

## An Evaluation of Reader Services at the University of Science and Technology Library, Kumasi-Ghana

### PART II: EVALUATION OF THE U.S.T. LIBRARY (PART I WAS PUBLISHED IN THE J. UST VOL.15 NO.1, 1995)

Isaac Osei, BA, PDLIS, PGDE, MPhil,  
MGLA  
Librarian  
University of Science and Technology  
Kumasi, Ghana

The U.S.T. Library is being evaluated within the context of the provision of reader services to support learning/ study, teaching and research activities in the University of Science and Technology, Kumasi, thereby meeting the information needs of the user community. These needs are met by providing satisfactory services which contribute to the efficiency and effectiveness of the University.

In fact, it is a proven fact that the provision of satisfactory services is contingent upon the availability of up to date stock, adequate physical facilities, good furnishing and equipment. Particularly, the presence of an adequate number of qualified professional staff to manage the library collection and to render effective and efficient services is [www.ust.edu.gh](http://www.ust.edu.gh)

In view of the foregoing, the resources, services, and physical facilities of the U.S.T. Library were evaluated. The evaluation was based on the collection of data on all aspects of reader services, via the administration of questionnaires for the potential users of the U.S.T. Library as regards its strengths and shortcomings, and it covered the areas of library orientation, adequacy and availability of collections, retrieval tools, physical facilities, hours of opening, library staff and services. To ensure instant return of questionnaires, these were administered more or less as interview guide. Response received 100 per cent success for the students and the teaching staff, respectively; and 93 per cent for the non-teaching staff. The low response rate of 9.3% reflects the fact that only 10.5% of this category registered in the 1988/89 academic year to use the li-

brary. As a staff, the writer has observed that, unlike the students and the teaching staff, the use of the Library is not popular among the non-teaching staff.

All these were augmented with seven years of observation of the daily activities of the Library which has made the writer acquainted with staff of the reader services department and readers, and thus acquired a writer of experiences which helped considerably in examining and elucidating things in their proper perspective.

If a library is not to remain a mere store house of collections but to be used to advance the pursuit of knowledge and dissemination of information, then the collections, services and all other facilities provided by the library must be exploited to the full. This brings to mind the necessity of instructing those to exploit these the right way of doing it and imparting to them adequate and relevant skills to meet such a task. This is a recognition of the fact that, without adequate library instruction, one could hardly exploit a library's bibliographic resources.

Besides, receiving training in the use of a library and in the organization of recorded information, is an essential part of educational experience which enables the reader find his way through the jungle of printed and other materials that might be relevant to his task, and at the same time imbue him with skills that will be vital to his continuing self education. It therefore believes on the Librarian and his staff to train the reader to train himself.

This explains the objectives of the orientation programme instituted by the Library for its fresh students.

The Orientation which takes the form of a tour gives the students actual physical and psychological experience of being in the Library building. The tour also enables the students familiarize with the

... layout of the Library, the location of various collections and service points, the nature of the classification scheme used and the catalogues. The services the Library offers



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and how to use them are intimately explained. Further explanation given on membership and registration procedures, borrowing privileges, how books may be borrowed, and the rules and regulations that guide the use of the Library.

Finally, they are taught how to use reference tools such as the library catalogues, periodical indexes, abstracting journals and periodical subject indexes, all in the single tour spanning forty-five minutes. [1]

Holding every thing constant, an effective and efficient library orientation/instruction must enable readers identify, locate and retrieve information and documents. Therefore, in order to ascertain whether the readers have had any orientation/ instruction in the use and the exploitation of the library, its resources, services and facilities, the students, the teaching staff and the non-teaching staff were asked whether they had received any orientation/ instruction. In response to this question, 400 (76.2%) of the students and 11 (7.6%) of the non-teaching staff indicated that they had received some kind of orientation/ instruction. 125 (23.8%) of the students did not receive any orientation/instruction, since none was organized for them. None in the teaching staff category responded to this question. In fact, the practice at the U.S.T. Library is that orientation/instruction is organized for this category of staff on request, but none is on record to have made such a request. However by virtue of the fact that the teaching staff had either used the Library during their days here as students, or used similar libraries elsewhere and through constant use of the U.S.T. Library, had become acquainted with its facilities and resources.

The readers were also asked whether they did understand what they were taught. Three hundred and eighty (72.4%) of the students and 11 (78.6%) of the non-teaching staff indicated that they followed the orientation/instruction. However, 20 (3.8%) of the students claimed not to have understood what was taught them.

An attempt was made to find out the level of orientation/instruction they had received, and therefore readers were subsequently asked if they needed more orientation/instruction which emphasized more of identification, location and retrieval of materials. Four hundred and twenty-five (81.0%) of the students responded in the affirmative; whilst none of the teaching and the non-teaching staff needed anymore orientation/instruction. Similarly, 100 (19.0%) of the students indicated that they did not need anymore

orientation/instruction. The response of the majority of the students for further library orientation is an affirmation that, there is something wrong with the approach.

There is no doubt that the U.S.T. Library package is basically orientational, in that, it leans heavily towards answering the "WHAT", "WHERE", "WHEN", and "HO" questions of library use.

This is inadequate to equip students whose library background and use of literature and capabilities of using information retrieval tools is limited. The instruction should therefore go beyond simple orientation and emphasize the use of bibliographic tools - the title/ author and classified catalogues, indexes and bibliographies; familiarization of students with the general body of literature in their subject fields and search strategies that might be employed to identify, locate and retrieve information and documents.

To buttress this fact, readers were asked how often they found Library materials when they used the catalogue. Two hundred and twenty-three (42.5%) of the students reported that they seldom found the materials when they used the catalogue, 202 (38.5%) did sometimes find them; whilst 100 (19.0%) often found such materials. Majority of the teaching staff - 60 (80.0%) often found the materials, whilst 15 (20.0%) did so sometimes. All the non-teaching staff claimed that they often found such materials when they used the catalogue.

This gives ample evidence that the first category of readers have a problem in the use of the catalogue as a document retrieval tool. Reasons that account for this are not far-fetched. First and foremost, most of the students lack the skills for using the catalogues as document retrieval tool. To be able to use the catalogue effectively to retrieve a known item a reader must be familiar with the catalogue and must understand its use and be able to locate the call number from the catalogue. Secondly, a reader must be able to find the correct place on the shelves where a particular item should appear. Evidence adduced so far shows that students rather lack such skills, and this partly explains the situation.

Factors which impinge on or raise the availability of books and related materials could also be responsible for this. They include the number of copies held, the frequency with which an item is sought (i.e. its popularity); the length of time it is off the shelves when being used. All these factors are rife in the U.S.T. Library. The books and related materials are

not enough for adequate circulation and as a result documents are quickly borrowed. Borrowers, however, cling on to borrowed books for more than the period allowed them and only reluctantly return them when they are written to. They are reluctant to return them for fear that they may not have access to them again should the need arise, and this exacerbates the problem of inadequacy and the problem of the books being off the shelves for a long time. This problem is cyclical.

There is also the problem of updating the catalogues. For instance, some books may be lost or withdrawn as a result of mutilation by users yet their records are not deleted. Other materials sent for rehabilitation do not have any indication on their records to keep readers informed. The latter is more of a problem of communication. What all these mean is that, even where a reader is able to identify a known item he is unlikely to find it on the shelves except when there are multiple copies.

Worse still, the guiding system in the library is poor. Some shelves are not boldly and adequately labelled to lead a reader to the location of an item. This is a serious shortcoming and setback because good guiding in a library enhances identification, location of facilities, services, books and related materials. In short, it facilitates intellectual accessibility.

It is however revealed that the main problem of the students is their unfamiliarity with the catalogues. This conclusion is drawn from their response to a question which asked them to indicate the difficulties they encountered whenever they used the catalogues. Three hundred and seventy-eight (72.0%) indicated that they were unfamiliar with the use of the catalogues. Forty-seven (9.0%) claimed that the catalogues were inadequate. Fifteen (2.10%) of the teaching staff also made a similar complaint. The rest of our subjects - 100 (19.0%) of the students; 60 (80.0%) of the teaching staff, and the non-teaching staff do not have any problem in using the catalogues.

To strengthen the contention that the main problem associated with most students' use of the catalogues resulted from inadequate bibliographic instruction or lack of it, the students were separated into three categories, namely, 'other' (i.e. those with adequate bibliographic instruction; those with inadequate instruction and those without). The responses were 100 (19.0%), 253 (48.2%) and 125 (23.8%) respectively. This, in effect, highlights the importance of adequate bibliographic instruction in the use of libraries, facilities, collections and services. The opposite denies students the effective use of the library

and its bibliographic collections.

