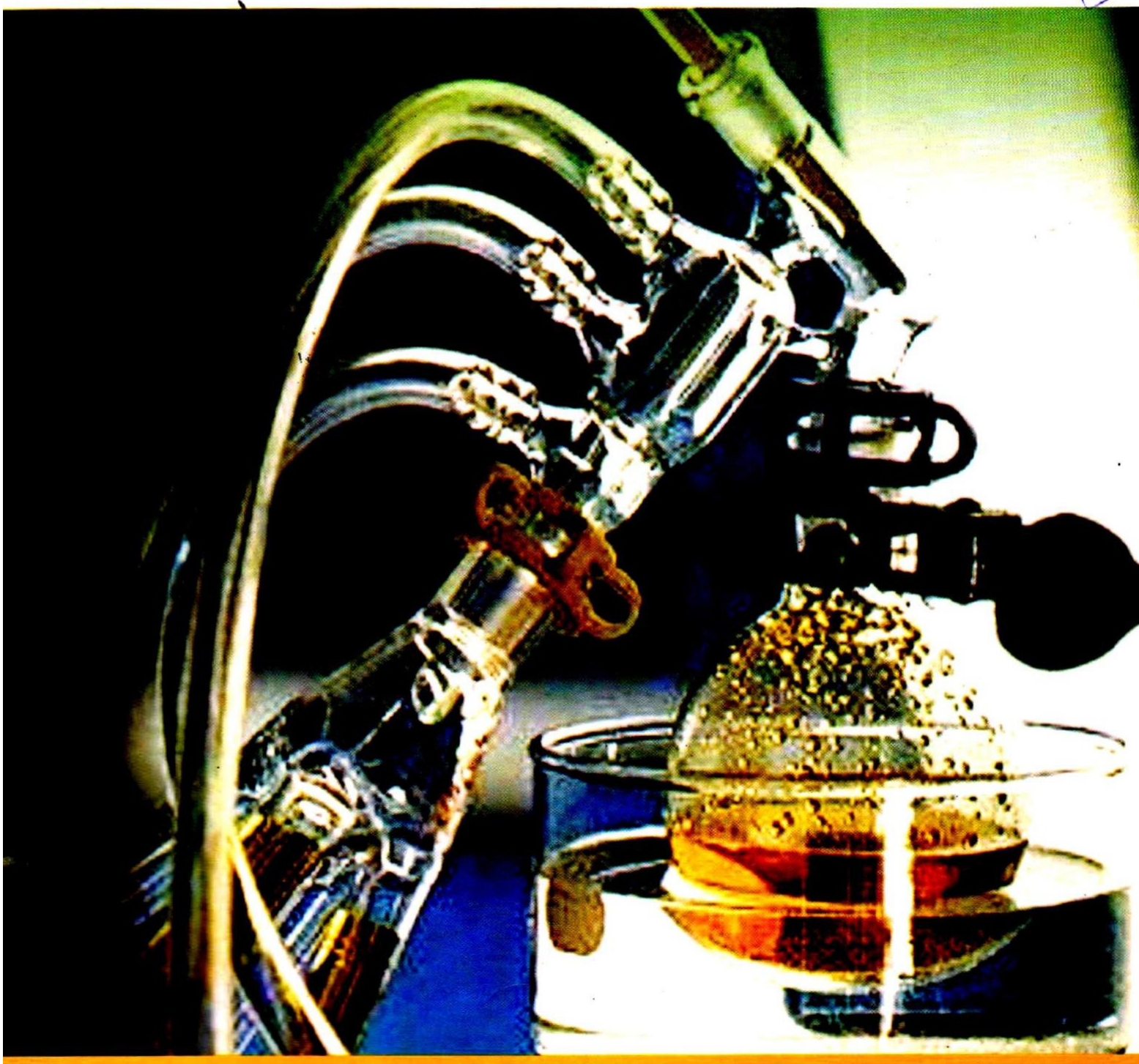
NIGERIAN JOURNAL OF PHARMACEUTICAL AND APPLIED SCIENCE RESEARCH

Vol.1 No.1 *Dec. 2011* *ISSN 1485-8059*



A Publication Of Faculty Of Pharmacy
UNIVERSITY OF UYO, AKWA IBOM STATE, NIGERIA.

