KNOWLEDGE, ATTITUDE AND UTILIZATION OF CERVICAL CYTOLOGY SERVICES BY PROFESSIONAL FEMALE NURSES IN IBADAN MUNICIPALITY, OYO STATE: IMPLICATIONS FOR CANCER EDUCATION.

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DEDICATION

To my beloved mother, Madam Kate Uche Ogbuka, a woman of inestimable will, strength and value.

ABSTRACT

Cancer of the cervix is the most common malignant tumour seen in women in developing countries. In 1990, an incidence of 8.4% was reported in the University College Hospital, Ibadan, Nigeria. It has been established that Papanicolaou (Pap) test is effective in detecting early cancer of the cervix thus preventing deaths from the disease. In this regard, education of the public is needed to prevent further increases in cancer of the cervix among women, which nurses by virtue of their roles in health care delivery system are expected to provide. Although nurses by their professional preparation ought to know and practise this preventive behaviour (Pap test), there is no empirical evidence to suggest that this is so. Professional female nurses are well recognized in Nigeria, and as health professionals, they should serve as role models in preventive health care especially with regard to cervical cancer. Therefore, if the practice of cervical cytology is well entrenched among female nurses, they may influence positively the attitude of the entire female population towards the test.

This study therefore assessed the level of knowledge of professional female nurses on cervical cytology, their attitude towards it, and the extent to which they utilize cytological services. The variables of interest include: demography, knowledge of, attitude to, and extent of utilization

of cervical cytology services by professional female nurses.

The study was a descriptive cross-sectional survey. A multi-stage sampling technique was used to select 500 professional female nurses in Teaching, State Government, Mission and Private Hospitals including health centres in Ibadan Municipality. A self-administered questionnaire was used to collect data. Six hypotheses were tested in all.

Results indicated that although respondents' knowledge level is poor (mean score = 5.0), they are favourably disposed to cervical cytology (mean score = 40). However, only 9.4% of the respondents had ever utilized Pap smear services. Furthermore, significant differences exist in knowledge levels of respondents working in different hospitals; knowledge and attitude of those with different professional qualifications; and those utilizing Pap smear services in different hospitals, and among different age groups ($P < 0.05$).

In addition, a positive correlation was found between the respondents knowledge of, attitude to, and utilization of Pap smear services ($P < 0.05$).

Based on these findings, cancer education strategies to improve knowledge, attitude and utilization of cervical cytology services by nurses were suggested.

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CERTIFICATION

I certify that this work was carried out by Miss Chinyelu Uzoego Ogbuka of the African Regional Health Education Centre, Department of Preventive and Social Medicine, College of Medicine, University of Ibadan, Ibadan Nigeria.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

OPERATIONAL DEFINITION OF TERMS.

1. Professional Nurse- A professional nurse is one who has undergone the stipulated training period in an approved School of Nursing or Midwifery and has passed the qualifying examination by the Nursing and Midwifery Council of Nigeria which enabled him or her to be duly registered with the council.
2. Basic qualification- A professional nurse who has been registered by the Nursing and Midwifery Council of Nigeria as Registered Nurse (RN) and Registered Midwife (RM).
3. Basic qualification plus any other post-basic qualifications- A professional nurse who possesses RN and RM in addition to certificates, diploma and/or degrees in any specialized area(s) of health care apart from public health nursing. These include, certificate in Family Planning, Diploma in Nursing Education or Administration, Bachelor degree in Nursing.
4. Unit- A unit is either a ward or a department where nurses are posted to perform primarily nursing functions. This can either be in-patient, out-patient, both, or special unit as the case may be.
5. Cervical Cytology- Cervical cytology, otherwise called Papanicolaou (Pap) smear is a screening test for detecting pre-invasive cervical lesions by histological examination of smears

from the transformation zone (Squamo-columnar junction) and from the ecto and endocervix, thus preventing cervical cancer. The two terms - cervical cytology and Pap smear are used interchangeably in this study.

6. Preventive Behaviour- Preventive behaviour are those activities taken by an individual, who is presumed well, in order to maintain health and to detect illnesses at their asymptomatic stage for example, routine medical examination.

7. Basic Nursing Curriculum- The basic nursing curriculum was developed in 1975 by the Task Force Committee on Basic Nursing Education for Nigeria. It stipulates the entry requirement for a 3 year programme in approved Schools of Nursing, the context areas for each level of the educational programme, and also the modalities for achieving the stated goals and objectives.

CHAPTER ONE

INTRODUCTION

Globally, carcinoma of the cervix has been ranked as the second most common cause of cancer mortality, after breast cancer, among women (Munoz and Bosch, 1989). It is estimated that there are about half a million new cases of the disorder every year with 75% of these occurring in developing countries (Stjernsward et al, 1987).

Cancer of the cervix is the leading cause of death from cancers among women (Richart, 1979), and the most common malignant tumour of the female reproductive tract in Africa (Solanke 1982).

An incidence rate of 7/100,000 was reported for the Ibadan population between 1960 and 1968 (Solanke 1982). At the Ahmadu Bello Teaching Hospital (ABUTH) Zaria, cancer of the cervix is the commonest malignancy of the female genital tract accounting for 66.2% of all gynaecological malignancies (Emembolu and Ekwempu 1988). Similarly, Abioye (1981) reported a relative ratio frequency of 19.9% among women seen with malignant tumours in University College Hospital (UCH) Ibadan, thereby placing it at the top of all female malignancies.

Treatment of cancer of the cervix is successful and effective if the cancer

is detected at its pre-invasive stage. Early detection using Papanicolaou (Pap) smear has been acclaimed to be effective in preventing deaths from cervical cancer (Day 1989).

It has been reported that 90% of women who die from cervical cancer have never been screened (Anonymous 1984). The American Cancer Society (ACS) reported that due to the application of Pap smear in the United States, the death rate from invasive cervical cancer has reduced by at least 70% over the last 40 years (Fink 1988).

In Nigeria, there is currently no programme for mass screening for the disorder. Services are only available in family planning clinics mainly in the teaching hospitals, and even then, they are not adequately utilized. Konje et al (1991) reported a total of three thousand, one hundred and seventy one (3,171) cervical smears over a period of forty four (44) months in University College Hospital (UCH), Ibadan from 1986 to 1990. In Konje's study, only 44.2% of the subjects were self-referrals who had prior knowledge of the cytology screening and were either hospital staff, their relatives or other educated members of the society. Therefore, locally-inspired screening programmes and public education should be integrated into the health care delivery system starting from the primary health care level in order to achieve a wider coverage of the population (Edozien and Adewole 1990).

Professional female nurses are well recognized in Nigeria, and are regarded by the public as authoritative sources of medical information and opinion. Their roles in curative and preventive medicine place them in significant positions to influence positively or negatively the knowledge and practice of, and attitude of other women, in their care, towards Pap smear. Nurses also constitute the largest single professional group in the health care delivery system and are in constant contact with the patients both in the hospital and community. It can therefore be assumed that if the practice of cervical cytology is entrenched among nurses, and they advocate it in their work, the use of Pap smear screening services would increase among the general female population. Unfortunately, there is no empirical evidence to suggest that female nurses practise this preventive behaviour. Personal interviews (Ajayi 1990, Personal communication) with the staff at the cytology unit of University College Hospital (UCH) Ibadan revealed that very few nurses utilize the available cervical cytology services. A study by Olukoya and Ogedengbe (1988) among female health workers (in which nurses formed a sizeable proportion) in Lagos, Nigeria revealed that 78.8% of the health workers had heard about Pap smear but only 25.6% had ever had a smear. The questions that arise then are, why is there a low rate of utilization of the services by female nurses? What is the level of knowledge, extent of utilization, and degree of attitude of nurses to cervical cytology? Does any relationship exist between their knowledge of, attitude to, and utilization of the services. Furthermore, do factors such as the hospital setting in which nurses work,

age, religion, or professional qualification affect their knowledge, attitude and utilization of cervical cytology? These are some of the questions that this study sought answers to.

The major objective of this study therefore is to identify the factors that affect the utilization of cervical cytology services by nurses. It is hoped that the findings from this study may provide information which can suggest directions on how best to motivate nurses in all health care delivery system towards improved utilization of cytological screening services.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

Pertinent literature are reviewed in this chapter. Aspects covered include, the epidemiology and extent of cancer of the cervix, its actiology and pathogenesis, and the levels of control. Relevant theoretical models were also used to explain the acceptance and practice of cervical cytology as a preventive behaviour.

2.2 EPIDEMIOLOGY AND EXTENT OF CANCER OF THE CERVIX

Carcinoma of the cervix is a common disease in Sub-Saharan Africa where it is associated with high mortality (Mati et al 1984; Sawyer et al 1990). It is now the leading female malignancy in developing countries (Waterhouse et al 1982) and it is estimated to account for up to 80% of all gynaecological cancer admissions in several African countries (Mgaya and Massawe 1984; Mmiro 1987).

Llewellyn-Jones (1986) estimated that the annual risk of a woman

developing cervical cancer is about 1:1000 and that 2% of all women over 40 years will develop cervical cancer (- a figure that is alarming). This emphasises the public health importance of cancer of the cervix. Even more alarming is the gradual but steady decline in the age of presentation of the disorder, such that it can occur even in the second decade of life and occasionally during pregnancy. Russel et al (1987) reported an increase in the incidence rate of pre-malignant diseases of the cervix among ages 25-34 in England and Wales from 8.6/100,000 in 1971 to 16.1/100,000 in 1981. Another study, also in the United Kingdom in 1981, showed a prevalence rate of 18.8/1,000 for cervical dysplasia of all grades among ages 15-19 years, which correlates significantly with increased sexual activities among adolescents (Spitzer 1988). Furthermore, the study stated that by 1982, 42% of 15-19 year old females in the United Kingdom had had pre-marital sexual relationship compared with just 28% in 1971. Early onset of sexual intercourse as well as sexually transmitted infections especially the viral type have been implicated as predisposing factors to carcinoma of the cervix. As sexual activities among teenagers increase so has the incidence of such sexually transmitted diseases like herpes, human papilloma virus and chlamydia infections. The epidemiological behaviour of cervical condylomata resembles that of Intra-Epithelial Neoplasia which is a precursor of cervical cancer. They are sexually

transmitted, are found in women with a mean age of 27.5, preceding cervical dysplasia by 3.3 years, carcinoma in-situ by 9.3 years and invasive cancer by 27.4 years (Roy et al 1983). Presently, there is a significant increase in the understanding of the epidemiology and natural history of cancer of the cervix and its precursors. It is on this premise that the secondary preventive modality of cervical cytology based.

In Nigeria, hospital-based studies also show similar trend in terms of early age at presentation of cancer of the cervix. The age distribution range from 20-80 years with a mean of 45-52 years (Nnatu and Durosinmi-Etti 1985; Ekanem and Abioye 1987; Emembolu and Ekwempu 1988; Edozien and Adewole 1990). Similarly, records from the Cancer Registry of University College Hospital, Ibadan show a range of 20-85 years with one case occurring before 19 years.

In addition to the decline in the age at presentation of carcinoma of the cervix, its incidence is also on the increase as revealed by various hospital-based studies, and therefore it remains the commonest female genital cancer in the country. Megafu (1980) reported an incidence of 26.6 % for Enugu, while 74.4% was reported by Asuen and Ahnaimugan (1980) for Benin. At University College Hospital (UCH) Ibadan, for the period 1985 to

1989, 702 out of 3,196 female patients with malignancies had cancer of the cervix with a relative ratio frequency of 21.96% - a figure that is more than the 19.9% reported by Abioye (1981). The figure is reasonably representative of the nationwide situation since many patients are referred to U.C.H. from all parts of the country for radiotherapy.

In addition, Abioye's data show a progressive increase in the rate of the disease from the 25-29 age group with a peak at 50-54 age group and is similar to the already reported hospital based studies on cancer of the cervix in Nigeria.

Konje et al (1991) reported an incidence of 8.4% for Cervical Intra-epithelial Neoplasia (CIN) at U.C.H. Ibadan, while Omigbodun et al (1988) reported an incidence of 19.7% also for U.C.H. Ibadan. The difference in the figures for the two studies was probably due to the different characteristics of the populations studied. While the former was a more heterogeneous population (family planning clinic), the later was a high risk group from the sexually transmitted disease clinic. Nevertheless, the two figures were much higher than that reported from the developing countries (Khatree et al 1980; Mati et al 1984; Schneider and Meinhardt 1984), and developed countries (Bergetm 1979; McGregor 1982). Ayangade and Akinyemi (1989) also reported a prevalence rate of

13/10,000 for carcinoma in-situ in Nigeria. These reports confirm the assertion that CIN is high in this environment.

Furthermore, the stage of the disorder at which patients present for treatment differs between developed and developing countries. Whereas in the former, the majority present at stage I of the disorder, at least 50% of patients present at stages III and IV in the later (Adelusi 1977; Agboola 1979; Nnatu and Durosinmi-Etti 1985; Ekanem and Abioye 1987; Emembolu and Ekwempu 1988). Olukoya (1989) postulated the reasons for late presentation as,

> ignorance about the symptoms, fatalistic attitude, readiness to attribute neoplastic disease to supernatural causes, thereby resulting in delays to seeking help, fear of confirmation of suspicion, and of course, the perennial problem of low coverage of the population by health care services especially in the rural areas.

Late presentation of patients for treatment results in unsuccessful treatment and loss of life.

2.3 AETIOLOGY AND PATHOGENESIS OF CERVICAL CANCER

The cervix is that part of the uterus which lies below the physiological internal os. Its canal is lined with columnar

epithelium which extends distally on to the vaginal portion of the cervix and beyond the external os. Thereafter, the epithelium becomes transformed suddenly into stratified squamous epithelium which covers the vaginal portion of the cervix. This transformation zone is the area in which cervical cancer usually develops. The characteristics of both the superficial and intermediate cells are studied in cervical cytology. If the epithelium is normal, only the superficial and a few intermediate cells appear in the smear, whereas abnormal epithelia tend to desquamate more readily when bizarre abnormally-shaped nuclei and cells appear. In some women, the cervical epithelium is particularly unstable. This instability occurs mainly (but not exclusively) in women who have had sexual intercourse with several men in adolescence and suggests that a sexually transmitted infection such as warts, virus, or herpes simplex virus type 2, may be of significance in causing the instability in later life (Llewellyn-Jones 1986).