As part of the enquiry into the acquired skills of students, teaching staff and the non-teaching staff in the use of information and document retrieval tools, they were asked to indicate whether they used bibliographies and indexes as retrieval tools. Indirectly, it sought to find out who did searches for them. Among the students 100 (19.0%) indicated that they did the searches themselves. Four hundred and twenty (80.0%) indicated that they did not use them at all. This means that for the majority of students, either the library staff did it for them or preferably they used 'an invisible college' approach first. This adds further weight to the deficiencies in the instruction programme. The affirmative response 75 (100.0%) from the teaching staff, indicate that they have no problem in the use of those information retrieval tools. Their ability to use these tools therefore demonstrates an enhancement of intellectual access to recorded information. This is not the case with the majority of the students.

#### ADEQUACY OF COLLECTION

Every library exists mainly to serve the needs of its readers. Similarly, the U.S.T. Library exist basically to serve the University Community made up of students, teaching and research staff and non-teaching staff. Among the resources that the Library needs to serve her readers are books and related materials, i.e. the bookstock. To the readers, there is nothing so important than the collection because it is a basic conduit through which their varied information needs could be satisfied.

To satisfy these varied information needs and interests, the collection must be adequate in terms of quantity, quality and currency. It must also be accessible. In other words, the collection should be comprehensive enough to satisfy all the curricula and extra-curricula needs of both undergraduates and graduates, the non-teaching staff, teaching and research requirements of Faculty.

Thus said, it is pertinent to know how far the Library is meeting such varied needs of the three categories of readers as regards the general collection. There is no doubt that the students and Faculty use certain core materials intensively, and are familiar with such collections and hence are better placed to assess them since they hold expert opinion in their respective subject fields and have a broad knowledge of the literature. Similarly, the non-teaching staff use materials appropriate to serve their needs better.

This client-centred approach to evaluating the

adequacy and availability of the collection, therefore took cognizance of the views of the three categories of readers with respect to their faculties and work places. The client-centred approach has its precedents. Bonn (1974) [2] in particular has reviewed most of these impressionistic evaluation of library collections where faculty members were asked to rate the collection in their subject areas on some type of scale. This study however adopted a scale different from the type reviewed by Bonn.

It must be stressed that collection size is an important indicator of its utility because the larger the collection the greater the probability that it will be able to satisfy the information needs of its readers. Similarly, below a certain minimum of collection, a library could hardly provide the variety of materials needed to provide adequate service. Both opinions are corroborated by Moore (1989) who is of the view that "... the level of resources available to the library service ultimately determine the potential level of performance which can be expected of that service". [3] Therefore, to determine the adequacy and how far the U.S.T. Library is meeting the document and information need of its user community, the opinions of the various categories of readers were sought. The collections evaluated were the Lending, Undergraduate, Periodicals, Reference and Ghana Collections.

#### Lending Collection (Students)

The objective was to find out how adequately their areas of specialization were supplied with books and other related materials. When the students were asked about the extent that the lending collection met their demands, 300 out of 525 students answered this question and therefore assessed the lending collection. Sixty-one (63.5%) from the Social Sciences; 20 (48.8%) - Engineering; 13 (13.1%) - Pharmacy; 19 (39.7%) - Environmental and Development Studies; 15 (32.6%) - Agriculture; 10 (45.5%) - Institute of Renewable Natural Resources; 16 (28.6%) - Art; 40 (36.7%) - Science and 40 (56.3%) - School of Medical Sciences indicated that the collection was inadequate. This means that these groups of students do not have their fair share of these materials in their respective fields.

Twelve (12.5%) - Social Sciences; 3 (7.3%) - Engineering; 5 (13.9%) - Pharmacy; 5 (10.4%) - Environmental and Development Studies; 5 (10.9%) - Agriculture; and 20 (18.3%) - Science; were of the view that their respective disciplines were fairly covered. In other words, they have a fair share of the lending collection in their respective fields.

However, 6 (6.3%) - Social Sciences; 4 (9.8%) - Engineering; 2 (5.6%) - Pharmacy; and 4 (8.3%) -

Environmental and Development Studies shared the opinion that the collection was adequate in their respective fields.

#### Teaching Staff

Forty-two out of 75 respondents assessed the lending collection. All of them revealed by their responses that the collection was inadequate. The details are as follows: 3 (60.0%) - Social Sciences; 10 (71.4%) - Engineering; 4 (66.7%) - Pharmacy; 7 (58.3%) - Environmental and Development Studies; 4 (66.7%) - Agriculture; 2 (40.0%) - Institute of Renewable Natural Resources; 2 (22.2%) - Art; 5 (55.6%) - Science; and 5 (55.6%) - School of Medical Sciences.

#### Non-Teaching Staff

The respondents were of the opinion that the collection they used in the lending section were inadequate. Two (14.3%) - Science and Technology; 4 (28.6%) - Social Studies; and 8 (57.1%) - Central Administration shared this opinion.

#### Undergraduate Library (Students)

Sixty (62.5%) - Social Sciences; 27 (65.9%) - Engineering; 29 (80.6%) - Pharmacy; 43 (93.6%) - Environmental and Development Studies; 43 (93.5%) - Agriculture; 6 (27.3%) - Institute of Renewable Natural Resources; 6 (10.7%) - Art; 82 (75.2%) - Science; and 50 (70.4%) - School of Medical Sciences, indicated that the collections in their various disciplines in the Undergraduate Library were fair. This means that they could almost always have access to such collections anytime they wanted to use them. This in fact, is the essence of the setting up of this reference collection, particularly to obviate the deficiency in the lending sections by providing immediate accessibility of books in demand.

This notwithstanding 36 (37.5%) - Social Sciences; 17 (34.1%) - Engineering; 3 (8.3%) - Pharmacy; 5 (10.4%) - Environmental and Development Studies; 3 (6.5%) - Agriculture; 16 (72.7%) - Institute of Renewable Natural Resources; 49 (87.5%) - Art; 24 (22.0%) - Science and 20 (28.2%) - School of Medical Sciences respectively, viewed the collection in their various disciplines as inadequate. Only 4 (11.1%) - Pharmacy; 1 (1.8%) - Art; 3 (2.8%) - Science and 1 (1.4%) - School of Medical Sciences considered the collection as adequate.

#### Teaching Staff

The majority opinion of the teaching staff, with the exception of the Institute of Renewable Natural Resources and the College of Art, is that the collection fairly met their demands. The details are as follows: 6 (60.0%) - Social Sciences; 7 (50.0%) - Engineering;

(83.3%) - Pharmacy; 8 (66.7%) - Environmental and Development Studies; 6 (100.0%) - Agriculture; 2 (40.0%) - Art, 6 (66.7%) - Science and 7 (77.8%) - School of Medical Sciences.

Those who shared the opinion that the collections were inadequate were as follows: 2 (40.0%) - Social Sciences; 4 (28.6%) - Engineering; 1 (16.7%) - Pharmacy; 4 (33.3%) - Environmental and Development Studies; 3 (60.0%) - Institute of Renewable Resources; 7 (77.8%) - Art; 3 (33.3%) - Science and 2 (22.2%) - School of Medical Sciences.

Only 3 (21.4%) - Engineering, considered their collection adequate to meet their demands.

#### Non-Teaching Staff

Two (14.3%) - Science and Technology; 4 (28.6%) - Social Studies; and 8 (57.1%) - Central Administration were of the view that the collections they used in the Undergraduate Library were fair.

#### Periodicals

Periodicals, particularly research-oriented ones provide latest information on various fields than books. For this reason, a University Library must provide them for use by its readers to cope with most recent developments in their respective fields of teaching, learning and research. This implies that the provision and use of periodicals becomes one of the best ways to sustain the interest of graduate students, lecturers and researchers in particular, in their chosen fields, and of extending their range of curiosity and knowledge. To this extent, the provision and use of periodicals gains immense value in a University of this type - a University of Science and Technology, which by far is more research-oriented. This makes it imperative to ascertain how well the U.S.T. Library has been providing periodicals for use by its readers.