UTILISATION PATTERNS OF INFORMATION SOURCES IN PHARMACY LIBRARY OF UNIVERSITY OF UYO

Udoh, U. O., Ukpak, A. A. and Iwot, M. J.
University of Uyo Library, Uyo, Akwa Ibom State

*CORRESPONDING AUTHOR

ABSTRACT

The study assessed the utilisation patterns of information sources in Pharmacy Library, University of Uyo, Akwa Ibom State. The study population comprised all registered Faculty of Pharmacy Library users (i.e., students and staff of the Faculty) in 2009/2010 academic session. The study involved the use of research question and hypothesis. The number of users and the type of information sources consulted formed the instrument for analysis. The study design was ex-post-facto; it used data collected over a period of one year. Data were analyzed using Pearson Product Moment Correlation. The finding showed significant relationship between utilisation and type of information sources consulted. The analyses also identified the types of information materials that were heavily, moderately and lightly used throughout the one-year period. The study recommends that the stock of heavily-used and moderately-used resources should be increased to multiple copies in order to satisfy user needs.

KEYWORDS: Utilisation patterns, Library use, Pharmacy libraries, Pharmacy information sources and use.

INTRODUCTION

The concept of which information sources meet user needs lends itself to what the researchers describe as the '3As,R&C' of information quality. 3As,R&C translates into Availability, Adequacy (of volumes), Accessibility, Relevance and Currency. Users are interested in information sources that meet their needs in answering specific questions and solving specific problems.

Information sources, according to Olabisi (2002), provide reliable information and form the cornerstone for building the awareness, expertise and practical strategies necessary to solve problems in order to improve the world's health and the physical, technical, mental and scientific development of humanity. Losee (1994) observed that scientists use information not only to solve problems, but also to clear uncertainties.

The most difficult aspect of library service is to provide and organize information sources to enable users make maximum and effective use of resources for present and the future users. Webb (1995) suggested that anyone providing this service must ensure its appropriateness to users' needs and to be ready to adapt promptly as those needs change. This is true in particular for medical practitioners, researchers, students and others in allied fields who frequently need up-to-date information in education programmes, diagnostic procedures and research in various fields of treatment for ailments (Rees, 1993).

In order that resources are maximized and these resources be made available (the first 'A', *availability*), university librarians use book selection policies that cater to the diversities of fields of specialization in the universities. This suggests broad-spectrum acquisition and selection policies, which take care of every discipline in departments and specialty areas in the university. Availability means that the range of available resources has to be in-depth, and the materials and services should not jeopardise the expectation of the patrons and the mother institution. This is necessary and expedient for, as Akusu (1987) observed, information utilisation differs according to areas of specialisation. University libraries and especially pharmacy libraries' collections are organised primarily to meet the needs of pharmacy scholars and to promote and expand the frontier of pharmaceutical knowledge so as to support learning, teaching and research needs. This claim is supported by Mahajan (2009) who found that utilisation patterns are different among users and opined that libraries must understand information seeking behaviours of users so as to re-engineer their services and provide information effectively.

Library collections are developed and organised through procurement, donations, bequests and exchange of the information sources. *Adequacy* (the second 'A') has to do with adequacy of number of volumes. Users could be discouraged from the use of the Pharmacy Library if the resources, though available, are not adequate in number of volumes. Earnest and urgent attention to volumes facilitates effective use of library and pharmaceutical inquiry. Sufficient volumes enhance collection utilisation. The last (the third) 'A' of collection quality for utilisation is *accessibility* which, according to Lancaster (1979), is one of the most important features that determines whether or not a particular information service is used.

The time of the user should not be wasted according to Ranganathan (1988). The 'R' of utilisation quality is concerned with relevance. Information science and relevance align together and underlie the effectiveness of the information communication process. It was Saracevic (1970) who found that there is a formal relationship between the quality of retrieved material and their relevance. Information that is not relevant to the users' needs is as bad as not being available at all.