2.3.1 <u>Aetiology:</u> The cause of cervical cancer is not known like all other carcinomas, but certain predisposing factors have been recognized. Squamous cell carcinoma of the cervix is a sexually transmitted disease that is seen often in women who have the characteristics of those at high risk for any other sexually transmitted disease. These include.

early age at first intercourse (Barckley 1980; Benson 1982; Llewellyn-Jones 1986; Nelson et al 1989; Singh and Ilancheran 1989; MMWR 1989); multiple sexual partners (Adelusi 1977; Benson 1982; Nelson et al 1989; Singh and Ilancheran 1989; MMWR 1989); early pregnancy (Adelusi 1977; Benson 1982, Mati et al 1984; Nelson et al 1989); multiparity (Adelusi 1977; Barckley 1980; Nnalu and Durosinmi-Etti 1985; Munoz and Bosch 1989; Brinton et al 1989; Mishra and Sinha 1990); a history of sexually transmitted disease especially of the Human Papilloma Virus (HPV) type (Benson 1982; Koutsky et al 1988; Reeves et al 1989; Nelson et al 1989); low socioeconomic status (Barckley 1980; Nnalu and Durosinmi-Etti 1985; Munoz and Bosch 1989; Nelson et al 1989); Smoking (Benson 1982; Munoz and Bosch 1989; Singh and Ilancheran 1989); poor personal/genital hygiene (Benson 1982; Llewellyn-Jones 1986); polygamy (Adelusi 1977); and non-use of barrier and spermicidal contraceptives (Munoz and Bosch 1989).

According to Benson (1982), cancer of the cervix is four times as frequent in prostitutes as in other women and is extremely rare in celibate women. It has also become clear recently that a woman's risk of developing cancer of the

cervix is related not only to the number of sexual partners that she has had, but probably equally important is the number of sexual partners that her male partner or partners have had (Nelson et al 1989). This is probably as a result of the high risk of transmission of the HPV which has been identified as a precursor to cancer of the cervix. The incidence is much lower in Jewish women perhaps because of inherited immunity and better practice of genital hygiene.

Smoking is believed to alter the permeability of cervical epithelium permitting HPV easier access (Llewellyn-Jones 1986). Nearly 29% of cervical cancer mortality in the United states is attributable to cigarette smoking among women (MMWR 1989), a figure that is quite high.

2.3.2 Pathogenesis: Incipient cancer of the cervix is a slowly developing process. Most cervical cancers probably begin as a dysplastic change with gradual progression over a period of several years to a pre-invasive form, carcinoma-in-situ.

Two main types of cervical cancer have been identified:

1. the squamous cell carcinoma which develops in the

squamo-columnar junction (transformation zone) of the cervical epithelium and accounts for 95% of all cases, and

2. adenocarcinoma which develops from the endocervical columnar cells and accounts for the remaining 5% of all cases (Benson 1982; Llewellyn-Jones 1986).

In most instances, the pre-invasive form of the disease remains static for about 7-10 years, a model on which the mass screening programmes are based. During this pre-invasive stage, the dysplastic cells may extend over the surface to involve larger areas of the squamous epithelium. Eventually, it breaks free to invade the subjacent cervical stroma. The spread of the viable tumour may be by:-

1. direct extension either downwards to involve the vagina, upwards to involve the body of the uterus, laterally it may involve the parametrium, anteriorly the bladder, or posteriorly to involve the rectum;
2. Lymphatic spread because of the rich lymphatic supply of the cervix; and/or
3. blood vessels spread through the veins that drain the cervix leading to distant metastasis.

The field theory of the origin of carcinoma of the cervix, as stated by Benson (1982), maintains that the cancer begins in the areas which have been previously altered, i.e, the dysplastic epithelium, to make them potentially neoplastic. The development is very slow and the cause of these atypical or dysplastic changes in the cells remains unknown. On cytological examination, some alterations of the cervical epithelium which differs slightly from that seen in carcinoma-in-situ are seen.

Various degrees of dysplasia have been identified and classified as Cervical Intra-epithelial Neoplasia (CIN). Mild dysplasia has been classified as CIN I, moderate dysplasia as CIN II, while both severe dysplasia and carcinoma-in-situ as CIN III. The pathologic criteria distinguishing severe dysplasia from carcinoma-in-situ have not been well established hence their being classified together as CIN III. Spontaneous regression particulary of CIN I occurs in a significant number of cases, in others, it appears to remain static for years. There is a progression to carcinoma-in-situ and invasive carcinoma in about a third of the patients. The more severe degrees of dysplasia appear to progress to carcinoma-in-situ more commonly and more rapidly than those of mild degree (Benson 1982).

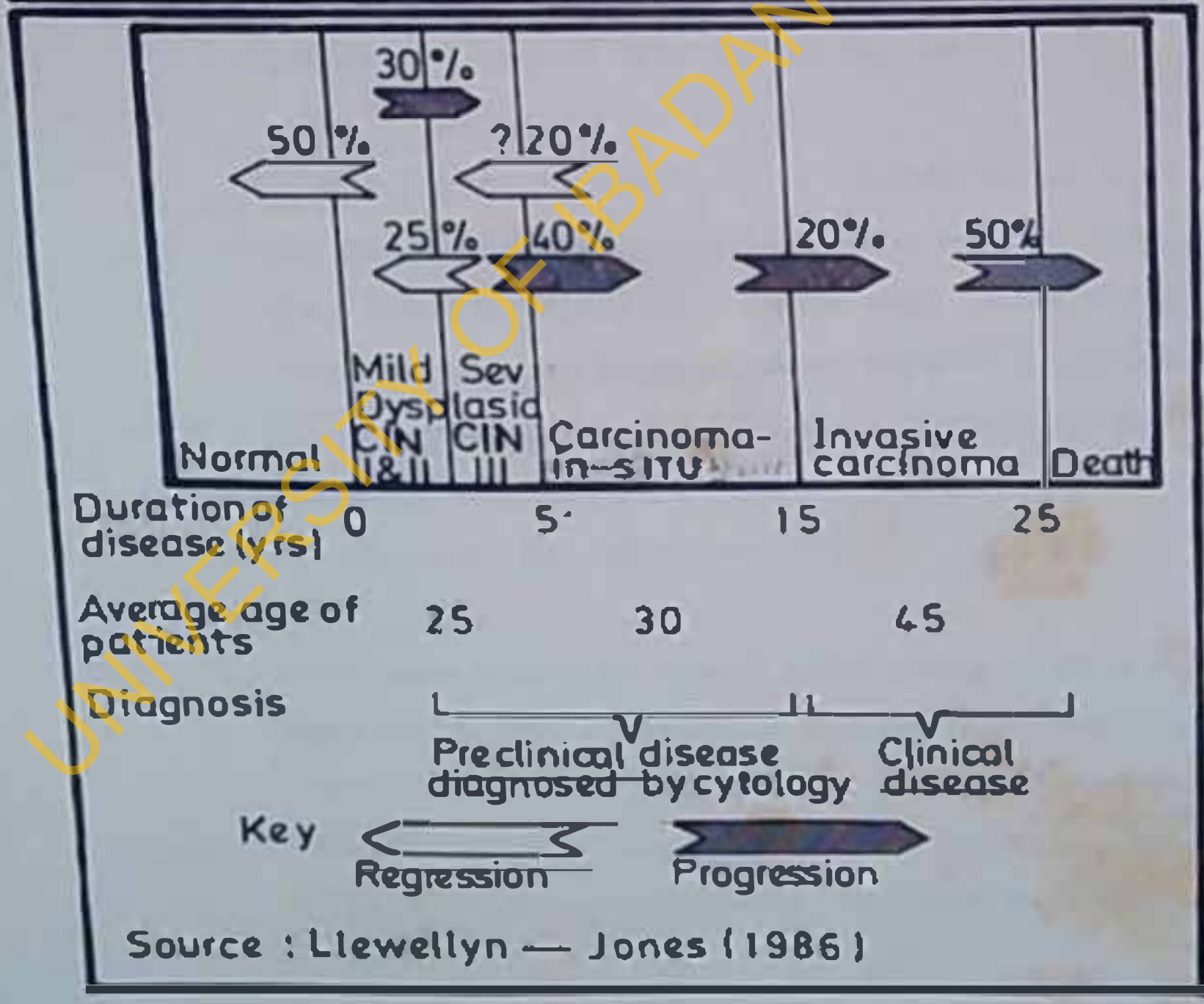
Usually, no abnormality is detected on cytological examination in CIN 1 because of non-involvement of the superficial cells, whereas abnormal cells are detected for the other stages of dysplasia.

Over a period of years, the dysplasia may remain unchanged, may regress, or may progress to carcinoma-in-situ. Progression occurs in not more than 10% of cases. Carcinoma-in-situ on the other hand may regress in a few cases, most frequently remains unchanged, but in about 20% cases progresses in 5-10 years to invasive carcinoma. This is illustrated in Figure 1.

Stages of dysplasia and carcinoma-in-situ are clinically undetectable but can be diagnosed cytologically. Once cancer of the cervix becomes clinically detectable by causing vaginal bleeding and discharge, and dyspareunia, invasive cancer has set in and this carries a 50% mortality rate, i.e, one patient in two will be dead in five years despite adequate treatment (Llewellyn-Jones 1986).

FIG.1

THE "LIFE CYCLE" OF UNSTABLE CERVICAL EPITHELIUM.



Source : Llewellyn — Jones (1986)

2.3.3 Clinical Staging of Cancer of the Cervix

The International Classification (Appendix 2) adopted and revised by the International Federation of Gynaecology and Obstetrics (FIGO) in 1988 is the most widely used. The classification is important in estimating the extent of the disease as well as an aid to prognosis and plan of therapy. Dysplasticchanges which precede carcinoma-in-situ are not included in the classification and as such not regarded as a stage of carcinoma of the cervix.

At stage I when the carcinoma is confined to the cervix with minimal stromal invasion, prognosis is better with an 85%, 5-year survival rate. As the stage of the disease increases, prognosis becomes poorer because of increased lymphatic and vascular involvements leading to distant metastasis, so that stage IV has a 5-year survival rate of less than 15% (Llewellyn-Jones 1986).

Differences exist in the stage at which patients present with cancer of the cervix between the developing and developed countries. Edozien and Adewole (1990) reported that between 1980 and 1989, 51.8% of cases seen at University College Hospital (UCH) Ibadan, were late presenters i.e

stages III and IV which was two to four times the number of stage Ib cases. The reverse was the case for U.S.A where 83.8% of cases presented at stages I and II. This trend in Nigeria has been attributed to non-availability of routine cytological screening, ignorance, shyness, fear of hospitals, cost of medical care and patronage of traditional medical practitioners. It is expected that public enlightenment will improve the stage of presentation and subsequently increase the survival rate of the patients.

2.4 LEVELS OF PREVENTION OF CANCER OF THE CERVIX

The prevention of cancer of the cervix can be examined at five levels. However, effective control measures are possible at three distinct levels only.

2.4.1 General Health Promotion:

At this level, the emphasis is on promoting the general health and well being of the individual and reduction of exposures to the associated high risk factors, so that susceptibility to cancer of the cervix is greatly reduced. Sexual abstinence is an effective though impractical prophylactic measure. Nevertheless, avoidance of early

sexual intercourse and promiscuity, discouraging early/childhood marriage, habitual use of condoms, and prevention and prompt treatment of genital infections have been found to be effective in preventing cancer of the cervix (Benson 1982).

Reduction in the number of pregnancies, through family planning, and adequate genital hygiene are also health promotional activities that could reduce the susceptibility to cancer of the cervix. The successful prevention at this level requires strong health education activities.

2.4.2 Specific Protection:

Specific protection against cancer of the cervix is not possible since it is neither contagious, infectious, nor can it be prevented by vaccines. Rather early detection is advocated to ensure successful treatment.

2.4.3 Early Detection:

Successful prevention of morbidity and mortality from cancer of the cervix largely depends on this level of prevention, because of the easy accessibility of the cervix.

and the long period of the pre-invasive phase. In 85% of cases of cervical cancer, it should be possible largely to eliminate invasive cervical cancer by detecting the disorder at its pre-invasive stage (Llewellyn-Jones 1986). This further emphasizes the importance of the pre-invasive stage at which carcinoma of the cervix could be successfully checked. As Richart (1979) stated,

> unless invasive cancer of the cervix arises de novo in the stroma, it must by definition have a precursor stage, and unless that stage is so short-lived that its detection is highly unlikely, it seems logical to assume that removal of the precursor will prevent subsequent development of invasive cancer.

The past three decades have produced a significant increase in the understanding of the epidemiology, natural history, diagnosis and treatment of cervical cancer.

In 1943, Papanicolaou and Traut described how exfoliative cytology could be used to detect cervical epithelial changes, a technique that was immediately recognised as being the most effective method of detecting pre-malignant lesions of the cervix on a larger scale.

Improvement in prevalence, incidence and mortality

statistics in extensively screened areas have suggested that invasive cancer of the cervix is potentially preventable if only the diagnostic expertise could be brought to bear on the entire population. The annual pap smear has become a well published and an acceptable measure in preventive medicine. It also provides an opportunity for other routine gynaecological examinations to be carried out including breast examinations, pelvic and rectal examinations, blood pressure and urine checks (Fetherston 1983).

Studies done in areas where extensive cytologic screening programmes have been carried out show marked reductions in the incidence of cervical cancer in the population. In Aberdeen Scotland, Macgregor et al (1972) reported a reduction in the incidence from 68% in 1959-61 to 37% in 1968-70; Christopherson et al (1970) also reported a 38% reduction in 15 years in Jefferson County, Kentucky. In British Columbia, Anderson et al (1988) reported a 78% decline in the incidence of clinically invasive squamous carcinoma of the cervix between 1955 and 1985, and a 72% reduction in mortality from the disorder within the same period.