#### Periodicals (Students)

Out of the total of 525 students, 241 of them indicated that they went to the Library to consult periodicals. They revealed that the periodical collection is inadequate. The breakdown is as follows: 15 (15.6%) - Social Sciences; 27 (65.9%) - Engineering; 33 (91.7%) - Pharmacy; 26 (54.2%) - Environmental and Development Studies; 30 (65.2%) - Agriculture; 60 (55.0%) - Science and 50 (70.4%) - School of Medical Sciences. Generally, students use periodicals when they are referred to specific articles by their lecturers.

#### Teaching Staff

The results show that majority of the teaching staff often consulted periodicals. All the respondents

however indicated that they were inadequate: 5 (100.0%) - Social Sciences; 14 (100.0%) - Engineering; 6 (100.0%) - Pharmacy; 12 (100.0%) - Environmental and Development Studies; 6 (100.0%) - Agriculture; 2 (40.0%) - Institute of Renewable Natural Resources; 2 (22.2%) - Art; 9 (100.0%) - School of Medical Sciences.

Considering the fact that journals communicate current information and results of research findings, the picture is not good enough, because as research-oriented staff, it is imperative that they are kept up-to-date with the trend of researches in science and technology elsewhere, and this is only possible with the supply of adequate core journals in the various disciplines covered by the Library.

#### Non-Teaching Staff

Only one responded but indicated that the periodical collection is inadequate. This forms (7.1%) of the Social Studies category.

#### Reference Collection

These materials are purely and strictly for reference purposes. Undoubtedly, the reference collection of a University Library is so important that it must be comprehensive in the principal fields of knowledge. That is to say, that, the reference collection of the Library should be strong, particularly in all the subjects or courses being offered at the University. The three categories of readers were therefore asked for their views on their respective fields in the reference collection. Worthy of note here, are the views of Faculty since they are engaged in advance researches most of the time.

#### Students

Forty (41.7%) of students from the Faculty of Social Sciences intimated that the collection was fair. Similarly, 15 (36.6%) - Engineering; 12 (33.3%) - Pharmacy; 10 (20.8%) - Environmental and Development Studies; 11 (23.9%) - Agricultural; - Institute of Renewable Natural Resources; 12 (21.4%) - Art; 22 (20.2%) - Science and 12 (16.9%) - School of Medical Sciences considered the reference collection fair in their respective fields.

On the other hand, 56 (58.3%) - Social Sciences; 25 (61.0%) - Engineering; 24 (66.7%) - Pharmacy; 38 (79.2%) - Environmental and Development Studies; 35 (76.1%) - Agriculture; 15 (68.2%) - Institute of Renewable Natural Resources; 44 (78.6%) - Art; 87 (79.8%) - Science and 59 (83.1%) - School of Medical Sciences indicated that their respective fields in the collections were inadequate.

Only 1 (2.4%) - Engineering and 3 (13.6%) - Institute of Renewable Natural Resources considered the collection adequate.

From the responses, it is revealing that the collection is not comprehensive in any of the disciplines.

#### Teaching Staff

Research work is a very strong component of the teaching staff's activities in the University, as it is core to their promotion and recognition. However, the espability of the library stock may be considered essential to day-to-day research activities of the teaching staff. It is therefore imperative that a comprehensive collection of research materials on the Library's major subject fields be maintained to entice old staff to stay and at the same time attract new ones. To a large extent, it would enable them to perpetuate a standard of scholarly excellence, and subsequently enhance the University's reputation as a centre of learning and research. Consequently, faculty opinions were sought to explore the extent to which the collection was meeting their research requirements. All the respondents: 75 (100%), were of the view that none of the faculties has a comprehensive collection in their respective fields, and hence considered the reference collection inadequate.

#### Non-Teaching Staff

Only one person (7.1%) in the Social Studies category recorded some use of the reference collection and assessed it as inadequate.

#### Ghana Collection

This collection is not strictly developed along subject lines. They consist of materials that deal with Ghana and written by Ghanaians or non-Ghanaians. Other miscellaneous items such as government white papers, gazettes, decrees, statistical and law reports, legislative and executive instruments are also kept in this collection. They are basic reference materials and access to them is made on request. The collection has however attracted little patronage from readers in the science and technology disciplines.

#### Students

Students from the following faculties considered the collection as fair. These include: 27 (28.1%) - Social Sciences; 4 (9.8%) - Engineering; 3 (8.3%) - Pharmacy; 2 (4.2%) - Environmental and Development Studies; 2 (4.3%) - Agriculture; 1 (4.5%) - Institute of Renewable Natural Resources; 3 (5.4%) - Art; 7 (6.4%) - Science and 3 (4.2%) - School of Medical Sciences.

On the other hand 64 (66.7%) and 46 (95.8%) from the faculties of Social Sciences and Environmental and

Development Studies indicated that the collection was inadequate. In other words, it was not comprehensive.

#### Teaching Staff

Whilst 5 (100.0%) - Social Sciences; 7 (58.3%) - Environmental and Development Studies; 2 (33.3%) - Agriculture and 2 (22.2%) - School of Medical Sciences shared the opinion that the collection was inadequate; 6 (41.7%) Environmental and Development Studies, however, regarded the collection as fair.

#### AVAILABILITY OF COLLECTION

Every library has some collections that attract heavy patronage as a result of their popularity among readers. At the same time, the less popular materials remain intact on the shelves. This means that in a situation where collections are described as inadequate, this should not be interpreted to mean that there is nothing to be borrowed, but rather the availability of the popular ones or their accessibility is either nil or minimal. The problem however becomes exacerbated when such popular collections are quite few and the recall system is ineffective. In such a situation, the popular books become less available for borrowing. This aptly describes the situation at the U.S.T. Library as responses from the three categories of readers show.

#### Lending Collection (Students)

Majority of the students, 56 (58.3%) - Social Sciences; 18 (43.9%) - Engineering; 11 (30.6%) - Pharmacy; 24 (50.0%) - Environmental and Development Studies; 12 (26.1%) - Agriculture, 10 (45.5%) - Institute of Renewable Natural Resources; 16 (28.6%) - Art; 48 (44.0%) - Science and 36 (50.7%) - School of Medical Sciences, indicated that the lending collections were available for borrowing on few occasions.

#### Teaching Staff

Similar views were shared by the majority of the teaching staff. The breakdown is as follows: 2 (40.0%) - Social Sciences; 8 (57.1%) - Engineering; 4 (66.7%) - Pharmacy; 4 (33.3%) - Environmental and Development Studies; 3 (50.0%) - Agriculture; 2 (40.0%) - Institute of Renewable Natural Resources; 2 (22.2%) - Art; 5 (55.6%) - Science and 5 (55.6%) - School of Medical Sciences.

#### Non-Teaching Staff

All the respondents 2 (14.3%) - Science and Technology; 4 (28.6%) - Social Studies and 8 (57.1%) - Central Administration also shared the view that these collections were available for borrowing on few occasions.

## Undergraduate Library

### (Students)

Sixty-nine (71.9%) - Social Sciences; 30 (73.2%) - Engineering; 30 (83.3%) - Pharmacy; 46 (95.8%) - Environmental and Development Studies; 42 (91.3%) - Agriculture; 89 (81.7%) - Science and 56 (78.9%) - School of Medical Sciences, respectively, indicated that the collections were available almost always.

### Teaching Staff

Among the teaching staff, 5 (100.0%) - Social Sciences; 9 (64.3%) - Engineering; 6 (100.0%) - Pharmacy; 12 (100.0%) - Environmental and Development Studies; 6 (100.0%) - Agriculture; 6 (66.7%) - Science and 7 (77.8%) - School of Medical Sciences shared the same opinion.

### Periodicals

On the question of how often readers found scholarly journals in their respective fields in the Library, majority of those who responded to this question did indicate that they found such journals on few occasions.

This view is shared by students in the Social Sciences-15 (15.6%); Pharmacy-33 (91.7%); Engineering-27 (65.9%); Environmental and Development Studies-26 (54.2%); Agriculture-30 (65.2%); Science-60 (55.0%); and the School of Medical Sciences-50 (70.4%).

This opinion is shared by the teaching staff: 5 (100.0%) - Social Sciences; 14 (100.0%) - Engineering; 6 (100.0%) - Pharmacy; 12 (100.0%) - Environmental and Development Studies; 6 (100.0%) - Agriculture; 9 (100.0%) - Science and 9 (100.0%) - School of Medical Sciences.