The last letter of the information utilisation model is 'C', which is currency. As new publications come into circulation in large quantities day by day, and as knowledge expands in every field, books that were published only a few years ago tend to cease to meet current tastes and demands. Where demand has declined for certain books and these are not discarded, the library soon faces the problem of obsolescence, and users will lose interest in such collections. Sometimes some sources, though not very current, may be very useful to users. Some of these items in the collections pose problems during re-organisation and weeding. In this case, user evaluation of used resources becomes paramount. According to Ntecki (1996), it is the user who can tell the worth of books or information sources; the assessment of how well a library succeeds depends on the user as a judge of quality.

Opeke, Osunkunle and Okwilagwe (2002) also affirmed that scientists' (pharmaceutical) need orientation to basic skills in information gathering, information management and information use in order to improve resourcefulness in their information gathering activities. A study by Ajayi (2004) of medical students' library seeking patterns showed that the library was most frequently used for studying and for making photocopies of materials. The respondents relied on textbooks and handouts for current information. Thus the light use of library information resources raises the concern that students are not developing adequate retrieval skills for finding information.

The holdings of an academic library reflect the extent of excellent academic performance in the mother institution. This is one of the reasons Nigerian University Commission (NUC) cannot accredit courses for which the library does not have adequate information sources to support the academic work. Certain characteristics in libraries lend themselves for user utilisation and or non-utilisation. Ajidahun (1990) maintained that users would utilise information if it meets their needs. Udofia (1998) suggested that library stock should bear direct relevance to its tertiary level in all relevant fields and be suitable for research and instructional activities as well as being fit to supplement and complement lectures. Some information sources may be so limited in quantity that users do not find adequate volumes. This is partially due to increase in student enrolments. This was observed by Marriott and Feather (1993) who said that having very few copies in a collection may hinder utilisation due to the problem of non-corresponding enrolments and volume availability. The same observation was made by Tysome (1996) and Sumsion (1997). The library as the heart of the institution has the duty of making information adequately available, relevant, current and accessible to users. Ajayi and Adetayo (2010) noted that the effectiveness of a library as an instrument of learning is determined by the success with which it is able to provide the user with the information he seeks.

The perception of the library in terms of its quality has direct relevance with utilisation. Udoh (2003) found that there is relationship between quality of information sources and utilisation. Besides utilisation of the sources, patterns of use are necessary and are achieved through evaluation of the collection. Udoh (2008) noted that it is the worth of a collection that results in its use and graduates steadily toward user satisfaction. It is such material, those in which the user finds satisfaction, that will be heavily used; and the ones that do not provide satisfaction will be lightly used.

This study concerned itself with the Faculty of Pharmacy Library, University of Uyo where printed pharmacy–related materials are kept. The problem the study sought was to determine utilisation patterns in the Faculty of Pharmacy Library collection, and to determine those areas (classification) of heavily-utilised, moderately-utilised and lightly-utilised material. It sought to assess and analyse the Pharmacy Library collection so as to ex-ray utilisation patterns within the collection. The research question concerned itself with the type of materials which are utilised, and the study hypothesized on whether there is significant relationship between utilisation of

materials and types. This study is very significant, as patterns of used materials are elicited to guide weeding, re-organisation and procurement of information sources by the mother institution.

MATERIALS AND METHODS

The research design of this study was ex-post facto. The researchers preferred this method because the research was based on normal, annual statistical compilation of utilisation in the Library. They explored extensively the annual compilation of statistical data made available through daily use of the Pharmacy Library which opens from 9 am - 4 pm on week days. The head count of registered users was made through the checking of library ticket. The books consulted were recorded by their classification as they were picked from the users' tables for re-shelving. Re-shelving of consulted/used resources is done two times a day: 12 noon - 1 pm and 3.30 - 4 pm.

The information sources in Pharmacy Library range from "general medicine" (R) to "other systems of medicine" (RZ), plus some in the pure sciences and mathematics (Q, QA-QD, QH-QP, QR), "pharmacy/chemical industry" (H-HX) and "environmental sanitation/technology" and "chemical technology (TD & TP), as well as "food sciences" (TX). "General dictionaries" (AG) are also included in the Pharmacy Library's collection.