Cervical cytological screening has been widely accepted as

the most important tool in the early detection of CIN, and once this is done, the patient has a good assurance of satisfactory treatment and outcome. Various governments, societies and bodies acknowledge this fact and have made recommendations based on that. The Walton's Committee report of 1979 for Canada stated that,

> the cervical cancer problem could be solved by cytologic screening programmes because:-
>
> 1. the invasive lesion of the cervix is preceded by a spectrum of disease of considerable length that can be recognised in its preinvasive stages of dysplasia and carcinoma-in-situ;
> 2. in a significant portion of patients with evidence of carcinoma-in- situ or dysplasia, the disease if untreated develops into invasive carcinoma;
> 3. cytologic evidence of the existence of the pre-invasive lesion can be obtained with Pap smear easily, safely and economically; and
> 4. once the pre-invasive lesion has been identified, further progress of the disease can be prevented by simple therapeutic procedures and continued surveillance.

The Committee (the Canadian Task force on cervical cancer screening) therefore recommended that:-

1. the first Pap smear should not be performed until after age 18 years and the commencement of sexual intercourse.

2. following an initial negative smear, a second smear can be obtained one year later to detect false negatives still present in the group;
3. after two negative smears, re-sampling should be done every 3 years until the individual reaches 35 years, then every 5 years until she reaches 60 years, after which she should no longer undergo screening; and
4. smears should be obtained annually in high-risk women who have early coitus or multiple sexual partners.

The American Cancer Society (ACS) on the other hand in 1987, came up with the following guidelines for cervical cancer screening in the United states:-

> that all women who are, or who have been sexually active, or have reached age 18, have an annual Pap test and pelvic examinations. After a woman has had three or more consecutive satisfactory annual examinations, the Pap test may be performed less frequently at the discretion of her physician. In high risk regions and high risk populations, continued annual screening may be appropriate.

This particular recommendation is widely adopted and implemented in the United States.

Similarly, Mati et al (1984) are of the opinion that since CIN may develop in African women before the age of 20 because of the associated sociocultural and economic factors, screening must be started as soon as women become sexually active.

Unfortunately, most developing countries do not have adequate resources to cope with the annual screening. This probably prompted Konje et al (1991) to recommend that,

> countries with limited clinics should direct greater attention to grand multiparous women aged 35-44 years. If a sexually active woman has had a normal smear before 35 years, there will be no need for repeated smears until age 40. Subsequently, 5 yearly smears can be carried out until 60 years, when it can be discontinued if the smear remains normal.

The above recommendations seem to lay much emphasis on the economic savings accruing from reducing the frequency of the test. As Richart (1979) pointed out, the cost effectiveness of the procedure as well as the associated benefits of offering opportunities for annual pelvic and breast examinations of the women should not be overlooked. Scarce resources and efforts should not be wasted in providing irregular and not frequent screening

tests to populations that might develop invasive carcinoma of the cervix, which otherwise could have been identified early, if the screenings were regular and frequent.

Furthermore, the recommendation that screening be decreased with increasing age addresses only squamous cell cancer of the cervix ignoring the fact that the incidence of endometrial cancer increases with age, and that it can readily be detected cytologically too. More importantly, recent surveys of sexual activities and attitudes of adolescents in the United States suggest that a high proportion of young women fall into the high-risk group due to progressive reduction in sexual moves (Richart 1979). The same can be said of our contemporary society. Therefore, going by the various recommendations that high risk females have annual tests, many women are bound to fall within this category.

Several studies have shown that the risk of developing cancer of the cervix increases with prolonged screening intervals. In the United States, Shy et al (1989) reported that the risk of squamous cell cancer of the cervix was increased 3.9 times for women with Pap smears at 3 year intervals and 12.3 times for those who have not been

screened in the preceding 10 years when compared with women who had annual screening. Similarly, Eddy (1987) reported the effectiveness of the frequency of screening at 2, 3, 5 and 10 yearly intervals when compared with 1 yearly as 99%, 97%, 89%, and 69% respectively. Bearman (1987) and his associates share similar views that more frequent screening than every 3 years may lead to an increased survival among women who developed cervical cancer despite cytological screening. This was shown in their study in which screening intervals of 37 - 72 months was associated with a significantly larger proportion of advanced stage disease than found in more frequently screened patients. These studies further emphasize the need for regular more frequent smears so that the maximum effectiveness of the programme will be achieved.

A negative Pap smear does not rule out cancer of the cervix. It is therefore important; that repeat tests be done especially after the initial one to confirm the result. According to Fetherston (1983),

> sensitivity and success rate of the screening procedure can be enhanced significantly by attempting to categorize the patients into groups:-
>
> 1. Symptomatic- these patients present with vaginal discharge, pain, atypical vaginal bleeding or spotting. Although results of

the pelvic examination and smear are negative, symptomatic patients must be pursued with alternative methods of investigation such as colposcopy, multiple biopsies, dilatation and curettage, and repeat cytology.

2. High Risk- these patients fit a well-defined pattern including a history of early coitus, multiple sexual partners, a history of sexually transmitted disease, and sometimes a history of a prior atypical or abnormal Pap smear. These patients should have a different screening interval no longer than 1 year, and a higher degree of suspicion are important factors in this group.
3. Unscreened- these are the patients who are entering the screening programme for the first time. Other risk factors tend to be high in this group of patients.
4. Low Risk- this is the monogamous woman with a stable marriage, no history of venereal infection, and successive normal Pap smears, who is at minimal risk for cancer of the cervix. This is the only group in whom annual screening is probably not an advantage.

Although no empirical evidence exists in Nigeria on the percentage of women in each of the aforementioned groups, a greater percentage fall into the first three groups. Therefore the importance of regular Pap smears need not be overemphasized.

The management of abnormal smears varies from one centre to another. Giles et al (1989) suggested at least three subsequent normal cervical smears before any woman who has had a single mildly dyskaryotic smear is referred back to the normal screening interval. The Royal College of Obstetricians and Gynaecologists in 1987 suggested that where resources exist, all women with dyskaryotic smears should be investigated further by colposcopy as soon as possible. In places where such facilities are not available, a second smear should be done 3 - 6 months later, and where the abnormality is confirmed, the patient should then be referred for colposcopy. Two consecutive normal smears are required before the individual is referred back to the routine screening programme.

In U.C.H. Ibadan, Konje et al (1991) proposed the management plan shown in Appendix 3.

Finally, cervical smears should be part of routine assessment for all women with gynaecological symptoms regardless of whether there has been a negative smear in the preceding three years. Furthermore, all women should be offered cervical cytology either:

(a) in an organized manner which involves intentional

search through mass screening programmes of all sexually active women, or

(b) incidental screenings when receiving contraceptive devices, at antenatal clinics, and when treating sexually transmitted diseases.

2.4.4 Treatment and Limitation of Disability.

Once cancer of the cervix becomes clinically detectable, it has progressed to invasive cancer. At this stage the cure rate reduces and the emphasis is on the limitation of disability. Llewellyn-Jones (1986) stated that,

> about 8,000 women in the United State die of cancer of the cervix yearly. This could be reduced greatly if it were detected early and treated as over 95% of patients with early cancer of the cervix can be cured.

This assertion further lays credence to Barckley's earlier claim in 1980 that, "if cancer of the cervix is detected at its earliest stage, carcinoma-in-situ, it is practically 100% curable". The mode of therapy depends to a large extent on the stage of the disease the patient presented at. Cervical dysplasia is often treated by thermal or electrocautery, cryosurgery, or cone biopsy with continued follow up. For stage Ia carcinoma, total hysterectomy with

adequate vaginal cuff is the appropriate treatment. Stages Ib and IIa can either be treated surgically through extended hysterectomy (Wertheim's hysterectomy) or radiotherapy, or both. In determining treatment for advanced cervical carcinoma (stages IIb, III and IV), the wishes of the patient and the quality of her short remaining life must be taken into account. Neither surgery nor radiotherapy provide much hope of cure, consequently in some centres, chemotherapy to reduce the tumour mass is instituted initially followed by radiotherapy and possibly surgery.

All the three forms of treatment - surgery, radiotherapy and chemotherapy have considerable complications that are as debilitating as the malignancy itself. Emphasis is therefore laid on limiting the disability as much as possible and at the same time ensuring that the patient is adequately integrated into the treatment programme. Patient education and counselling are integral parts of the treatment programme to ensure effective compliance to the treatment modalities despite the associated complications.

2.4.5 Rehabilitation:

Rehabilitation of patients with CIN and invasive cancer of

the cervix is both intensive and individualized. The programme depends on the clinical staging - extent of the disease and lymph node involvement, the treatment modality used, the associated complications, and the general physical condition of the patient. Recurrence may occur regardless of the mode of therapy. Therefore, careful follow-up of the patients through pelvic examination and biopsies, for an indefinite period is very essential. Carcinoma causes a lot of psychological trauma both to the patient as well as the relatives, therefore, rehabilitation programmes should aim to meet both their physical and psychological needs.

The reported 5-year cure rate for stage I cervical cancer when treated with either surgery or radiotherapy ranges between 76.6% and 88%, and decreases to 8.8% for stage IV when treated with radiotherapy (Benson 1982). When cancer of the cervix is untreated or fails to respond to treatment death occurs in 95% of patients within two years of the onset of symptoms. This situation further stresses the need to prevent or check the progression of the pre-invasive dysplasia and carcinoma-in-situ to invasive carcinoma.

2.5 THEORETICAL MODELS TO EXPLAIN ACCEPTANCE AND USE OF CERVICAL CYTOLOGY

The success of screening programmes for cervical cancer partly depends on women's acceptance of available services. The adoption of preventive health care programmes is related to people's underlying motivations, beliefs and attitudes, not only towards the disease in question but towards health and illness generally (Bowling 1989).

Cervical cytology is a preventive programme which has been empirically tested and widely accepted as a screening method for early detection of preinvasive dysplastic changes of the cervical epithelium. Unfortunately, the expected success has not been achieved because of difficulties in identifying women at high risk and the failure of these women to make use of such programmes (Pedersen et al 1971; Walton 1976). Several studies have been done on factors which motivate individuals to engage in preventive health behaviour. These factors have been found to be highly interrelated and interdependent. Knowledge, beliefs, values and attitudes are some of those variables that influence health behaviours. It is widely assumed that individuals will only act if they possess the appropriate knowledge necessary to execute such actions. Unfortunately, knowledge alone does not always motivate

logical behaviour. In many situations, people may know what is most healthful to them yet would hardly reflect this knowledge in their behaviour. Therefore, it does not always follow that knowledge will lead to performance of action especially when such behaviour does not conform with the already held beliefs, values and attitudes. Consequently, in order to understand individuals' health behaviours and compliance to health programmes, their knowledge, attitudes, beliefs and values need to be examined.

For a screening programme like cervical cytology, Eardley et al (1985) identified three possible pathways through which any woman may enter the screening system as

(a) having the test as part of another procedure such as antenatal care, family planning services, or postnatal care, in this case, screening is essentially by chance;

(b) the woman herself requesting for the test, this pathway subsumes that the individual is aware of the availability of the screening programme and where to obtain such services;

(c) or as a result of invitation either by the personal doctor or through public enlightenment drives.

Whichever pathway that is adopted, the ultimate goal is to get women screened for cancer of the cervix. While some authors

(Haynes et al 1979) tend to construe non-attendance at screening programmes as non-compliance; Maclean et al (1984) find this inappropriate since attendance at screening clinics is not initiated by the females who are symptomless and under no obligation to attend the programme. Moreover, the idea of screening for hidden pathology is comparatively new and women are yet to be convinced of its values.

In explaining the motivational factors underlying attendance and non-attendance of women to screening programmes, the following will be applied:-

1. The PRECEDE model
2. The Health Belief Model
3. Theory of Reasoned Action.

2.5.1 The PRECEDE Model

In the PRECEDE model developed by Green et al (1980) health problems are caused by both behavioural and non-behavioural factors. The non-behavioural factors such as age, gender and climate cannot be manipulated, so the focus of this study will be on the behavioural factors. Green et al (1980) propounded that most health problems are behaviourally related and for such problems to be

solved, the behaviour of the individual(s) must be modified. The factors influencing health behaviour were categorized into three - the predisposing, enabling, and reinforcing factors, each having a different kind of influence on behaviour.

Predisposing factors are those factors antecedent to behaviour that provide the rationale or motivation for the behaviour. These include knowledge, attitude, beliefs and values.

Enabling factors are also antecedents to behaviour because they influence the realization of motives or aspirations. They include personal skills and resources as well as community resources.

Reinforcing factors are those subsequent to behaviour that provide the continuing reward, incentives, or punishment for the behaviour and contribute to its persistence or extinction. This includes the roles of significant others to the behaviour in question.

This model assumes that for a behaviour to take place there must be adequate knowledge about it as well as a positive

attitude towards it which shows that the behaviour is highly valued. To compliment this, the action should be performed effectively using the available resources and skills. Moreover, the behaviour should be approved by the significant others for it to be continued. None of the factors can be looked at in isolation as they compliment each other.

Several studies (Davison and Clements 1971; Bluck 1975; Knopf 1976) suggest that the inability of women generally to go for cervical cytology screening may either be that they do not know what the test is for, or more frequently, believe that its function is to detect cancer of the cervix rather than prevent it. However, knowledge alone may not motivate an individual to perform a logical health behaviour. This assertion was further emphasized by Schwoon and Schmoll (1979) that the amount and level of information does not influence preventive behaviour, rather other determinants (discussed below) influence considerably influence health behaviour.