### Reference Collection

#### (Students)

From the students' responses, it is revealed that the reference collections were available on few occasions. The breakdown is as follows:

50 (52.1%) - Social Sciences; 27 (65.9%) - Engineering; 28 (77.8%) - Pharmacy; 36 (75.0%) - Environmental and Development Studies; 30 (65.2%) - Agriculture; 15 (68.2%) - Institute of Renewable Natural Resources; 40 (71.4%) - Art; 83 (76.1%) - Science and 50 (70.4%) - School of Medical Sciences.

#### Teaching Staff

This opinion is shared by the majority of the teaching staff. These are 3 (60.0%) - Social Sciences; 7 (50.0%) - Engineering; 4 (66.7%) - Pharmacy; 7 (58.3%) - Environmental and Development Studies; 5

(83.3%) - Agriculture; 3 (60.0%) - Institute of Renewable Natural Resource; 6 (66.7%) - Art; 8 (88.9%) - Science and 5 (55.6%) - School of Medical Sciences.

### Non-Teaching Staff

The only non-teaching staff 1 (7.1%) - Social Studies, who indicated use of the reference collection shared the view that the collections were available on few occasions.

### Ghana Collection

#### Students

A greater percentage of the respondents: 60 (62.5%) - Social Sciences; 48 (100.0%) - Environmental and Development Studies, considered this collection available on few occasions. However, the minority opinion: 36 (37.5%) - Social Sciences; 4 (9.8%) - Engineering; 3 (8.3%) - Pharmacy; 2 (4.3%) - Agriculture; 1 (4.5%) - Institute of Renewable Natural Resources; 3 (5.4%) - Art; 7 (6.4%) - Science; 3 (4.2%) - School of Medical Sciences, intimated that it was available almost always.

#### Teaching Staff

Among those who responded to this question: 4 (80.0%) - Social Sciences; 9 (75.0%) - Environmental and Development Studies; 2 (33.3%) - Agriculture; 2 (22.2%) - School of Medical Sciences, shared the view that the collection was available on few occasions. Just like their student counterparts, the minority opinion: 1 (20.0%) - Social Sciences; 3 (25.0%) - Environmental and Development Studies, contended that the collection was available almost always.

## CHARGING SYSTEM

Every good issue system or charging system must provide information on the following:

1. Who has this book
2. Which book does this reader have
3. How long has this reader had this book
4. When a charged out book is due for return
5. Must not waste the time of the reader.

It is against this background that the views of the respondents were sought to ascertain whether the charging system is efficient.

Among the students 234 (44.6%) indicated that the system was good, whilst 66 (12.5%) shared a contrary

opinion. Two Hundred and twenty-five (42.9%) of the students did not respond.

Majority of the teaching staff 32 (42.7%) also considered the system good. Ten (13.3%) of them indicated that it was poor. Thirty-three (44.0%) did not answer the question.

Among the non-teaching staff 12 (85.7%) considered the system good whilst 2 (14.3%) of them thought otherwise.

The majority opinion in each category is that the system was working well and therefore it was good. This aptly describes the quality of the charging system. Particularly, the information that borrowers provide when borrowing books answer all the questions aforementioned.

A borrower supplies the following information on a three-part slip:

1. Author's name and title of the book: This answers the question what book does the reader have.
2. Borrower's name and signature, undoubtedly is much revealing about who has this book.
3. Date of borrowing does tell when the book was borrowed and when it is due for return.
4. It may be added that photograph imprinted on personal record cards help reduce impersonation.

It is however contended elsewhere that some borrowers keep borrowed books for far too long, or they may over borrow, and that issue clerks may wrongly file issue slips which might make it difficult to retrieve borrowed books. Hence, it is suggested that an alternative recording system such as the Browne might be put in place. With this, borrowers deposit a ticket each time they borrow a book. The ticket is given back when the book is returned. In such a situation, the maximum number of books out on loan is effectively regulated by the number of tickets issued.

However, little use of this system is found in university libraries. As a result, this type of control is inapplicable. Therefore, whilst conceding that these are genuine problems which make such arguments reasonable, the problems raised lie with factors outside the quality of the system. The issue clerks only need to be careful and meticulous and the problems would be solved. The problem of overdue is a management

problem. The charging system sends the red light about who has defaulted in the return of due books. It is up to management to constantly check issue slips to find out these and to devise a useful means of retrieving such books. It is not the charging system per se that must retrieve those books. Once it gives the information on these category of borrowers its job is done. The gross cases of abuse of borrowing privileges inherent in the U.S.T. Library setting, is therefore, a management created problem. Hence, the issue system is unquestionably working well.

#### ADEQUACY OF INTER-LIBRARY LOAN

No Library is so adequate as not to want to borrow from others. Borrowing from others means two things:

1. That the Library has not been able to find the material for the reader from its own resources. This is to make up for deficiencies and inadequacies in the collection.
2. That it shows a healthy sign of Library co-operation.

The U.S.T. Library is deeply involved in inter-library lending, hence an attempt was made to find out from readers how far it went. The responses from students show that few of them took advantage of this service. Two (0.4%) shared the view that the service was adequate; 6 (1.1%) considered it inadequate, whilst 10 (1.9%) thought it was fair. Five hundred and seven (96.6%) did not respond.

It is however revealed that the teaching staff were taking good advantage of this service. The reason is that they actually needed it because of their teaching and research activities. Twenty (26.7%) thought it was fair, 15 (20.0%) considered it adequate, whilst 10 (13.3%) condemned it as being inadequate.

Like the students, utilization of the service by non-teaching staff is insignificant. Only one person (7.3%) assessed it and rated it fair.

The other interesting observations are that, there is an affirmation that the U.S.T. Library does some inter-library lending activities and hence an amount of co-operation is maintained with others. Secondly, it shows a recognition of making up for gaps, inadequacies and deficiencies.

#### TIME WAITED FOR SERVICE DELIVERY

An attempt was made to find out the opinion of readers over the delivery of satisfied request. Responses from the teaching staff is worthy of mentioning here since they patronize the service. Fifteen (20.0%) considered the time of receipt of satisfied request convenient, whilst 30 (40.0%) shared



the contrary opinion.

Ideally, such requests must arrive in good time to make the need useful. This is however not the case. Many problems make this impossible. As pointed out by Alema and Antwi (1990),[4] the average time for processing inter-library loan requests should not exceed 2 working days and receipt of materials ought not exceed a period of 2 weeks.

However, lack of effective communication system, inadequacies in the collections of the co-operating institutions remained two major constraints among others. This, in fact, partly explains the inefficiency in the service delivery of inter-library lending between the U.S.T, the two sister Universities and other local research institutions.

According to Alema and Antwi, the poor road networks, telephone and postal systems in Ghana also adversely affect any meaningful co-operative venture.

In the light of these problems a resort to the traditional inefficient methods of letter writing and messenger services is inevitable. With the introduction of the Expedited Mail Service (EMS) in the country, part of the delays in the letter writing system is removed. Resort to posting of documents through Delsie, Hebron and Lynn (DHL) service is also quite satisfactory. But the other side is that, the two services are costly, and the question of who bears the cost is perhaps yet to be resolved. However, information urgently needed cannot be sent via either means.

The processing of inter-library loan request is another area of delay. Inadequate staffing especially at the professional level has been identified as a major problem.

One other problem which causes delays in responding to requests is the frequent breakdown of photocopiers and the lack of spare parts to repair them. As pointed out by Alema and Antwi "this often results in several months of delay in their usage, thus hampering co-operative activities"[5].

In a nutshell, these are some of the problems that reduce the efficiency of this segment of reader services at the U.S.T Library.

#### USER SATISFACTION WITH BORROWING

A library may influence readers exposure to materials by the control it exercises over the physical accessibility of materials. In other words, where a library stores collections at convenient locations,

collections are well catalogued and indexed, the catalogue is easy to use, and the shelves clearly signposted, it could ease the amount of effort readers need to use the service of the library.

One of such ease-of-use factors includes miscellaneous accessibility, that is, which books may circulate and for how long, and how many books may be borrowed at a time, *et. cetera*. The latter thus becomes a criterion by which a reader may judge a circulation/lending service. To this end, readers were asked to express their satisfaction or dissatisfaction with the number of books they borrowed. 250 (47.6%) of the students indicated that they were satisfied with the number of books they were allowed to borrow. Fifty (9.5%) responded in the negative. Two Hundred and twenty-five (42.9%) did not respond to the question.