Main Hypothesis of the Study

The null hypothesis states that there is no significant relationship between utilization and types of materials consulted. In order to test the hypothesis, two variables were identified as follows: types of materials as the independent variable and utilisation of the materials as the dependent variable. Pearson Product Moment Correlation analysis was used to analyse the data in order to determine the relationship between the two variables.

RESULTS

Table 1 shows frequency of one year's (2010) distribution of use by the library users, ranging from *RM* sources (which were used 1388 times), to *AG* general dictionaries, which were consulted 24 times in the same year. The table clearly shows the total number of head count (users) on monthly basis and a total number of five thousand nine hundred and seventeen (5,917) users in the year 2010.

Other data are the types of materials consulted by the users; these were tabulated in order to know the rate of high-demand, moderate-demand and low-demand materials consulted by students and staff. From the above, we observed that materials under Therapeutics and Pharmacology (*RM*) were highly used by one thousand three hundred and eighty-eight (1,388) users for the year 2010, while the least consulted material for the year was General Dictionaries (*AG*), consulted by twenty-four (24) researchers in the same year (Table 2).

Table 3 presents the obtained r-values as 0.574, 0.529, 0.517, 0.896, 0.898, 0.735, 0.815, 0.625, 0.832, 0.964, 0.615, 0.741, 0.789, 0.878, 0.838, 0.459, 0.509, 0.112 and 0.276 for *R, RA, RB, RC, RD-RE, RG, RJ, RK, RL, RM, RS-RZ, H-HX, Q, QA-QD, QH-QP, QR, TD-TP, TX, and AG* respectively.

These values were tested for significance by comparing them with the critical r-value (0.576) at 0.05 level with 10 degree of freedom. The obtained r-values were greater

than the critical r-value for classifications: *RC, RD-RE, RG, RJ, RK, RL, RM, RS-RZ, H-HX, Q, QA-QD, QH-QP.* Hence, the result was significant. However, the obtained r-values for *R, RA, RB,* the library materials and most of the types of material consulted in the Pharmacy Library. In view of the fact that the relationship between utilisation of most material was found significant, the null hypothesis was rejected, while the alternate one was retained.

QR, TD-TP, TX and *AG* were lower than the critical r-value. The result therefore showed significant relationship between utilisation of

These findings were represented in Fig 1, which used bar chart to represent heavily used, moderately used and lightly used information sources.

Table 1: Head Count and Checklist of Books Consulted by Staff and Students, 2009/2010 Session

MONTH	UTIL	R	RA	RB	RC	RD_RE	RG	RJ	RK	RL	RM	RS_RZ	H_HX	Q	QA_QD	QI
	Y	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	K14	X1
JAN.	760	46	67	46	61	44	3	11	33	65	152	129	3	13	54	8
FEB.	1,159	30	67	45	106	50	64	57	26	136	245	109	66	64	06	7
MARCH	85	5	3	9	20	2	6	4	4	9	38	3	2	5	4	5
APRIL	299	14	15	15	35	14	19	15	18	17	87	28	18	19	15	2
MAY	234	11	9	32	16	15	2	4	1	1	49	56	3	1	10	5(
JUNE	584	31	28	60	42	29	12	7	5	14	121	111	6	11	35	6
JULY	543	49	29	69	40	13	9	15	4	8	120	101	3	5	6	6
AUGUST	327	30	11	36	13	5	6	6	2	2	103	90	1	1	4	4
SEPT.	343	26	12	48	6	5	1	0	0	0	116	121	0	0	1	3
OCT.	477	29	18	40	23	14	3	6	2	4	119	135	6	0	7	5
NOV.	582	54	37	51	27	21	18	16	3	7	118	109	0	0	1	6
DEC.	524	36	28	65	38	15	7	10	4	2	120	124	0	3	1	5
TOTAL	5,917	361	324	516	427	227	182	151	102	268	1388	1116	108	122	14	63

Key: UTIL = total utilized; R, RA, RB, etc. = Library of Congress subject classification codes

Table 2: Patterns of Utilization for Heavily-, Moderately- and Lightly-Used Information Sources.