Knowledgeable and well informed people often fail to take appropriate courses of action to enhance their well being. A case in point is Olukoya and Ogedengbe's study (1988)

in which 78.8% of female health workers had heard of Pap smear but only 25.6% ever had one done on them. The inability of otherwise knowledgeable individuals like nurses, to avail themselves of the cytological screening services further emphasizes that acquisition of information or knowledge alone does not necessarily initiate action. This presupposes that nurses are themselves knowledgeable about cervical cancer and the benefits of cervical cytology screening. Unfortunately, Clark (1979) contends that the nurse's knowledge of cancer often fails to correspond with the public's view of her as an 'expert'. Similarly, Elkind (1981) found out that nurses are no better informed about forms of cancer where early detection is of importance (like that of the cervix). The most plausible explanation, according to her, is the emphasis that trained nurses place on "nursing patients" as their most important source of information on cancer. This discrepancy in the nurse's knowledge on cancer and the public's expectations of her would invariably be a barrier to the fulfilment of her public education role (Clark 1979). However, since knowledge alone does not necessarily ensure behavioural modification, it is therefore pertinent to examine other behavioural determinants.

Green et al (1980) identified attitudes, beliefs and values as determinants of behaviour since they tend to mediate between knowledge and behaviour. Schwoon and Schmoll (1979) stated that cancer preventive behaviour is influenced by a high subjective probability of developing cancer rather than belief in the need and effectiveness of early cancer detection on one hand and personal experience with friends and relatives suffering or dying from cancer on the other. This shows that cytological screening must have personal relevance to the individual for it to be accepted and practised. The belief in the curability of cancer of the cervix has been found to influence the willingness to undertake health care practises to prevent the disorder.

Elkind (1980) found out that nurses who believe that cancer of the cervix is curable were more likely to value cervical smears as a means of detecting the disease at its early stage, and would therefore practice the behaviour. Most often, information surrounding cervical cytology emphasizes the role of sexual behaviour particularly promiscuity in the aetiology of cancer of the cervix. This might lead to the development of unfavourable attitudes to the test. This linkage, according to Charlton (1983), may create in the public's mind (nurses inclusive), an image of

cervical cancer as a form of retribution, and may cause them to associate the stigma of sexually transmitted diseases with a positive finding from the test. These beliefs could reduce attendance at screening facilities.

Furthermore, most women regard cytologic screening as being anxiety-provoking and would be reluctant to face the prospects of discovering in themselves a disease which large sections of the population still regard with dread (Davison and Clements 1971). Cytological screening may not be possible if these fears and beliefs are strongly held except when the individual has strong social supports from significant others. Such anxiety and fears are further enhanced after the demise of a known cancer patient. However, lack of encouragement from relatives, friends and colleagues might make an otherwise knowledgeable individual like a nurse, fail to attend the screening services.

Studies have shown that given the right circumstances, a high proportion of women are willing to have Pap smear tests. Eardley et al (1985) referred to these circumstances as the concept of provider-initiation and user-orientation. The concept states that:

> not only must a woman know of the test's (cervical cytology) existence, she must also

> have some positive concept of its functions and a belief both in its efficacy and its relevance to her. She must find the prospect of both the experience of the test itself and its implications acceptable. Finally, she must know where to obtain a test, and the venue and its system of organization must be acceptable to her. The absence of these pre-requisites will constitute a deterrent to participation.

The nurse in the concept of this study is seen both as the provider and the user of care. If one assumes that knowledge and positive attitude to Pap smear encourage practice, then nurses are a group of women who by virtue of their educational preparation and focus on health issues would be expected to attend Pap smear screening facilities regularly.

Eardley et al's (1985) concept somehow summarizes Green et al's (1980) behavioural factors of predisposing, enabling and reinforcing components. Availability of, and accessibility to Pap smear screening facilities are as important as knowledge and attitude in influencing performance of expected health behaviour. Closely linked with availability of services are time spent, equipment and personnel available to provide the screening services. Long waiting time of patients between taking the initiative and

having the test done may lead to a considerable drop out rate. Milio (1976) emphasized this when he stated that the health behaviour of a population may be limited by the degree to which health resources are made available and accessible by health organizations.

2.5.2 The Health Belief Model (HBM)

The origins of the Health Belief Model (HBM) can be traced back to the 1950's when it was necessary to understand the infrequent acceptance of preventive practices and pre-illness tests (Prentice-Dunn and Rogers 1986). Rosenstock (1974) first formulated more formally the HBM which was later revised by Janz and Becker (1984). The HBM has four components:-

1. Perceived susceptibility which refers to the subjective perception of risks or vulnerability to a health threat.
2. Perceived severity consists of one's perception of the seriousness of the health threat.
3. Perceived benefits consist of the efficacy of an action designed to prevent or reduce the threat of illness.
4. Perceived barriers which refer to the assessment of

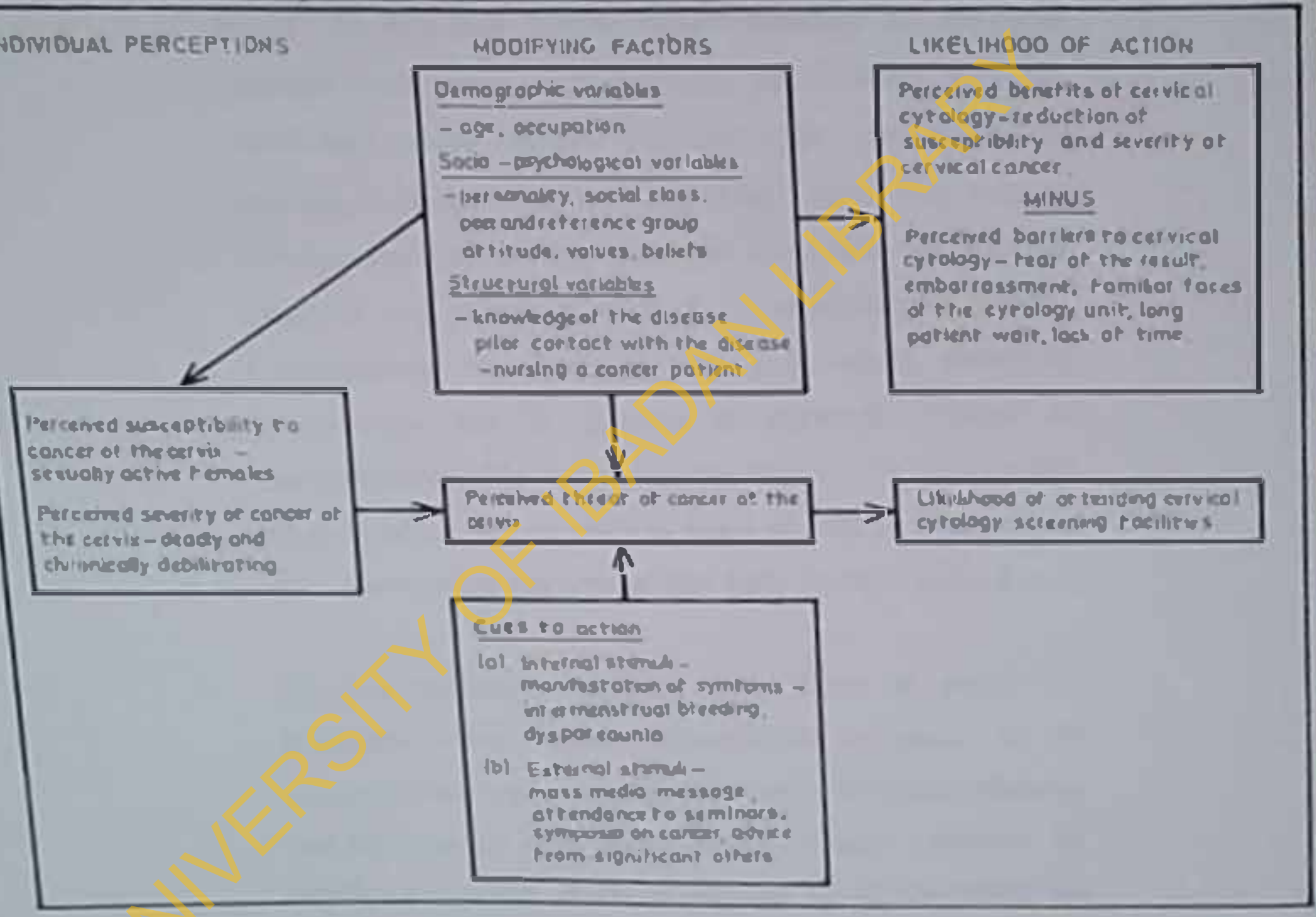
the negative consequences that might be associated with the preventive behaviour.

A cue to action which can either be internal (manifestations of symptoms) or external (mass media messages) is necessary for action to take place (See Fig. 2).

The HBM contends that an individual will take action if he or she believes that there is personal susceptibility to the health condition. A female who is sexually active would first believe that she is susceptible to cancer of the cervix before further action is taken. Similarly, the perception of the degree of seriousness varies. Disease conditions that are temporary are more likely to be perceived differently from a chronically debilitating one such as cancer. Generally, cancer of the cervix is perceived as very serious and deadly because of the reduced chance of cure once it manifests clinically. If nurses perceive cancer of the cervix as very serious (considering that it most often than not terminates in death), they will most likely take action to prevent it. Several studies emphasize that perceived vulnerability or susceptibility to, and severity of cervical cancer are likely to encourage participation in or compliance with a cytological screening programme (Calnan 1984; Calnan and

FIG. 2.

ADAPTED HEALTH BELIEF MODEL IN DETERMINING A PERSON'S HEALTH BEHAVIOUR.



Moss 1984; Eardley et al 1985). Calnan and Moss (1984) further contended that perceived vulnerability is associated with an individual's contact with someone suffering from cancer, (in this case nursing cancer patients), or having a personal experience with cervical abnormality that the individual thinks serious (in this case inter-menstrual bleeding or dyspareunia). King (1983) noted that women who had experienced menopause believed that they were no longer at risk of any disease of the reproductive organs. Consequently, this group may not attend screening programmes due to absence of personal feelings of susceptibility. The same was the case in Elkind's (1980) study in which nurses aged 50 years and above showed less confidence in the Pap smear than their younger colleagues.

Cervical cytology screening is a form of preventive behaviour which reduces susceptibility to cancer of the cervix if done appropriately, since the pre-invasive changes can be detected early and treated promptly. Women are likely to respond more favourably to an invitation for screening only if they believe the test to be effective in preventing cancer of the cervix (Eardley et al 1985). They therefore need to be assured of the effectiveness of the programme through reductions in the rate of false-negative

and false-positive results.

The likelihood of action is further enhanced if the perceived benefits outweigh the perceived barriers that may deter women from undergoing the procedure. The barriers include fear of the examination and result (Knopf 1976; Schwoon and Schmoll 1979; Charlton 1983; Elkind et al 1988), embarrassment (Davison and Clements 1971; Knopf 1976; Charlton 1983; Elkind et al 1988) lack of knowledge about where and when to have the test done (Knopf 1976; Charlton 1983), and too long a waiting period and lack of time (Schwoon and Schmoll 1979).

Cullum and Savory (1983) further stated that screening requires an intimate examination such that some women are unwilling to have the examination performed by male providers. Some nurses will not want the test performed in hospitals where they work because of familiar faces at the screening centre. This could be a very big barrier to the preventive behaviour. Elkind (1980) found out from her study that the Pap smear was highly valued by nurses. Therefore, if the perceived benefits of reducing susceptibility to, or the severity of the disease outweighs the perceived barriers, action will take place as the nurse

will attend the screening services. Similarly, the same considerations will determine whether the nurse will recommend the practice to others.

Modifying factors, otherwise called cues to action, are important. They are stimuli in the individual's environment that might trigger off actions. These stimuli might be internal e.g. manifestations of symptoms pointing to the abnormality (like inter-menstrual bleeding or dyspareunia), or external stimuli such as mass media messages, after attending a symposium or seminar on cancer, or after nursing a patient with cancer of the cervix.

The presence or absence of these factors would either motivate or deter an individual from performing the expected behaviour.

2.5.3 Theory of Reasoned Action

Fishbein's theory of Reasoned Action (Ajzen and Fishbein 1980) was first developed in 1967 and since then has been further modified. Fishbein and Ajzen proposed that a specific behaviour is determined by the individual's

intention to perform that behaviour. The theory went further to state that the intention to perform the behaviour is made up of two dimensions:-

1. Attitude towards the specific behaviour e.g. attending a screening programme. This has some personal evaluative component of the perceived benefits associated with the intended behaviour.
2. The individual's perception of the social pressure put on her by referent individuals to perform, or not to perform that behaviour, this is often referred to as the subjective "norm" concerning that specific behaviour.

The relative weights of both components can be used to predict the outcome of a specific behaviour. The theory subsumes that human beings are rational and as such should make adequate evaluations so as to take appropriate actions. Some similarities exist between this theory with the HBM on one hand, and PRECEDE model on the other.