However, every reader in the teaching staff category who responded to the question expressed satisfaction with the number of books they were allowed to borrow. This is 42 (56.0%). This does not come as a surprise because they are allowed to borrow twelve books for a semester. This is allowed in recognition of the fact that they carry teaching and research responsibilities and therefore needed exposure than the other categories of readers. Consequently, they expressed satisfaction with the loan period. This is also 42 (56.0%). However, 200 (38.1%) of the students indicated that they were not satisfied with the loan period. In fact, post-graduate and Undergraduate students are allowed to borrow seven and five books, respectively for two weeks subject to renewal once, though unlimited renewals are allowed. Those satisfied with the loan period are 100 (19.0%). Thus whilst majority of the students were satisfied with the number of books they could borrow, it was the opposite with the retention time.

From observation, these category of students were not happy with the retention time which they considered short because it did not allow them sufficient time, among other responsibilities and problems, to use the borrowed materials fully. At the same time as explained by Donkor (1989),[6] there was the fear that when such materials were returned, they might not have access to them again. This problem thus created overdue. The U.S.T library therefore has to create a balance between the provision of adequate materials and the loan period.

Buckland (1972) [7] has done some useful studies in this direction, and recourse to it may help resolve the problem. His strategy involves a comparison between (a) providing more duplicate copies and (b) reducing loan periods. A possible alternative to the two, as

suggested by him is to embark on an efficient reservation of materials and for recall from circulation when requested by another reader.

Considering the issues raised here, the U.S.T library is not in a position to increase copies due to financial constraints, neither is it prudent to reduce the loan period, more so at a time students even wanted it extended. In fact, for the individual borrower, long loan periods are convenient; they are inconvenient, however, for anyone else. This aptly describes the situation at U.S.T. For the individual borrower here an extension of the retention period would grant him "... greater freedom to retain a book at leisure without being bothered by overdue correspondence, fines and the need to bring it back"[8] At the same time, it would create inconvenience for those who wanted that particular book. This creates frustration in the latter once he has to queue for a long period. To this end, the library has already adopted the alternatives suggested by Buckland. For instance, the library has since 1965 placed most of its popular materials in the reserve collection (the Undergraduate Library Collection), where any reader unable to borrow from the lending section, would almost always find a copy to read at this section. This has proved to be quite effective and to some extent, obviated the problem of inadequate circulation of materials in the lending collection. The Undergraduate library thus creates immediate availability of materials. The Library's recall of overdue materials is however weak and ineffective and this is where emphasis must be placed. An effective recall system as suggested by Buckland is the surest alternative to drawing a balance between satisfaction with borrowing and with loan periods at

Considering the U.S.T setting, the best alternative to providing more duplicate copies of materials and reducing loan periods, is the one in vogue.

#### **USER SATISFACTION WITH PHOTOCOPY SERVICES**

Photocopy services are of immense value in university libraries. It assists readers to obtain instant facsimile copies of documents at cheap rates. Most importantly, such duplication facilities help to make up for the inadequacies in the circulation system. It has one other advantage of minimising theft and mutilation of library materials. This said, it was necessary to know the satisfaction derived from photocopy services rendered by the U.S.T Library.

Among the students 399 (76.0%) showed satisfaction with the service. Whilst 27 (5.1%) thought otherwise.

Twenty-six (34.7%) of the teaching staff expressed satisfaction with the service, whilst 9 (12.0%) felt the opposite.

Those dissatisfied with the photocopy services cited the frequent breakdown of the machines and light failure as disturbing issues. Whilst the last issue raised could be said to be genuine, but not within the means of the Library to help the situation, the first has no substance. This is because, the U.S.T Library has four photocopiers, two of which are always put into operation. A machine is replaced as soon as it breaks down whilst arrangements are made for the repair of the broken down one. Photocopying therefore goes on throughout the working hours of the Library, with power failure being the only case causing interruption.

#### **SEEKING INFORMATION THAT INVOLVES EXTENSIVE SEARCH FROM REFERENCE STAFF**

Seeking information that involves extensive search is in the field of literature searching. The library staff's familiarity with the selection of books, their processing and their location on the shelves give them the upper hand to undertake such searching on behalf of readers who perhaps may want a large number of books to write a book or a research paper. Responses from the readers are self-evident that this activity is rarely carried out at the U.S.T Library.

As indicated by the students, 9(1.7%) of them sought such help from the reference staff, whilst 15 (20.0%) of the teaching staff did so often. However, 516 (98.36%) - Students, 60 (80.0%) - Teaching Staff and 14 (100.0%) non-teaching staff, have never done that. It was expected that the teaching staff who write a lot of research papers for their promotion or for consultancy services, would rather avail themselves of this service. But this is not the case.

The implication might be that, the teaching staff perhaps recognized the inadequacies in the collection, that it might not help in any way. This may be justifiable in some sense, because if the Library could not help much in placing most books on circulation, it was wishful thinking to go for a massive search for such illusive books and related materials. This, of course, is an apt description of the type of a library whose collection might be good for study and teaching, but falls short of the research needs of scholars and researchers. Once the teaching staff share this view, then it means that they only went to the Library in search of few books and reference to prepare teaching notes. If this is not the case, then it means that they undertook the searches themselves.

## REFERENCE SERVICES

Reference services are frontline activities of immense value to every library and its reading public. A whole spectrum of activities went on here to the extent that people often tend to think that it was the pivot of all library activities. This is right to a large extent. Activities such as the simplest (directional-giving assistance to readers in locating materials and using the library resources for information and research), are activities that take place here. Since the U.S.T Library does not keep records of its reference enquiries from readers, it becomes a service point that any meaningful assessment of reader services via user opinion cannot ignore.

According to the students, help from the reference staff were encouraging. Four Hundred and Ninety-seven (94.7%) of them indicated that the staff were able to help each time they came with a reference problem. Twenty-eight (5.3%) said they were seldom helpful.

The teaching staff, however, rarely made contact with the reference staff. Only 10 (13.3%) were of the opinion that the staff were able to help. Sixty-five (86.7%) did not respond to the question.

With the Non-teaching staff 11 (78.6%) responded and revealed that the reference staff were able to help them each time they made enquiries.

## USER SATISFACTION WITH LIGHTING SYSTEM

Lighting in the Library is well balanced, as attempts have been made to combine natural and artificial lighting. The only exceptions are the undergraduate library and the Periodicals Section which readers complain about. Particularly, at the Undergraduate Library, the ceiling is high and therefore powerful lights have been used to illuminate the place. However, these generate a considerable amount of heat which the reader experiences as soon as the lights are switched on. The complaint about the periodical section is that it is not properly lit. Readers are also disturbed by the solar glare at the periodicals stack room. Thus students, teaching and the non-teaching staff alike, showed displeasure and this is reflected in the responses.

Two hundred and seventy-one (51.6%) of the students indicated that they were dissatisfied with the lighting system. Two hundred and fifty-four (48.4%), however showed satisfaction with it.

From the teaching staff category, 40 (33.3%) indicated

that they were displeased with it. On the other hand, 35 (46.7%) agreed that the lighting system was good.

Among the non-teaching staff 8 (57.1%) and 6 (42.9%) indicated 'NO' and 'YES' respectively to show dissatisfaction and satisfaction.

## USER SATISFACTION WITH VENTILATION SYSTEM

The Library building depends on natural ventilation, as sufficient effort has been made to ensure that natural ventilation is optimal. However due to compact shelving behind the windows, air cannot easily circulate even when the windows are opened. The situation is particularly worse in the study carrels which are fully paneled, as well as the area which houses the Reference Librarian's desk. The reading areas of the Undergraduate Library are also uncomfortable, and this is partly due to congestion and insufficient air movement.

From the responses of the students 227 (52.8%) indicated that they were dissatisfied with the ventilation system. Two hundred and forty-eight (47.2%) of them expressed satisfaction with the ventilation system.

Forty-four (58.7%) of the teaching staff expressed dissatisfaction, whilst 31 (41.3%) responded that they were satisfied with the ventilation system.

It is also revealed that 8 (57.1%) of the non-teaching staff were dissatisfied with it, whilst 6 (42.9%) showed satisfaction with the ventilation system.

## HOURS OF OPENING THE LIBRARY

The U.S.T. Library remains open everyday with the exception of Sundays and Public holidays. The opening hours are arranged conveniently to enable borrowers and readers to visit the Library at their own convenience. The opening hours are also particularly arranged to take care of the various activities of the readers, particularly, the students at the various periods of the two semesters of the academic year. Notably, the times they prepared and wrote examinations.

To find out how the time of opening suited the various category of readers, their opinions were sought.