RM Therapeutics Pharmacology Pharmacogenetics Pharmacokinetics	1388
RS-RZ Pharmacy	1116

Materia medica Pharmaceutical biochemistry Pharmaceutical calculations Pharmaceutical chemistry Pharmaceutical dosage forms Pharmaceutical economics Pharmaceutical ethics Pharmaceutical laboratory technology Pharmaceutical supplies Pharmaceutical telecommunication Pharmaceutical technology Pharmaceuticals, Delayed action Pharmacists Pharmacy technicians Formularies Pharmacopeias Pharmacognosy Plant drugs Assay Nursing Eclectic medicine Homeopathy Other systems of medicine	
QH-QP Biology Botany Human anatomy Comparative histology Physiology Animal Biochemistry Experimental pharmacology	633
RB Pathology	514
QA-QD Mathematics Physics Chemistry	504
RC Internal medicine	427

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QR Microbiology Pharmaceutical microbiology	383
R General medicine	361
RA Public aspects of medicine Toxicology Biochemical toxicology Pharmaceutical policy Pharmaceutical services Pharmacies, Hospital	324
RL Dermatology	268
RD-RE Surgery Ophthalmology	227
RG Gynecology Obstetrics	182
TD-TP Environmental technology/sanitation Chemical technology	166
RJ Pediatrics	151
Q General science	122
H-HX Pharmacy & chemical industries	108
RK Dentistry	102
TX Food engineering	79
AG General dictionaries	24

DISCUSSION

The results of the findings showed that RM (1,388 times consulted) and RS-RZ (1,116 times consulted) were very heavily used. Those resources moderately consulted were *R, RA, RC, RD-RE, RL, QA-QD, QH-QP, QR.* Those least consulted or lightly utilized resources were *H-HX, RG, RJ, RK, Q, TD-TP, TX* and *AG.* It should be noted that even though use levels were not significant, they were still utilised by researchers.