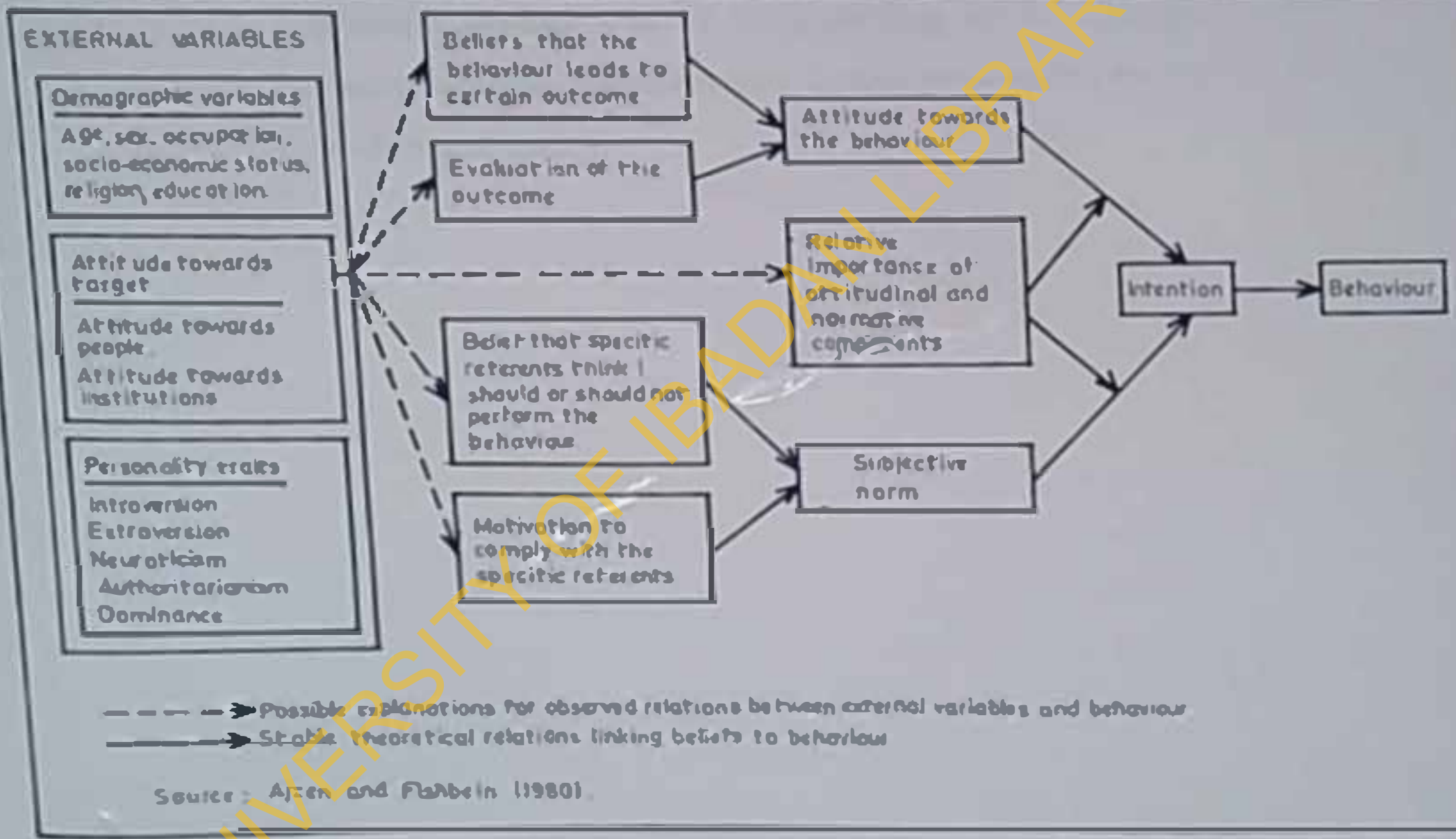
A nurse must perceive herself as being susceptible to cervical cancer and that Pap smear offers an effective preventive measure. She is expected to make some value judgements which is similar to weighing benefits over

costs.

Furthermore, the subjective norm such as the role of social support groups (the family, colleagues, and friends) and whether the behaviour attracts rewards or sanctions will be evaluated. The degree of support from the significant others can determine whether the nurse will attend the screening programme. Discouragement may lead to non-attendance, if it outweighs the personal benefits the individual expects to achieve from performing the preventive action. As Charlton (1983) pointed out, the linkage of sexual behaviour with the aetiology of cancer of the cervix, and the associated stigma of sexually transmitted disease may deter nurses from availing themselves of the cytological services, so that their morale will be protected. On the other hand, if cervical cytology is an accepted norm in the society, and many nurses practice it, others will be encouraged to attend the screening services.

The theory further identifies some external variables which indirectly influence intention to perform the behaviours through their effects on personal beliefs concerning the behaviour, and the motivation to comply with the reference group (see Fig. 3). These variables include demography, personality traits, and attitudes towards people.

FIG. 3
THE THEORY OF REASONED ACTION AS IT EXPLAINS BEHAVIOUR



Source: Ajzen and Fishbein (1980)

In conclusion, these models and theory have thrown greater light on the factors that can influence preventive behaviour such as cervical cytology screening.

Therefore, success in utilization of the services will be achieved through a better understanding of the complex interrelated and interdependent factors emphasized by the models and theory.

CHAPTER THREE

METHODOLOGY

3.1 STUDY POPULATION

The study was carried out in all the three tiers of the health care delivery system in Ibadan municipality.

Ibadan is the biggest city in West Africa, and the most populous indigenous city in Yorubaland. The present Ibadan population is estimated to be not less than 3,488,789. At present, Ibadan is the capital of Oyo state of Nigeria. The inhabitants are predominantly Yorubas, although many people from other ethnic groups inhabit there as well because of its numerous establishments and commercial activities. Health facilities within Ibadan range from Health centres, Private hospitals, Mission hospitals, State Government hospitals, to the Teaching hospital.

As at February 1991, records from Oyo state Hospitals Management Board showed that in Ibadan municipality, there are:

1 Teaching hospital
6 State Government hospitals
2 Mission hospitals.

7 Health centres, and

144 Private hospitals.

These hospitals and health centres are widely distributed all over the municipality. The study involved professional female nurses working in all these hospitals and health centres.

At the time of study, no comprehensive list or figure of all registered female nurses in Ibadan municipality existed. Therefore, the information was obtained from various sources. Records were reviewed from the Oyo State Hospitals Management Board, the University College Hospital, the two mission hospitals, private hospitals, the individual State Government hospitals and health centres. An estimated population of 1,720 female nurses practising in the municipality was arrived at. A visit by the author to a few selected Private hospitals showed an average of three registered female nurses in each hospital from which an estimated figure of 279 was arrived at. (This figure is inclusive in the estimated 1,720 female nurses in Ibadan municipality).

All the state government hospitals, the teaching hospitals, mission hospitals and health centres were involved in the study. For the private hospitals, the Oyo State Ministry of Health provided a list of registered private hospitals in Ibadan based on the 1985-1986 list of annual renewals, and the 1984-1989 list of new

registrations. Both lists showed that out of 144 registered private hospitals in Ibadan, only 93 of them had traceable addresses and so were the only ones included in the study.

3.2 OBJECTIVES OF THE STUDY

The objectives of this study are to:-

1. Document the level of awareness of registered female nurses on Pap smear as a screening procedure for cancer of the cervix.
2. Determine the nurses knowledge of the predisposing factors to cervical cancer and people at risk.
3. Identify the social, cognitive and attitudinal factors that affect their utilization of Pap smear services.
4. Determine the extent to which nurses' attitude affects the utilization of Pap smear services.
5. Suggest appropriate strategies to promote better utilization of the services.

3.3 HYPOTHESES

Based on the research questions and the objectives, the following hypotheses were formulated and tested:-

1. There is no association between nurses' knowledge of

cervical cytology and their:-

(a) hospitals of practice

(b) age groups

(c) religion

(d) professional qualifications.

2. There is no association between nurses' attitude to cervical cytology and their:-

(a) hospitals of practice

(b) age groups

(c) religion

(d) professional qualifications.

3. There is no association between the utilization of cervical cytology services by nurses and their:-

(a) hospitals of practice

(b) age groups

(c) religion

(d) professional qualifications.

4. There is no association between:

(a) Nurses knowledge and their utilization of cervical cytology services

(b) Nurses knowledge of, and their attitude to cervical cytology

(c) Nurses attitude to, and their utilization of cervical cytology services.

3.4 STUDY DESIGN

This is a descriptive, cross-sectional survey in which information was collected about the knowledge of, attitude to, and utilization of cervical cytology services by female nurses.

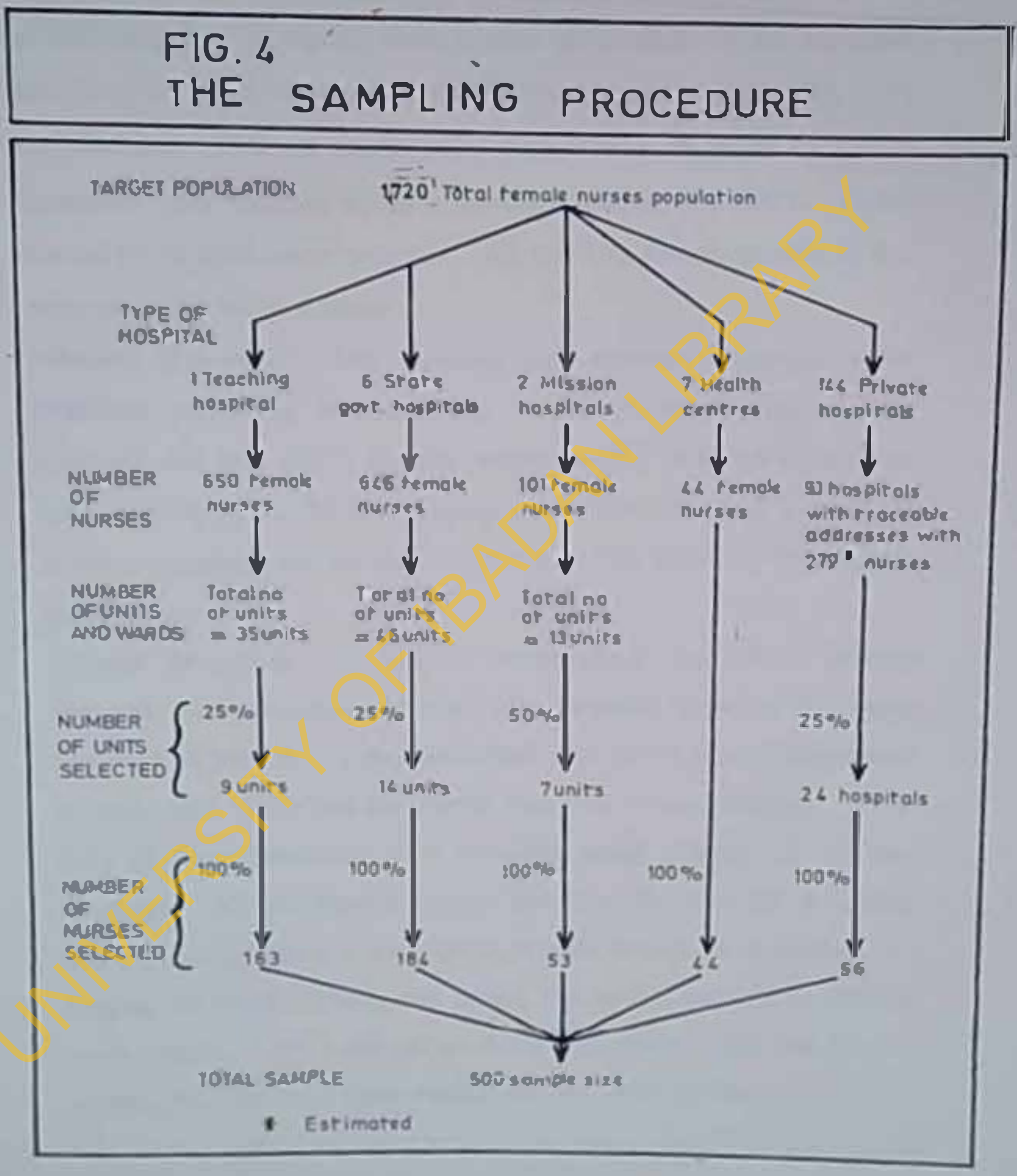
3.5 SAMPLING PROCEDURE

The general population consists of every female nurse in the hospitals or health centres within Ibadan Municipality. The sizes of the hospitals and health centres vary and so did the number of female nurses in each of them.

A multistage sampling technique was used in selecting 500 respondents out of a total population of 1,720 (see Fig. 4). Firstly, the health institutions were stratified into five categories- Teaching, State Government, Mission, Private, and Health centres.

Teaching Hospital:- University College Hospital (UCH) is the only teaching hospital with a total population of six hundred and fifty (650) female nurses. Further stratification was based on the existing thirty five (35) units and wards in the hospital. 25% of these units were randomly selected using a table of random numbers, and all the 163 female nurses in the selected units were studied.

FIG. 4
THE SAMPLING PROCEDURE



State Government Hospitals:- There are 6 state government owned hospitals in Ibadan with a total population of six hundred and forty six (646) female nurses distributed in forty six (46) units and wards. 25% of these units and wards in each of the 6 hospitals were selected using a table of random numbers. Thus, a total of 14 units were selected. All the 184 female nurses in the selected units were studied.

Mission Hospitals:- The existing two mission hospitals were stratified according to units and wards where a total of one hundred and one (101) female nurses work. Out of a total of thirteen (13) units, 50% (7 units) were selected using a table of random numbers and all the 53 female nurses working there were studied.

Private Hospitals:- A list of ninety-three registered private hospitals with traceable addresses was obtained from the Oyo State Ministry of Health. It was estimated that about two hundred and seventy nine (279) female nurses work in these hospitals. 25% (24) of these hospitals were selected using a table of random numbers. All the female nurses found in the selected hospitals were studied. Thus, a total of 56 female nurses were studied.

Health Centres:- There are seven (7) health centres in Ibadan municipality. All were selected for the study. All the female nurses (44) found in these health centres were studied.

See Appendix 4 for a list of all the selected hospitals and health centres.

3.6 INSTRUMENTATION

A questionnaire, consisting of four sections, developed by the author was used for data collection.

Section one covered the demographic variables such as age, type of hospital, marital status, religion, professional qualifications, and post-qualification experiences.

Section two dealt with knowledge of cervical cancer and cervical cytology. The attitude to cervical cytology, and the extent of utilization of the services were covered in sections three and four respectively.

3.6.1 Validity of the Instrument:-

My supervisor, some experts in the field of instrument design, and colleagues went through the questionnaire to ensure clarity of the questions and that they addressed the variables of interest. Thus irrelevant questions were eliminated, and the ambiguous ones restructured to ensure

clarity. For example, question 19 initially read "How often should the test be done", while question 23 was, "Do you believe you can have cancer of the cervix?".

Furthermore, the questionnaire was pre-tested on 20 female nurses working in some of the private hospitals in Ibadan not selected for the study. Through their responses, confusing questions were removed or restructured as the case may be. For example, question 14 initially read, "State all the ways by which cancer of the cervix can be prevented", while question 17 was, "were you taught about Pap smear during your training in the School of Nursing?".