## SEMESTER TIME: MONDAYS - FRIDAYS

The U.S.T. Library at this time of the semester opens from 7.30 a.m. - 10.00 p.m. This covers a period of 14½ working hours.

Among the students 357 (68.0%) indicated that the hours of operation suited them. One hundred and sixty-eight (32.0%) however expressed dissatisfaction that the periods of operation were inconvenient to them. Fifty-eight (77.3%) of the teaching staff revealed that the time was convenient. Similarly, the 14 (100.0%) respondents from the non-teaching staff category indicated that the period was convenient.

#### **SATURDAYS**

The Library operates from 8.00 a.m. - 6.00 p.m. on Saturdays for the first half of the semester time. The hours of operation is therefore 10 hours.

It is revealed from the students responses that 266 (50.7%) considered the hours that the Library remained open inconvenient. Two hundred and fifty-nine (49.3%) however, thought it was convenient. It is observed here that the hours of operation on Saturdays of the first half of the semester time is reduced by 4½ hours when compared with the period the Library remained open from Monday - Friday.

This explains the displeasure of the majority of students. Free from strenuous and routine academic and laboratory work, students considered Saturdays to be the time they could put in their maximum to check references, write assignments and do some extra reading to argument notes given them at lectures, and therefore considered the 4½ hours loss, as something one could hardly counteract.

The teaching staff 64 (85.3%) thought the time of operation was convenient. Likewise, the 14 (100.0%) respondents from the non-teaching staff category, found the time convenient.

#### **PREPARATION FOR SEMESTER EXAMINATIONS: MONDAYS - FRIDAYS**

The Library operates from 8.00 a.m. - 10.00 p.m. It therefore remains open for 14 hours. This allows students sufficient time to prepare and write their examinations. This sums up the opinion of the majority students as 395 (75.2%) revealed that the period the Library remained open during this time of the semester was convenient. One hundred and thirty (24.8%) of them however thought otherwise; that the time the Library remained open was inconvenient. Perhaps, they needed an extension at this time of the semester.

All the teaching staff 75 (100.0%) and others from the non-teaching staff category 14 (100.0%) considered the hours of operation convenient.

#### **SATURDAYS**

The Library operates from 8.00 a.m. - 8.00 p.m. on Saturdays for the second half of the semester time. The hours of operation is therefore 12 hours. This is an extension of 2 hours over the first half of the semester time. However, it is 2 hours less than the operation hours from Monday - Friday.

Majority of the students by their responses 350 (66.7%) found this period inconvenient. Being a Saturday, students considered it a time to consolidate on what was already studied and this was better done in the Library, as congestion and activities in the halls of residence made it unattractive to study in such places. The normal operation hours of 14 1/2 hours would have therefore satisfied the majority.

One hundred and seventy-five (33.3%) of the students, however, found the period the Library remained open at this time of the semester convenient. Similarly, all the teaching staff 75 (100.0%) and 14 (100.0%) — the non-teaching staff found the period of operation convenient.

#### **LEVEL OF PERFORMANCE IN THE PROVISION OF PHYSICAL FACILITIES FOR READING AND STUDY**

Majority responses from each category of respondents indicated that the performance of the Library in the provision of physical facilities for reading and study is unsatisfactory.

For instance 402 (76.6%) students shared this opinion. Fifty-four (72.0%) and 14 (100.0%) from the teaching and non-teaching staff categories, respectively, shared this view.

#### **LEVEL OF PERFORMANCE OF READERS' SERVICES UNIT**

Among the students 414 (78.9%) indicated that the performance of the Readers' Services Unit was satisfactory. Eleven (2.1%) found it very satisfactory, whilst 100 (19.0%) considered it unsatisfactory.

Within the teaching staff category 39 (52.0%) found the Unit's performance satisfactory, whilst 36 (48.0%) expressed the opinion that it was unsatisfactory.

The non-teaching staff 14 (100.0%) also shared the opinion that the unit's level of performance was satisfactory.

## BUDGET

Alemna (1990) has rightly pointed out that, "the question of budget pervades all collection development policies. Every good collection is an expression of adequate and sound financial backing, and no collection development can achieve this objective if it is financially handicapped."<sup>[9]</sup>

This is gospel truth which cannot be overstressed. In fact, the dismal picture of inadequacies and gaps in the Library's stock - monographs and periodicals, respectively sums up this. The distortions in budgetary allocations which emanate from the country's economic recession adversely affect the U.S.T. Library. This is because it is the Government of Ghana that provides funds to the University which in turn allocates a portion to the Library. Consequently, the government's inability to provide money weighs much on financial provision for the U.S.T. Library. This explains why funding of the Library has been weak and uncoordinated and which often culminates in tighter library budgets.

It also partly explains the inability of the University of Science and Technology in meeting the 5 per cent budget allocation to the Library as recommended by the Standing Conference of African University Librarians, Western Area (SCAULWA) at its Eight Biennial Conference held in Lome, Togo in April, 1986. Under such economic pressure, the Library is compelled to operate on austere budget with its accompanying consequences. These include inadequate collections and the cancellation of foreign subscriptions.

As observed by Lawal (1986), this is "... the most permanent damage of an austere budget ..." [10] B.Y. Boudi and P. Harvard Williams (1984) have pointed out that, this unhealthy state of affair is peculiar to almost all Libraries in developing countries.

This becomes more illuminating with a look at the budgetary allocation to the U.S.T. Library since the 1988/89 academic year - a period the economy of Ghana is said to have begun to pick its pieces. In 1988, the Library was given c6 million to make local purchases. In 1989 a budgetary allocation of c4 million was also made available to the University for the purchase of books locally. In 1990 the Library was granted c4 million to import books.

These budgetary allocations woefully fall short of what the Library needs, and hence explains its dependence on charity and donations. The funding of the Library is therefore inadequate to meet the basic purpose of

the University and the scope of the University's academic programme. Consequently, the inadequate funding has had effects on developing adequate collections, providing appropriate services, accomplishing necessary operations, and satisfying user needs and demands.

## STAFF

The U.S.T. Library operates as a full-fledged academic department within the University structure. The University Librarian is the head of the department.

Staff structure is hierarchically based and there is a two-tier hierarchy. At the top are the academically related grades - the Librarian, the Deputy, Senior Assistant Librarians and Assistant Librarians. The middle grades are occupied by Library Assistants and Administrative Assistants and at the bottom of the ladder are the clerical and ancillary grades.

A University Library is a service institution and the quality of its service depends primarily on the quality of its staff. To this end, the University places high premium on professional competence, scholarship and high calibre of personnel when recruiting professional staff for the Library. In fact, good academic qualifications and proven ability help the staff to relate more easily to their academic colleagues both in the course of their work and in the social life of the university. The Library staff is structured and organized to cover all the functions fulfilled by the most effective and economical way.

My interview with the Administrative Secretary confirmed the following staff position of the Library: The Librarian, Deputy Librarian, thirteen other professionals of whom four are Senior Assistant Librarians, and the rest being Assistant Librarians. They man the various sections and units of the U.S.T. Library system.

Also, there is a good number of the middle grade staff and the supporting staff.

It may be concluded on this note that the U.S.T. Library has sufficient staff to render reader services to meet the demands of the user community.

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S. W. K. Adadevoh

Department of Obstetrics and Gynaecology  
School of Medical Sciences  
University of Science and Technology  
Kumasi, Ghana

#### ABSTRACT

##### Objective:

The purpose of this study is to

1. determine operative risk factors for cervical carcinoma in our environment.
2. identify frequent modes of clinical presentation.
3. make appropriate recommendations based on the findings
  - (i) to reduce incidence of invasive disease and
  - (ii) also to improve the management of cases

##### Method:

Hospital records of all 41 patients, diagnosed with cervical carcinoma at the Komfo Anokye Teaching Hospital (KATH), Kumasi from January 1989 to December 1991 were critically reviewed and analysed.

##### Result:

The majority of these patients (63.41%) were 50 years of age and above; 78.05% had parity 5 and above and most (73.17%) were rural dwellers.

The duration of symptoms prior to admission to hospital was four weeks or longer in 56.10% of cases. The commonest complaint was vaginal bleeding in 29.41% of cases. Pallor was the most frequent general examination finding (51.28%)

economic status to carcinoma of the cervix.

Greater surveillance, education and screening of high risk women are advised as the strategies for reducing the incidence of invasive carcinoma of the cervix. Provision of facilities needed to manage unfortunate women presenting with late disease and the need for epidemiological studies to determine risk factors and prevalence of cervical carcinoma among women in Ghana are also recommended.