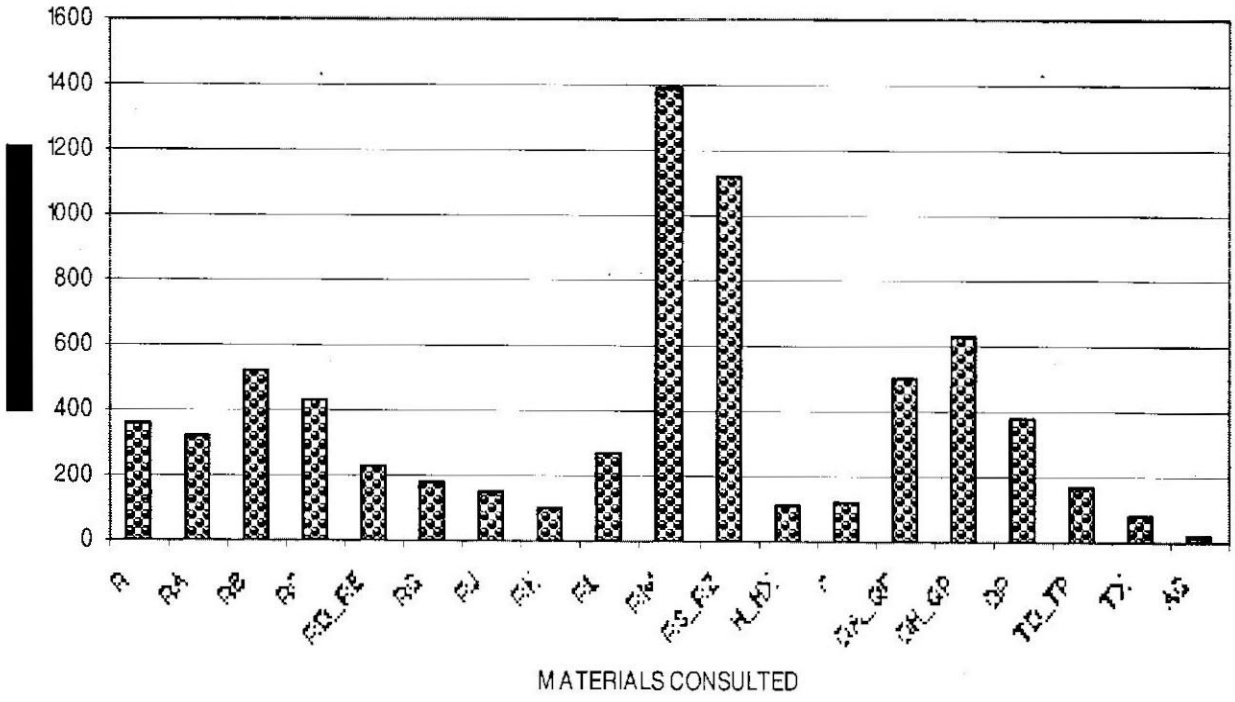

FIG. 1: BAR CHART REPRESENTING HEAVILY USED, MODERATELY USED AND LIGHTLY USED INFORMATION SOURCES

The use of such results is important to library service. If the quantity of heavily-used materials is not increased, there is a tendency for overuse of such material, which results in wear and tear and mutilation of that material. If copies of heavily used materials are inadequate and users have to wait for few copies, this contradicts the third low of Ranganathan, which concerns saving the time of the user. The results also indicate that the lightly-used materials should be retained, as some were found to be significant.

CONCLUSION AND RECOMMENDATIONS The study showed that there is significant relationship between utilisation of pharmacy information resources and types of information sources in the Pharmacy Library, University of Uyo. Some information sources were heavily, moderately and lightly utilised by the users. Similar results were found by Mahajan (2009) who

concluded that libraries must understand information utilization for efficient information delivery. Libraries must understand utilisation levels of their collections so that they can acquire relevant materials that would meet users' needs. It is through this type of data analysis that the true situation of utilization patterns is revealed.

Table 3: Pearson Product Moment Correlation Analysis of the Relationship Between Utilization and Types of Materials Consulted in Pharmacy Library.

Variable	Σx	Σx^2	Σxy	r
	Σy	Σy^2		
Materials R	(χ_1)	722	143670	2340516	0.574$^{\Delta}$
Materials RA	(χ_2)	648	118636	213131	0.529$^{\Delta}$
Materials RB	(χ_3)	1032	292114	3336590	0.517$^{\Delta}$
Materials RC	(χ_4)	854	205438	2810836	0.896*
Materials RD-RE	(χ_5)	454	58312	1496520	0.898*
Materials RG	(χ_6)	332	38274	1189784	0.735*
Materials RJ	(χ_7)	302	27130	1005260	0.815*
Materials RK	(χ_8)	204	12584	675246	0.625*
Materials RL	(χ_9)	533	95249	1819066	0.832*
Materials RM	(χ_{10})	2776	2116678	9050592	0.964*
Materials RS-RZ	(χ_{11})	2232	1368652	7232883	0.615*
Materials H&Hx	(χ_{12})	216	16448	732386	0.741*
Materials Q	(χ_{13})	244	19692	823308	0.789*
Materials QA&QD	(χ_{14})	1008	284578	3309431	0.878*
Materials QH&QP	(χ_{15})	1266	439996	4117237	0.838*
Materials QR	(χ_{16})	766	163550	2484011	0.459$^{\Delta}$
Materials TD&TP	(χ_{17})	332	32578	1089613	0.509$^{\Delta}$
Materials Tx	(χ_{18})	158	8542	515871	0.112$^{\Delta}$
Materials AG	(χ_{19})	48	694	156730	0.276$^{\Delta}$
Utilization (y) 38784464					11834

*Significant at 0.05 level; not significant at 0.05 level; df = 10; N = 12; Critical r-value = 0.576

The researchers conclude by presenting the following recommendations:

stock of heavily-used and moderately-used resources should be increased to multiple

copies in order to satisfy user needs; resources not heavily used should be evaluated for currency and relevance to the core courses in the Pharmacy Faculty; basic reference sources, whether used heavily or not, should be retained; other auxiliary libraries and resource centres in the University of Uyo system should evaluate their collections for the '3As,R&C' of information quality, so as to provide effective and efficient collection development and management; orientation to the library resources relevant to the faculty's pharmacy courses should be given to lecturers and students.

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