3.6.2 Reliability of the Instrument:-

Reliability tests to determine the consistency of the instrument could not be done in Ibadan municipality since all the hospitals were involved in the study. Therefore, female nurses in Lagos metropolis who shared similar characteristics with those in Ibadan municipality were used for the reliability tests. Test-retest of the instrument was adopted during which 15 female nurses at Lagos University Teaching Hospital (LUTH) completed the questionnaire. The same questionnaire was re-administered to the same

population after a two week interval and the responses were compared for consistency in the answers. This was done for sections 2, 3 and 4 of the questionnaire. It was determined that the instrument has a high reliability value (r=0.75) hence its use for the collection of data.

3.7 DATA GATHERING PROCEDURE

The research involved forty hospitals and health centres located at different parts of Ibadan. Therefore three research assistants were trained by the author and were involved in the collection of data.

Since nurses are on duty at different times of the day, repeated visits were made to the selected units to administer questionnaires to those working on various shifts. The idle time for each unit, hospital and health centre was determined and exploited for the completion of the questionnaires with the full co-operation of the head nurses. Those on "off duty" completed the questionnaires on arrival back at work. It was ensured that the questionnaires were completed in the presence of the author and research assistants in order to prevent cross- fertilization of ideas.

3.8 DATA ANALYSIS

The data were analysed using the Statistical Package for Social Sciences (SPSS). The following statistical methods were used :-

1. Pearson's product moment correlation coefficient to determine the significant relationships between the variables of interest.
2. Analysis of Variance (ANOVA) to determine the mean differences among various groups and where there exists a significant F-ratio, further test (Scheffe Multiple Range test) was used to identify the sources of the differences.
3. Chi-square (X^2) tests to determine significant associations between variables of interest.
4. Frequencies and percentages were also calculated.

3.9 LIMITATION OF THE STUDY

Due to logistical reasons (time and cost) all the professional female nurses in Ibadan municipality could not be studied, therefore a sample was taken. Nevertheless, the sample size is thought to adequately represent the three tiers of the health care delivery system, and reflects the general picture of the health care settings in Ibadan as well as other cities in Nigeria.

CHAPTER FOUR

RESULTS AND INTERPRETATIONS

In this chapter, the results of the study are outlined. The intention is to answer the research questions and test the stated hypotheses. The results are presented in four parts as follows:-

1. Demographic characteristics
2. Knowledge of cervical cancer and cervical cytology (Pap smear)
3. Attitude towards Pap smear
4. Utilization of Pap smear services.

4.1 DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

i Respondents' Place of Work.

In all, 500 nurses were surveyed. Of this total, 184 (36.8%) were from the State hospitals, 163 (32.6%) from the Teaching hospital, 56 (11.2%) from Private hospitals, 53 (10.6%) from the Mission hospitals, and 44 (8.8%) from the Health centres (Fig. 5)

FIG. 5
RESPONDENTS' PLACE OF WORK

ii Respondents' Age Distribution

The age of the respondents range from 20 to 50 years and above. The majority 190 (38%) fall into the 30 to 39 year age group followed by 159 (31.8%) within the 20 to 29 year age bracket (Table 1).

iii Respondents' Marital Status, Parity and Religion

Most respondents 380 (76%) are married followed by 105 (21%) who are single (Table 2). Table 3 shows that 156 (31.2%) of the respondents have a parity between 3 and 4, followed by 141 (28.2%) who are nulliparous. Table 4 shows that most respondents, 444 (88.8%) are christians and a few, 56 (11.2%) are muslims.

TABLE 1

Respondents' Age Distribution

Age group in yrs	No of respondents	%
20 - 29	159	31.8
30 - 39	190	38.0
40 - 49	118	23.6
50 and above	33	6.6
TOTAL	500	100.0

TABLE 2

Respondents' Marital Status

Marital Status	No of respondents	%
Single	105	21.0
Married	380	76.0
Widowed	8	1.6
Divorced	4	0.8
Separated	3	0.6
TOTAL	500	100.0

TABLE 3

Respondents' Parity

Parity	No of respondents	%
0	141	28.2
1 and 2	110	22.0
3 and 4	156	31.2
5 and 6	80	16.0
7 and 8	10	2.0
9 and above	3	0.6
TOTAL	500	100.0

TABLE 4

Respondents' Religion

Religion	No of respondents	%
Christianity	444	88.8
Islam	56	11.2
TOTAL	500	100.0

iv Respondents' Professional Qualifications Professional Status, and Years of Experience

The majority of the respondents, 293 (58.6%) have both the Registered Nurse (R.N) and the Registered Midwife (R.M) certificates (regarded as the basic qualification), followed by a few, 72 (14.4%), with combined basic and Family planning certificates (Table 5).

Table 6 shows the professional status of the respondents. Many of the respondents, 162 (32.4%) are nursing officers followed by staff nurse-midwives 108 (21.6%) and senior nursing officers, 107 (21.4%).

The years of professional experience of the respondents range from less than 1 year to 21 years and above. The majority 139 (27.8%) had between 6 to 10 years of working experience followed by 135 (27%) with less than 1 year to 5 years working experience. Only 72 (14.4%) respondents had put in 21 years and above in the service (Table 7).

TABLE 5

Respondents' Professional Qualifications

Professional Qualifications	No of Respondents	%
Registered Nurse (RN)	63	12.6
Registered Midwife (RM)	30	6.0
RN/RM (basic)	293	58.6
Basic + Public Health Nursing	16	3.2
Basic + Family Planning certificate	72	14.4
Basic + others e.g. B.Sc, A.D.H.E etc	26	5.2
TOTAL	500	100.0

TABLE 6

Respondents' Professional Status

Professional Status	No of Respondents	%
Staff Nurse	75	15.0
Staff Midwife	21	4.0
Staff Nurse/Midwife	108	21.6
Nursing Officer	162	32.4
Senior Nursing officer	107	21.4
Matron	20	4.0
Others e.g. A.C.N.O, Principal Midwife Tutor	7	1.4
TOTAL	500	100.0

TABLE 7

Respondents' Professional Experience

Professional Experience (In Years)	No of Respondents	%
0 - 5	135	27.0
6 - 10	139	27.8
11 - 15	91	18.2
16 - 20	63	12.6
21 and above	72	14.4
TOTAL	500	100.0

4.2 KNOWLEDGE OF CERVICAL CANCER AND CERVICAL CYTOLOGY

i) Awareness of Cervical Cytology According to Hospital of Practice; and Sources of Information

Table 8 shows the percentage of respondents who have or have not heard of cervical cytology according to hospital of practice. More than two-thirds of respondents in each of the hospitals have heard about cervical cytology with the majority, 152 (93.3%) and 40 (90.9%) being from the teaching hospital and health centres respectively.

The respondents obtained their information from various sources, the major source being formal training in schools of nursing and midwifery, 360 (72%) (Table 9).

TABLE 8

Respondents' Awareness of Cervical Cytology According to Hospital of Practice

Type of Hospital	Ever Heard of Cervical Cytology				Total	
	Yes		No			
	No of Respondents	%	No of Respondents	%	No of Respondents	%
Teaching Hospital	152	93.3	11	6.7	163	100.0
State Hospitals	139	75.5	45	24.5	184	100.0
Mission Hospitals	37	69.8	16	30.2	53	100.0
Private Hospitals	38	67.9	18	32.1	56	100.0
Health Centres	40	90.9	4	9.1	44	100.0
Total	406	81.2	94	18.8	500	100.0

TABLE 9

Respondents' Sources of Information About Cervical Cytology*

N = 500

Sources	No	%
Formal Training in schools of Nursing and Midwifery	360	72.0
Books/Journals/Pamphlets	114	22.8
Co-Workers	85	17.0
Mass Media	25	5.0
Friends	24	4.8
Other sources:-symposia, conferences, family planning clinics	50	10.0

* Multiple response hence percentage adds up to more than 100%

ii) Respondents' Definition of Cervical Cytology According to Hospital of Practice

Table 10 shows that about one-third 182 (36.4%) of all the respondents correctly defined cervical cytology. Of these, the majority 20 (45.5%) and 22 (41.5%) practice in the health centres and mission hospitals respectively.

iii) Respondents' Knowledge on the Frequency and Age of Commencement of Cervical Cytology

In response to the question on the frequency at which cervical cytology should be performed, about one third of the respondents, 180 (36%) correctly stated that it should be done yearly. Incorrect responses include six monthly given by 149 (29.8%) of the respondents (Table 11).

Table 12 shows responses on age at which the test should be commenced. Majority of the respondents, 437 (87.4%) gave incorrect responses or do not know. Only 63 (12.6%) respondents correctly stated that it should be commenced either at 18 years or with exposure to sexual intercourse.

TABLE 10

Respondents' Definitions of Cervical Cytology According to Hospital of Practice

Responses	Hospitals					
	Teaching Hospital no %	State Hosp. no %	Mission Hospital no %	Private Hosp. no %	Health Hosp. no %	Total no %
a) Correct Response						
Taking smears from the cervical epithelium in order to detect Pre-oraligant changes of the cervix. It can also be done to detect cancer of the cervix.	65 39.9	68 37.0	22 41.5	7 12.5	20 45.5	182 36.4
b) Incorrect Response						
Cervical biopsy	6 3.7	10 5.4	1 1.9	4 7.1	- -	21 4.2
Microscopic examination of cervical secretions	45 27.6	45 24.5	15 28.3	19 33.9	8 18.2	132 26.4
High vagital swab	11 6.7	12 6.5	5 9.4	2 3.6	2 4.5	32 6.4
Examination of the vagina after menstruation	4 2.5	3 1.6	- -	- -	- -	7 1.4
No response/Don't know	32 19.6	46 25.0	10 18.9	24 42.9	14 31.8	126 25.2
Total	163 100.0	184 100.0	53 100.0	56 100.0	44 100.0	500 100.0

TABLE 11

Respondents' Responses on Frequency of Cervical Cytology

Frequency	NO	%
Monthly*	9	1.8
6 Monthly*	149	29.8
Yearly+	180	36.0
2 yearly*	80	16.0
5-10 years*	21	4.2
Don't know/no response*	61	12.2
TOTAL	500	100.0

+ Correct response

* Incorrect response

TABLE 12

Respondents' Responses on Age of Commencement of the Test

Responses	NO	%
At Puberty*	59	11.8
At 18 years+	41	8.2
Exposure to sexual intercourse+	22	4.4
From 20-25 years*	57	11.4
From 30-40 years*	105	21.0
Females within child bearing age*	70	14.0
After menopause*	25	5.0
Don't know/No response*	121	24.2
TOTAL	500	100.0

+ Correct responses

* Incorrect responses

iv) Respondents' Knowledge of the Predisposing Factors to Cancer of the Cervix and Ways of Reducing Susceptibility to the Disorder

The respondents were asked to list six (6) predisposing factors to cancer of the cervix and four (4) ways of reducing susceptibility to cancer of the cervix. Each correct response was given one point while an incorrect response was scored "zero". A maximum possible point of 6 for the predisposing factors, and 4 for ways of reducing susceptibility to cervical cancer would be obtained by each respondent.

Table 13 shows that the majority of the respondents, 282 (56.4%) correctly ranked multiple sexual partners as the first predisposing factor to cancer of the cervix. This was followed by 140 (28%) and 89 (17.8%) respondents who stated multiparity and early age at onset of sexual intercourse respectively. Furthermore, only 91 (18.2%) respondents could correctly state up to three (3) predisposing factors and above. Of these number, the majority, 59 (36.2%) were from the teaching hospital followed by 7 (15.9%) from the health centres. However, incorrect responses include cervical polyps and erosions

given by 160 (32%) of the respondents and vaginal insertions by 136 (27.2%). On the other hand, almost one-third of the respondents 152 (30.4%) could not state a single predisposing factor (Table 14).

With regard to ways of reducing susceptibility to cancer of the cervix. Table 15 shows that some of the respondents, 172 (34.4%) correctly ranked adherence to one sexual partner. This was followed by 164 (32.8%) and 74 (14.8%) who respectively ranked regular medical check up including Pap smear, and reduction in the number of pregnancies. Incorrect answers included avoidance of vaginal insertions given by 44 (8.8%) of the respondents followed by prompt treatment of cervical polyps and erosion, 38 (7.6%). Furthermore, only 168 (33.6%) respondents could correctly state up to two (2) ways and above. A greater percentage of them, 21 (39.6%) were from the mission hospitals followed by 61 (37.4%) from the teaching hospital. However, 184 (36.8%) of the respondents could not state a single way of reducing susceptibility to cancer of the cervix (Table 16).

TABLE 13

Respondent's Responses on the Predisposing Factors to Cancer of the Cervix*

N = 500

Correct Responses	no	%	Incorrect Responses	no	%
Multiple sexual partners	282	56.4	Cervical polyps & erosions	160	2.0
Multiparity	140	28.0	Cervical & vagina insertions (e.g IUCD+, pessaries, foams)	136	27.2
Early age at onset of sexual intercourse	89	17.8	Heredity	98	19.6
Early marriage & child birth	75	15.0	Hormonal preparations (pills)	95	19.4
Viral infections (Sexually transmitted diseases'	48	9.6	Cervical & vaginal infections (e.g. cervicitis	92	18.4
Poor genital hygiene	12	2.4	Abortions-criminal & habitual	34	6.8
Smoking	8	1.6	Evil spirits & witches	4	0.8

* Multiple response hence percentage adds up to more than 100%
+ IUCD - Intra Uterine Contraceptive Device.