**KEY WORDS:** Invasive cervical carcinoma, Clinical presentation Preventive strategies.

#### INTRODUCTION

The cervix is the commonest site for female genital cancer in Africa [1,2,3]. Junaid (1983) found that it was the most common cancer in the Nigerian female [2]. It is estimated that 2% or more women will develop cancer of the cervix before they reach 80 years of age [4]. Lewis (1964) calculated that one woman in 1000 would die from this disease [5]

Carcinoma of the cervix is not common before the age of 40 years. The risk thereafter rises progressively to reach a maximum at 60 years [6]. The peak incidence is at age 45-55 with a mean age of 50 years. There is a correlation between the incidence of cervical cancer, early coitus and early marriage [3,7,8]. Marital and sexual history there-

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fore are significant. Invasive carcinoma of the cervix and low survival time of the disease is known to be more prevalent among women in the low socio-economic groups [7,9]. The generally low socio-economic status and conditions of poverty and squalor make African women more susceptible to carcinoma of the cervix.

The purpose of this study is to review the cases of carcinoma of the cervix admitted to K.A.T.H to: (1) determine operative risk factors for the disease in our environment; (2) identify frequent modes of clinical presentations; (3) make appropriate recommendations based on the findings to reduce incidence of invasive disease and also improve the management of cases.

## MATERIALS AND METHODS

Hospital records of all patients diagnosed with carcinoma of the cervix during a three year period from January 1989 to December 1991 were obtained for review. There were a total of 41 cases. Other genital tract carcinomas such as vulval, vaginal, endometrial, ovarian and chorionic carcinomas were excluded from the study. Case notes were reviewed for the following information: age, parity, place of residence, duration of symptoms prior to admission, presenting complaints, clinical physical examination findings, diagnosed clinical stage of disease, biopsy results and treatments offered.

Data was analysed manually using simple statistical methods such as proportions/means and presented in tables and histograms.

## RESULTS

**Age distribution:** (TABLE 1) Patients of age 50 years and over constituted 63.41% of all cases. Those within age group 45-49 years formed 21.95%. Hence 85.36% of all affected patients were above 45 years of age. Carcinoma of the cervix was not seen in any patient below the age of 24 years.

**Parity distribution:** (TABLE 2) Grandmultiparae of 5 and above formed 78.05% of the cases. Women of parity 1-4 comprised 19.50%, whilst only one woman was nulliparous (2.44%).

**Rural-Urban residence distribution:** (TABLE 3) There were more rural dwellers admitted (73.17%) than urban dwellers (26.83%).

**Presenting complaints:** (TABLE 4) Vaginal bleeding was the most common complaint presented by 29.41%. Offensive/bloodstained vaginal discharge and lower abdominal pain were the next frequent complaints by 16.81% and 14.29% respectively.

**Duration of symptoms:** (TABLE 5) The majority of patients 56.10% reported to hospital only after symptoms had been present for four weeks or longer. Almost a quarter (24.39%) however reported within a week of onset of symptoms.

**Clinical Findings:** (TABLE 6) The most common findings on general examination were pallor (51.28%) and wasting (30.77%). Active bleeding per vaginam was found in 41.43% of cases. Endophytic and exophytic cervical growths were found in nearly equal proportions of 28.57% and 30.00% respectively.

**Clinical diagnosis:** (TABLE 7) Stage III carcinoma of the cervix was the most common diagnosis in about half of the number of patients admitted (51.22%), whilst stage II came next with 31.71%. Advanced carcinoma of the cervix was therefore the most frequent presentation in 92.68% of the cases. Only 3 patients (7.32%) reported with stage Ib, an early operable carcinoma of the cervix.

**Histology:** (TABLE 8) Eleven (26.83%) patients had a biopsy for histo-logical verification of the cervical growth. The most common histological type of cervical carcinoma was invasive non-keratinizing squamous cell carcinoma in 81.82% of the biopsy specimens. Invasive keratinizing squamous cell carcinoma and adenocarcinoma were each found in only 9.09% of the biopsies.

**Treatment:** (TABLE 9) Most cases namely stage III and IV (60.97%) were inoperable whilst a further 31.71% made up of stage II cervical carcinoma had no surgery. Treatment in these cases were symptomatic with analgesics, sedatives, antibiotics, blood transfusions and haematinics. Three cases, (7.32%) which were those with stage Ib had surgery.

## DISCUSSION

A low yield of only 41 cases of cervical cancer was obtained in this study. The data source was hospital based and a great number of socio-economic and cultural factors influence attendance to hospital in our environment. Considering that the hospital tends to be the last resort for obtaining care for many diseases in our environment, the low yield

TABLE I - AGE DISTRIBUTION

Age Group	No. of Cases	% of Total
<24	0	0
25-34	1	2.44
35-44	5	12.2
45-54	9	21.35
> 54	26	63.41
Total	41	100

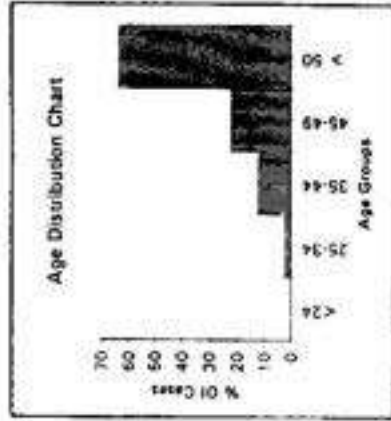


TABLE III - RURAL-URBAN DISTRIBUTION

Location	No. of Cases	% of Total
Rural	30	73.17
Urban	11	26.83
Total	41	100.00

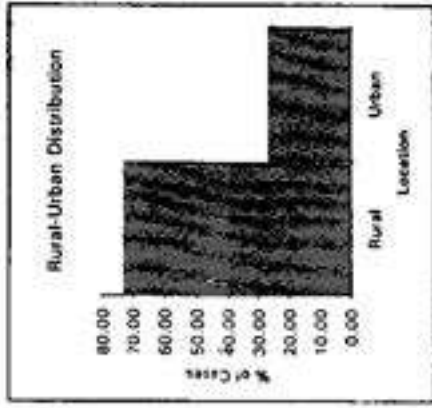


TABLE II - PARITY DISTRIBUTION

Parity	No. of Cases	% of Total
0	1	2.44
1-4	9	21.95
> 5	31	76.05
Total	41	100

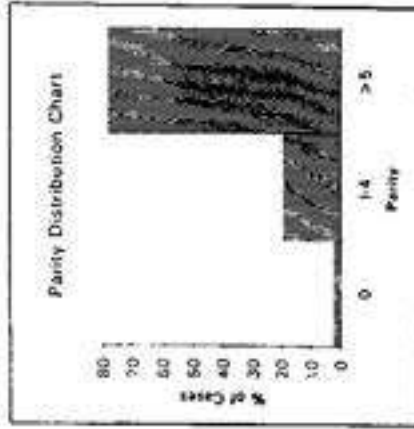


TABLE IV - DURATION OF SYMPTOMS

Duration	No. of Cases	% of Total
< 1 Week	10	24.39
1 - 2 Weeks	2	4.88
2 - 4 Weeks	9	21.95
> 4 Weeks	20	48.78
Total	41	100

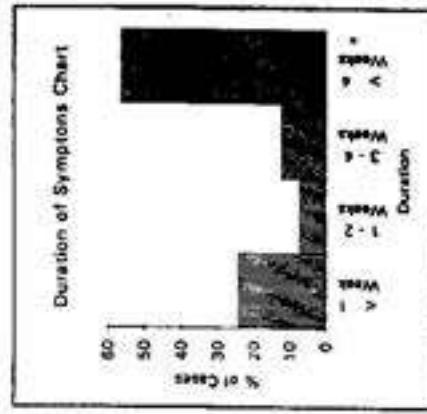




TABLE V - COMPLAINTS

Nature of Complaint (Abbrev)	Abbr.	No. of Cases	% of Total
Offensive/Blood-Stained Vaginal Discharge	OSD	20	16.81
Postcoital Bleeding	PCB	6	5.04
Spontaneous Vaginal Bleeding	SVD	35	29.41
Frequency of Micturition	FM	5	4.20
Dysuria	DYS	8	6.72
Incontinence of Urine	IUO	4	3.36
Abdominal Pain	AP	7	5.85
Rectal Pain	RP	2	1.68
Deep Pelvic Pain	DPP	2	1.68
Low Backache	LB	3	2.52
Oedema of Legs	OL	3	2.52
Loss of Weight	LW	14	11.76
Total		119	100

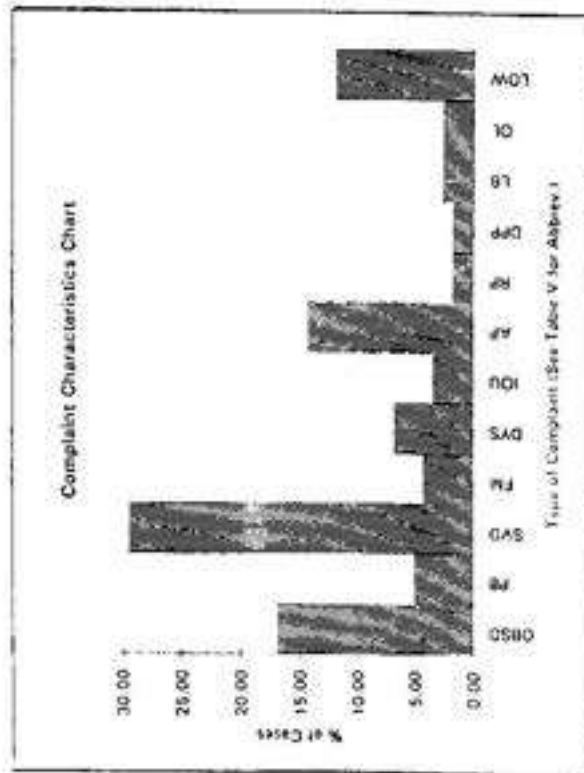


TABLE V1a - GENERAL AND ABDOMINAL EXAMINATION FINDINGS

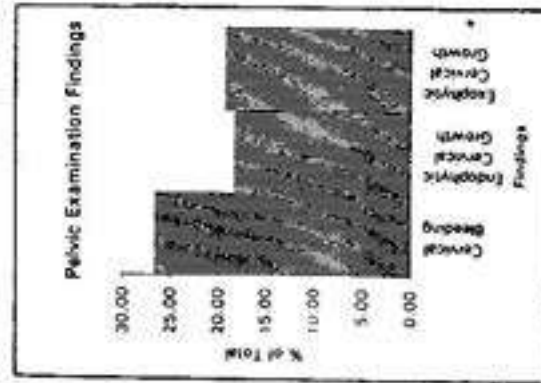
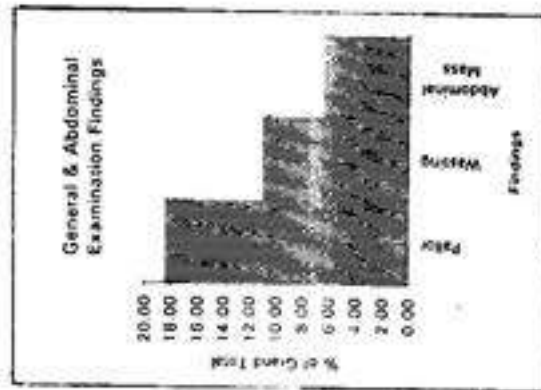
Examination Findings	No. of Cases	% Subtotal	% Grand Total
Pallor	20	51.28	18.36
Wasting	12	30.77	11.01
Abdominal Mass	7	17.95	6.42
Sub-Total	39	100	35.78

Examination Findings	No. of Cases	% Subtotal	% Grand Total
Cervical Bleeding	29	41.43	26.81
Endophytic Cervical Growth	20	28.57	18.35
Exophytic Cervical Growth	21	30.00	19.27
Sub-Total	70	100	64.27

Grand Total	No. of Cases	% Grand Total
General & Abdominal Examination Findings	109	100



obtained would very likely suggest low reporting rates rather than low incidence of disease. Moreover some patients seen in the out patient clinic may have not been admitted to hospital because of the advanced disease state. These records were not available for analysis.

Although the low number of disease cases noted creates some biases in the interpretation of results particularly with respect to risk factors, the results obtained can still provide useful information on cervical cancer patient presentation in our part of the world.

The results clearly demonstrated that invasive carcinoma of the cervix, like most other cancers is a disease of advancing age; 85.36% of patients reviewed were above the age of 45 years. Carcinoma of the cervix is not common before the age of 40 years [6]. In this study only 2.44% of cases seen were below the age of 35 years.

A correlation has been shown to exist between sexual activity and cervical cancer incidence particularly first coitus, marriage at an early age and promiscuity [3,7,8]. Multiple sexual partners, multiparity, and particularly grandmultiparity often means much coitus during many years and starting at a young age. Rojel (1953) reported from Denmark that cervical carcinoma was prevalent among prostitutes and was four times as frequent in this group of women as among women of comparable socio-economic groups [10]. In contrast the disease is rare in virgins and nuns. Gagnon (1952) in an autopsy study of 13,000 nuns reported no cases of cervical carcinoma whereas endometrial cancer occurred in 14 (0.10%) cases - a frequency which was as in other sections of the population [11].

Multiparae comprised 78.05% of cases seen in this study; only one nulliparous woman was seen with the disease. The association between sexual activity and cervical carcinoma is therefore reflected though actual statistical interpretation is limited by the small case numbers and the fact that a central population was not studied.

There is now also sufficient evidence linking cervical carcinoma and viral infections such as Herpes simplex virus Type 2 and Types 16, 18 and 33 Human papilloma virus [12, 13, 14, 15]. Unfortunately however the incidence of these infections in our communities are unknown.

These infections occur with much higher incidence in prostitutes and women of low socio-economic classes [8, 10]. Carcinoma of the cervix occurred

in a higher percentage 73.17% among our rural folks who generally are of lower socio-economic class than urban dwellers (26.83%).

Vaginal bleeding and offensive and/or blood stained vaginal discharge were the more common complaints of the patients, making up altogether 46.22% of complaints. Adelus (1977) also found these two complaints to be the commonest symptoms among cervical cancer patients in Ibadan, an environment similar to ours [16]. Bleeding is a manifestation of a break-through of the carcinoma through the protecting epithelium of the basal membrane. It is a relatively late symptom indicating invasive disease.

Our most frequent clinical findings on general and vaginal examination were pallor (51.28%) and cervical bleeding (41.48%). The clinical diagnosis not surprisingly was advanced cervical carcinoma (Stage II, III & IV) in 92.68% of cases. Late presentation is typical in our environment. Adewunmi (1984) for example found that the majority (over 60%) of patients in Ibadan presented with Stage II disease and above [17]. The greater majority of our women (56.10%) delayed hospital attendance by more than four weeks.

Biopsies for histological diagnosis were infrequently performed in this study. Only 11 biopsies were taken (26.83%). The reason for this may be because patients presented late and often with profuse haemorrhage.

In the management of the patients presenting with invasive carcinoma of the cervix, only three cases with operable stage Ib disease were operated. The rest received palliative treatment. No radiotherapy could be offered because facilities do not exist.

In the search for early carcinomas of the pre-invasive or the early invasive type one cannot rely only on vaginal bleeding and/or discharge to guide the patient to the doctor. However, early carcinoma is more amenable to cure than late disease. It is therefore important to offer screening programs to detect early disease particularly in high risk persons rather than wait for abnormal vaginal bleeding.

Standard screening procedures for detecting cervical carcinoma in its pre-invasive and early invasive phases include cervical cytology by means of Pap smear [18] and colposcopy [19,20]. Using these two procedures screening programs have resulted in a significant reduction in the incidence of invasive cervical cancer in other parts of the world [21]. In

addition to screening, treatment facilities such as radiotherapy for management of advanced carcinoma of the cervix are also needed.

In Conclusion, the study results obtained here support the already noted adverse correlation between advanced age, high parity, low socio-economic class to carcinoma of the cervix. Health education particularly on family planning, on preventing adolescent sex and marriage on awareness of the disease and its symptoms and improvements in general socio-economic status could all act in the long term to reduce the overall incidence of cervical cancer. Greater surveillance through regular medical screening, particularly of high risk women groups is the key to early detection and management of cases thereby reducing incidence and prevalence of invasive disease.

Screening facilities must for example extend to the door steps of the high risk women in the rural areas and the provision of facilities for treatment of those unfortunate women who present with advanced disease should be given serious consideration. Lastly, there is need for epidemiological studies to determine risk factors for cervical neoplasia and its prevalence, both intra-epithelial and invasive, among women in Ghana. This should allow new tactical approaches to achieve cervical cancer control in Ghana.

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