TABLE 14

Knowledge of Six Predisposing Factors to Cancer of the Cervix According to the Hospital of Practice

Responses	Hospitals					
	Teaching Hospital	State Hosp.	Mission Hospital	Private Hosp.	Health Hosp.	Total
	no %	no %	no %	no %	no %	no %
0 (Don't know)	31 19.0	56 30.4	18 34.0	23 41.1	24 54.5	152 30.4
1	21 12.9	66 35.9	19 35.8	25 44.6	8 18.2	139 27.8
2	52 31.9	46 25.0	11 20.8	4 7.1	5 11.4	118 23.6
3	49 30.1	12 6.5	1 1.9	1 1.8	7 15.9	70 14.0
4	9 5.5	4 2.2	4 7.5	3 5.4	0 0.0	20 4.0
5	1 0.6	0 0.0	0 0.0	0 0.0	0 0.0	1 0.2
6	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Total	163 100.0	184 100.0	53 100.0	56 100.0	44 100.0	500 100.0

TABLE 15

Respondents' Responses on Ways of Reducing Susceptibility to Cancer of the Cervix*

N = 500

Correct Responses	no	%	Incorrect Responses	no	%
Adherence to one sexual partner	172	34.4	Avoid insertions into the vagina	44	8.8
Regular medical checks including Pap smear	164	32.8	Prompt treatment of cervical polyps and erosions	38	7.6
Reduction in the number of pregnancies	74	14.8	Discourage abortions	34	6.8
Discourage early marriage, pregnancy and early sexual intercourse	67	13.4	Prompt treatment of vagina and cervical infections	30	6.0
Improve genital hygiene	36	7.2			

* Multiple response hence percentage adds up to more than 100%

TABLE 16

Knowledge of Four Ways of Reducing Susceptibility to Cancer of the Cervix According to Hospital of Practice

	Hospitals					
Responses	Teaching Hospital no %	State Hosp. no %	Mission Hospital no %	Private Hosp. no %	Health Hosp. no %	Total no %
0(Don't Know)	51 31.3	66 35.9	15 28.3	27 48.2	25 56.8	184 36.8
1	51 31.3	55 29.9	17 32.1	17 30.3	8 18.2	148 29.6
2	35 21.5	50 27.2	16 30.2	10 17.9	5 11.4	116 23.2
3	23 14.1	12 6.5	4 7.5	1 1.8	6 13.6	46 9.2
4	3 1.8	1 0.5	1 1.9	1 1.8	0 0.0	6 1.2
Total	163 100.0	184 100.0	53 100.0	56 100.0	44 100.0	500 100.0

v) Knowledge of Cure for Cancer of the Cervix

In response to the question on whether cancer of the cervix could be cured, almost half of the respondents 245 (49%) said "Yes" while 255 (51%) indicated that it cannot be cured (Table 17).

Furthermore, of the different methods identified as effective in curing cancer of the cervix, the knowledge of surgery was the highest, followed by radiotherapy, as identified by 81 (37.8%) and 40 (18.7%) of the respondents respectively (Table 18).

TABLE 17

Respondents' Knowledge of cure for Cancer of the Cervix

Curability	NO	%
Yes	245	49.0
No	255	51.0
TOTAL	500	100.0

TABLE 18

Respondents' Knowledge of Mode of Cure

N=214*

Mode of Cure	No	%
a) Surgery	81	37.8
b) Radiotherapy	40	18.7
c) Chemotherapy	6	2.8
Combination of a and b	40	18.7
Combination of b and c	25	11.7
Combination of a and c	3	1.4
Combination of a, b and c	10	4.7
Divine healing	9	4.2
TOTAL	214	100.0

* 31 respondents excluded for No response

vi) Hypothesis Testing-Knowledge

Hypothesis one: states that there is no assumption between nurse's knowledge of cervical cytology and their:

(a) hospital of practice;

(b) age groups;

(c) religion; and

(d) professional qualifications.

To test this hypothesis, answers to questions on knowledge were scored. A correct response was given one mark while an incorrect response was scored 'zero'. Thus, a maximum possible point of sixteen (16) was attainable. Furthermore, the mean and standard deviation for knowledge of nurses in the different categories were calculated, while one way Analysis of Variance (ANOVA) was used to determine significant differences among the different groups. Where a significant difference existed, the Scheffe Multiple Range test was used to determine the source(s) of the difference(s).

Tables 19a and b show that nurses in the teaching hospital are more knowledgeable on cervical cytology with a mean score of 6.2 followed by those in the state government

hospitals (mean score = 5), mission hospitals (mean score = 4.8), health centres (mean score = 4), and lastly by those in the private hospitals (mean score = 2.9). The observed mean differences were statistically significant (P < 0.05) indicating that differences in knowledge of cervical cytology exist among nurses in different hospitals. The major differences were largely found between private hospitals (Group 4) and all the other hospitals; between teaching hospital (Group 1) and all the others; and between health centres (Group 5) and state hospitals (Group 2).

With reference to age, Table 20a shows that respondents within the age group 20 to 29 years are more knowledgeable on cervical cytology with a mean score of 5.3, followed by the 50 years and above group (mean score = 5.2), then 40 to 49 years (mean score = 4.9), and lastly by those within the 30-39 years age bracket with a mean score of 4.8. However, these differences were not statistically significant (P > 0.05) (Table 20b).

With respect to religion, Tables 21a and 21b show that the christian respondents (mean score = 5.1) are more knowledgeable on cervical cytology than the moslems (mean score = 4.6). However, this difference is not statistically significant (P > 0.05).

With reference to professional qualifications Tables 22a and 22b show that respondents with basic (RN/RM) and any other post basic qualification (excluding public health nursing) were found to be more knowledgeable, (mean score = 6.7). They were followed by respondents with basic (RN/RM) qualification (mean score = 4.9), RN alone (mean score = 4.4), basic and public health nursing (mean score= 3.8) and lastly by those with RM alone (mean score 3.4). A significant difference ($P < 0.05$) exists in knowledge of cervical cytology between these groups. The sources of the differences were between those with basic and any other post basic qualification (excluding public health nursing) (Group 5) and all the others; and between those with RM (Group 2) on one hand, and RN (Group 1) and basic (RN/RM) (Group 3) on the other.

With reference to professional qualifications Tables 22a and 22b show that respondents with basic (RN/RM) and any other post basic qualification (excluding public health nursing) were found to be more knowledgeable, (mean score = 6.7). They were followed by respondents with basic (RN/RM) qualification (mean score = 4.9), RN alone (mean score = 4.4), basic and public health nursing (mean score= 3.8) and lastly by those with RM alone (mean score 3.4). A significant difference ($P < 0.05$) exists in knowledge of cervical cytology between these groups. The sources of the differences were between those with basic and any other post basic qualification (excluding public health nursing) (Group 5) and all the others; and between those with RM (Group 2) on one hand, and RN (Group 1) and basic (RN/RM) (Group 3) on the other.

TABLE 19a

One way ANOVA Test for Respondents' Knowledge of Cervical Cytology with Reference to Hospitals

Source	df	ss	ms	F	p-value
Between groups	4	511.9095	127.9774	18.294	<0.05
Within groups	495	3062.753	6.9955		
Total	499	3573.9848			

df = degree of freedom;

ss = sum of squares;

ms = mean squares; and

F = F-ratio

TABLE 19b

Scheffe Multiple Range Test for Respondents' Knowledge of Cervical Cytology with Reference to Hospital

			Group				
Mean	SD	Group	4	5	3	2	1
2.91	2.03	Grp 4					
4.02	2.65	Grp 5	*				
4.82	2.72	Grp 3	*				
4.95	2.72	Grp 2	*	*			
6.17	2.71	Grp 1	*	*	*	*	

Pairs of groups significantly different at $P < 0.05$ where:

Group 1- Teaching hospital
Group 2- State hospitals
Group 3- Mission hospitals
Group 4- Private hospitals
Group 5- Health centres

TABLE 20a

Knowledge Scores on Cervical Cytology for Respondents of Different Age Groups

Respondents age in yrs	NO	X	SD
20-29	159	5.296	2.7663
30-39	190	4.858	2.7862
40-49	118	4.889	2.8519
50 and above	33	5.182	3.1962

TABLE 20b

One Way ANOVA Test for Respondents' Knowledge of Cervical Cytology with Reference to Age

Source	df	ss	ms	F	p-value
Between groups	3	19.9150	6.6383	0.833	> 0.05
Within groups	496	3954.747	7.9733		
Total	499	3974.662			

TABLE 21a

Knowledge Scores on Cervical Cytology for Respondents of Different Religion

Religion	N	X	SD
Christianity	444	5.077	2.8346
Islam	56	4.625	2.7140

TABLE 21a

Knowledge Scores on Cervical Cytology for Respondents of Different Religion

Religion	N	X	SD
Christianity	444	5.077	2.8346
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TABLE 21a

Knowledge Scores on Cervical Cytology for Respondents of Different Religion

Religion	N	X	SD
Christianity	444	5.077	2.8346
Islam	56	4.625	2.7140

TABLE 21b

One Way ANOVA Test for Respondents' Knowledge of Cervical Cytology with Reference to Religion

Source	df	ss	ms	F	p-value
Between groups	1	10.1406	10.1406	1.274	P > 0.05
Within groups	498	3964.5214	7.9609		
Total	499	3974.662			

TABLE 22a

One Way ANOVA Test for Respondents' Knowledge of Cervical Cytology with Reference to Professional Qualifications

Source	df	ss	ms	F	p-value
Between groups	4	344.5798	86.1449	12.595	P < 0.05
Within groups	495	3385.4898	6.8394		
Total	499	3730.069			

TABLE 22b

Scheffe Multiple Range Test for Respondents' Attitude on Cervical Cytology with Reference to Professional Qualification

			Group				
Mean	SD	Group	2	4	1	3	5
3.37	1.94	Grp 2					
3.75	2.67	Grp 4					
4.41	2.56	Grp 1	*				
4.87	2.81	Grp 3	*				
6.72	2.53	Grp 5	*	*	*	*	

* Pairs of groups significantly different at $P < 0.05$

where

Group 1 = RN;
Group 2 = RM;
Group 3 = RN/RM (basic)
Group 4 = RN/RM+Public health nursing
Group 5 = RN/RM + any other post basic qualification.

vii) Respondents' Belief in the Effectiveness of Pap Smear; and Who Determines the Need for Pap Smear

Most of the respondents, 398 (79.6%) believe that Pap smear can reduce the prevalence of cervical cancer (Table 23).

When asked to indicate who they consider the right person(s) that should determine the need for a woman to have a Pap smear test, a greater percentage, 296 (59.2%) of the respondents mentioned the doctor. Two hundred and nineteen (43.8%) felt the woman herself should determine her need for a Pap smear (Table 24).

TABLE 23

Respondents' Belief in the Effectiveness of Pap Smear

N=500

Responses	No	%
Yes	398	79.6
No	96	19.2
No response	6	1.2
TOTAL	500	100.0

TABLE 24

Respondents' Responses on Who Determines the Need for Pap Smear*

N = 500

Responses	No	%
The doctor	296	59.2
The woman herself	219	43.8
The nurse	79	15.8
The Husband	10	2.0
Others-friends and colleagues	3	0.6

* Multiple responses hence percentage adds up to more than 100%

4.3 ATTITUDE TOWARDS PAP SMEAR

i Respondents Responses to Questions on Attitude to Pap Smear

Eleven statements on respondents' attitude towards Pap smear were made. The respondents were asked to indicate the extent to which they agreed with the statement using the Likerts Scale rating. A maximum score of 5 was assigned to either "strongly agree" where statements were positively stated (true positive) or "strongly disagree" where statements were negatively stated (true negative). On the other hand, a minimum score of 1 was assigned to either "strongly disagree" where statements were positively stated (false positive), or "strongly agree" where statements were negatively stated (false negative). "Agree", "Undecided" and "Disagree" were scored 2, 3, and 4 respectively for negative items and in the reverse order for positive items. A possible highest score of fifty-five (55) is attainable (for the eleven statements) indicating highly positive attitude towards Pap smear; and a lowest score of eleven (11) indicates a highly negative attitude to Pap smear.

Analysis of the respondents' scores on attitude showed a grand mean of 40 suggesting that they have positive disposition (though not very highly), towards Pap smear.

ii) Hypothesis Testing Attitude

Hypothesis two: states that there is no association between nurse's attitude to cervical cytology and their:

(a) hospital of practice;
(b) age groups;
(c) religion; and
(d) professional qualifications.

To test this hypothesis, the mean and standard deviation for attitude of respondents in the different categories were calculated, while one way ANOVA was used to determine significant differences among the different groups. Furthermore, Scheffe Multiple Range test was used to determine the source(s) of the difference(s) where necessary.

The analysis as presented on Table 25a showed that nurses in health centres have the highest disposition to Pap smear with a mean score of 40.43, closely followed by those in the teaching hospitals (mean score 40.38). Nurses in the

private hospitals have the least attitudinal disposition to Pap smear with a mean score of 39.1. However, these differences are not statistically significant (P > 0.05) (Table 25b).

With respect to religion, Table 27a shows that the christians are more favourably disposed to Pap smear (mean score = 40) than the moslems (mean score = 39.7) although it is not statistically significant (p > 0.05) (Table 27b).

The attitude mean scores for nurses of different age groups were compared. Table 26a shows a high attitudinal mean score of 40.2 for those within the 20 to 29 age range as compared to a mean score of 39.2 for the 50 years and above group. However, the differences are not statistically significant (P >0.05) (Table 26b).

For professional qualifications, Tables 28a and b show that the public health nurses (mean score = 43.5) have more positive attitude towards Pap smear, followed by nurses with other post-basic qualifications e.g Certificate in Family Planning, B.Sc Nursing (mean score 41.5). Registered midwives have the least disposition to Pap

smear with a mean score of 38.6. Further analysis revealed a statistically significant difference between the various professional qualifications ($p < 0.05$). The difference is particularly significant between Group 5 and Groups 1, 2, 3; and between Group 4 and Groups 1, 2, 3.

TABLE 25a

Attitude Scores on Cervical Cytology for Respondents in Different Hospitals

Hospitals	No	X	SD
Teaching hospital	163	40.3804	5.0249
State Government hospitals	184	39.7500	4.6685
Mission hospitals	53	39.8113	3.9470
Private hospitals	56	39.1071	3.8550
Health Centres	44	40.4318	4.6426

TABLE 25b

One Way ANOVA Test for Respondents' Attitude to Pap Smear

With Reference to Hospital

Source	df	ss	ms	F	p-value
Between groups	4	88.5670	22.1418		
				1.0308	P > 0.05
Within groups	495	10633.183	21.4812		
Total	499	10721.75			

TABLE 26a

Attitude Scores on Pap Smear for Respondents of Different Age Groups

Age in years	N	$\bar{x}$	SD
20-29	159	40.2453	4.4133
30-39	190	39.7263	4.8587
40-49	118	40.1186	4.6596
50 and above	33	39.2121	4.3212

TABLE 26b

One Way ANOVA Test for Respondents' Attitude to Pap Smear Based on Age

Source	df	ss	ms	F	p-value
Between groups	3	44.6935	14.8978	0.6921	P > 0.05
Within groups	496	10677.06	21.5263		
Total	499	10721.75			

TABLE 27a

Attitude to Pap Smear among Respondents of Different Religion

Religion	N	X	SD
Christianity	444	39.9775	4.7235
Islam	56	39.7321	3.8963

TABLE 27b

One Way ANOVA Test for Attitude to Pap Smear for Respondents of Different Religion

Source	df	ss	ms	F	p-value
Between groups	1	2.9931	2.9931		
				0.1391	P > 0.05
Within groups	498	10718.76	21.5236		
Total	499	10721.75			

TABLE 28a

One Way ANOVA Test for Attitude to Pap Smear Among Respondents With Different Professional Qualifications

Source	df	ss	ms	F	p-valuc
Between groups	4	480.0736	120.0184		
				6.0517	P < 0.05
Within groups	495	9816.90	5319.8321		
Total	499	10296.98			

TABLE 28b

Scheffe Multiple Range Test for Attitude to Pap Smear with Reference to Professional Qualification

			Groups				
Mean	SD	Group	2	1	3	5	4
38.63	4.22	Grp 2					
39.52	4.66	Grp 1					
39.60	4.73	Grp 3					
41.53	4.10	Grp 5	*	*	*		
43.50	4.02	Grp 4	*	*	*		

* Pairs of groups significantly different at $P < 0.05$

where:

Group 1 - RN;
Group 2 - RM;
Group 3 - RN/RM
Group 4 - RN/RM + Public health nursing
Group 5 - RN/RM + any other post basic qualification

TABLE 28b

Scheffe Multiple Range Test for Attitude to Pap Smear with Reference to Professional Qualification

Mean	SD	Group	Groups 2	1	3	5	4
38.63	4.22	Grp 2					
39.52	4.66	Grp 1					
39.60	4.73	Grp 3					
41.53	4.10	Grp 5	*	*	*		
43.50	4.02	Grp 4	*	*	*		

* Pairs of groups signilicantly different at $P < 0.05$

where:

Group 1 - RN;
Group 2 - RM;
Group 3 - RN/RM
Group 4 - RN/RM + Public health nursing
Group 5 - RN/RM + any other post basic qualification

iii Hypothesis Testing - Knowledge of and Attitude to Cervical Cytology

Hypothesis five:- there is no association between respondents' knowledge of cervical cytology and their attitude towards it.

This association was tested using Pearson's product moment correlation coefficient. Table 29 shows a statistically positive correlation ($r = 0.2193$, $p < 0.05$) between respondents knowledge of, and attitude towards Pap smear.

TABLE 29

Relationship Between Respondents' Knowledge of and Attitude to Pap Smear Tests.

Variables	X	SD	r	P-value
Knowledge	5.026	2.822		
			0.2193	P < 0.05
Attitude	39.950	4.635		

df = 498

4.4 UTILIZATION OF PAP SMEAR SERVICES

This section of the presentation deals with the extent to which Pap smear services have been utilized by the respondents.

i Past Pap Smear Experience of the Respondents

The majority of the respondents 453 (90.6%) have never had a Pap smear done on them (Table 30). Of the 47 respondents who had ever performed the test, less than half 22 (46.8%) did the test in the last one year and 6 (12.8%) did it over ten years ago (Table 31a).

With regards to frequency at which respondents did the test, about one-third of the utilizers. 16 (34.1%) claimed to have had the test for the first time and 12 (25.5%) on a yearly basis (Table 31b).

More than half of the utilizers. 27 (57.4%) do the test routinely, followed by the 10 (21.3%) who claimed the test was done as a result of cervical pathology (e.g polyps, erosions, irregular vaginal bleeding) (Table 31c).

Thirty nine, (83%) of the utilizers had the test done in Nigerian teaching hospitals (Table 31d). The reasons for choice of the test centres are that, it is convenient (being some of the respondents place of work); it is the only available centre; and that other needed services e.g delivery, and family planning services are available at the centre (Table 31e).

TABLE 30

Respondents' Utilization of Pap Smear Services

Utilization	No	%
Yes	47	9.4
No	453	90.6
Total	500	100.0

Table 31a

Utilizers' Last Test Period

N = 47

Last test period in years	No	%
Within 1 year	22	46.8
2-3	14	29.8
4-6	4	8.5
7-9	1	2.1
10 and above	6	12.8
Total	47	100.0

TABLE 31b

Frequency of the Test

N = 47

Frequency	No	%
6 monthly	3	6.4
Yearly	12	25.5
2 yearly	4	8.5
Every 3-5 years	4	8.5
First time of doing the test	16	34.1
Not often	3	6.4
No response	5	10.6
Total	47	100.0

TABLE 31c

Indications for the Test

N = 47

Responses	No	%
Routine checks	27	57.4
Cervical pathology*	10	21.3
Inquisitiveness	6	12.8
Part of family planning services	3	6.4
Doctor's orders	1	2.1
Total	47	100.0

E.g. Polyps, erosion, irregular vagina bleeding.

TABLE 31d

Test Centres

N = 47

Centres	No	%
Teaching Hospitals	39	83.0
Mission Hospitals	2	4.2
Centres outside the country	6	12.8
Total	47	100.0

TABLE 31e

Respondents' Reasons for Choice of Test Centre

N = 47

Responses	No	%
"My place of work (convenience)"	25	53.2
"The only available centre"	10	21.3
"Availability of other services"*	7	14.9
"Close to my home"	2	4.25
"Doctors' orders"	2	4.25
"Effectiveness is assured there"	1	2.1
Total	47	100.00

* E.g. delivery, family planning services

ii Willingness to Continue Practising Pap Smear Test

Utilizers of Pap smear services were asked to respond to a question on whether they would want to continue performing the test. Of the 47 who had ever gone for the test in the past, 43 (91.5%) indicated a willingness to continue with the test, while 4 (8.5%) were not willing. Each of the four gave one reason for the lack of the desire to continue with the test. These include "not necessary"; "has had abdominal hysterectomy"; "test is inconvenient"; and "not easy to do the test here".

The 453 non-utilizers were asked to give reasons for their behaviour. About a quarter, 115 (25.4%) said there was no reason, but 104 (23%) said there was no indication to have the test done, while 101 (22.3%) said it is not necessary (Table 32).

The 453 non-utilizers were also asked to respond to the question on whether they would want to perform the test. Less than half of them, 216 (47.7%); indicated their willingness to go for the test while 237 (52.3%) were not willing. The 237 respondents gave various reasons for this. One hundred and two (43%) stated that the test is "not necessary". Fifty (21%) gave no reasons and 38 (16%) said they are "not susceptible (Table 33).

TABLE 32

Non-Utilizers' Reasons for not Having Done Pap Smear Test

N = 453

Responses	No	%
No reason	115	25.4
No indication	104	23.0
Lack of interest/not necessary	101	22.3
Ignorance of where and when to get the test done	39	8.6
Not yet time	26	5.7
Not susceptible/divine protection	20	4.4
Time constraints	18	4.0
Fear of outcome-result and side effects	15	3.3
Inaccessibility to screening centres	6	1.3
Long patient wait	5	1.1
Unaffordable cost	4	0.9
Total	453	100.0

TABLE 33

Non-Utilizers' Reasons for Lack of Willingness to Perform Pap Smear Test

N = 237

Responses	No	%
"Not necessary"	102	43.04
"No reason"	50	21.10
"Not susceptible"	38	16.00
"I have divine protection"	15	6.33
"Not yet time"	12	5.10
"Fear of the result"	11	4.64
"Do not like such test"	5	2.11
"Still in the child bearing age"	2	0.84
"Already old/off sexual intercourse"	2	0.84
Total	237	100.00

iii Respondents' Past Experiences With Cancer of the Cervix

All the respondents claimed not to have ever had any malignant changes of the cervix. However, half, 250 (50%) of the respondents have nursed patients with cancer of cervix. Out of this number, only 28 (11.2%) have had a Pap smear test done on themselves, while 19 (7.6%) of those who had not nursed a cervical cancer patient had the test. However, this difference is not significant ($p > 0.05$) (Table 34).

Table 35 shows that only 9 (1.8%) respondents have relatives (mother, aunt, sister, cousin) who had suffered from cancer of the cervix, out of this 9, only 1 (11.1%) respondent had had Pap smear test. Sixty (12%) respondents had non-relatives (friends, colleagues, classmates, neighbours, and friends' relatives) who had suffered from cancer of the cervix. Only 8 (13.3%) out of the 60 had ever had Pap smear test done on them. However, no significant association ($P > 0.05$) was found between having had relatives or non-relatives with cancer of the cervix and performance of the test. Four respondents had both relatives and non relatives who had suffered from cancer of the cervix, out of which only one had done the Pap smear test.

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TABLE 34

Respondents' Previous Contact With Patients Who Had Cancer of the Cervix

Ever nursed a patient with cervical cancer?	Utilization of Pap Smear: Yes No	%	No	%	Total No	%
Yes	28	11.2	222	88.8	250	100
No	19	7.6	231	92.4	250	100
Total	47	9.4	453	90.6	500	100

$X^2 = 1.92$; $P > 0.05$; $df = 1$

TABLE 35

Respondents' Relatives and Non-Relatives Who had Cervical Cancer

Relationship with cancer patients	Utilization of Pap Smear: Yes No	%	No	%	Total No	%
Had relatives with cancer of the cervix	1	11.1	8	88.9	9	100.0
Had non-relatives with cancer of the cervix	8	13.3	52	86.7	60	100.0
Had neither relatives nor non- relatives with cancer of the cervix	37	8.7	390	91.3	427	100.0
Total	46	9.3	450	90.7	496	100.0

$X^2 = 1.54$; $P > 0.05$; $df = 2$

* four respondents were excluded because they had both relatives and non-relatives who had suffered from cancer of the cervix.

iv Hypothesis Testing - Utilization

Hypothesis three: states that there is no association between the utilization of Pap smear services by nurses and their:

(a) hospital of practice
(b) age groups
(c) religion
(d) professional qualifications

To test this hypothesis, chi-square (X^2) test was used to determine the difference between utilizers and non-utilizers of Pap smear services.

With reference to hospital of practice, it was found that none of the respondents working in both mission and private hospitals has ever utilized Pap smear services. For the teaching and state hospitals and health centres, less than 20% of respondents in each institution have utilized the services. The percentage of the utilizers include 28 (17.2%) in the teaching hospital: 16 (8.7%) in state hospitals: and 3 (6.8%) in health centres. The difference with respect to utilization of Pap smear services between

respondents in different hospitals was significant (P < 0.05) (Table 36).

In terms of age, Table 37 shows that utilization increased with increase in age. Respondents in age group 50 years and above were the highest utilizers. 10 (30.3%). Furthermore, these differences were highly significant (P < 0.05)

For religion, christians 44(9.9%) utilized Pap smear services more than moslems 3 (5.4%). However, these differences were not statistically significant (P > 0.05) (Table 38).

With reference to professional qualifications, respondents with post-basic qualifications (Certificate in Family Planning, B.Sc, Advanced Diploma in Health Education) had the highest rate of utilization 16 (16.3%), followed by those with basic only (RN/RM), 26 (8.9%) as shown on Table 39. However, these differences were not statistically significant (P > 0.05).

TABLE 36

Respondents' Utilization of Pap Smear Services Based on Hospital of Practice*

N = 391

Hospital	Utilization of Pap Smear: Yes No.	Yes %	No No.	No %	Total No.	Total %
Teaching hospitals	28	17.2	135	82.8	165	100.
State hospitals	16	8.7	168	91.3	184	100.0
Health centres	3	6.8	41	93.2	44	100.0
Total	47	12.0	344	88.0	391	100.0

$X^2 = 7.909$; $P < 0.05$; $df = 2$

* Mission and Private hospitals were excluded because none of the respondents had utilized Pap smear services.

TABLE 37

Pap Smear Utilization by Respondents in Different Age Groups

Age in Years	Utilization of Pap Smear: Yes No	%	No No	%	Total No	%
20-29	6	3.8	153	96.2	159	100.0
30-39	16	8.4	174	91.6	190	100.0
40-49	15	12.7	103	87.3	118	100.0
50 and above	10	30.3	23	67.7	33	100.0
Total	47	9.4	453	90.6	500	100.0

$X^2 = 24.565$; df = 3; $P < 0.05$

TABLE 37

Pap Smear Utilization by Respondents in Different Age Groups

Age in Years	Utilization of Pap Smear: Yes No	%	No	%	Total No	%
20-29	6	3.8	153	96.2	159	100.0
30-39	16	8.4	174	91.6	190	100.0
40-49	15	12.7	103	87.3	118	100.0
50 and above	10	30.3	23	67.7	33	100.0
Total	47	9.4	453	90.6	500	100.0

$X^2 = 24.565$; df = 3; $P < 0.05$

TABLE 38

Pap Smear Utilization by Respondents of Different Religion *

Religion	Utilization of Pap Smear: Utilizers no	%	Non-utilizers no	%	Total no	%
Christianity	44	9.9	400	90.1	444	100.0
Islam	3	5.4	53	94.6	56	100.0
Total	47	9.4	453	90.6	500	100.0

$X^2 = 0.818$; df = 1; $P > 0.05$

* Yates correction applied.

TABLE 39

Pap Smear Utilization by Respondents of Different Professional Qualifications

Professional Qualification	Utilization of Pap Smear: Utilizers no	%	Non-utilizers no	%	Total no	%
RN	3	4.8	60	95.2	63	100.0
RM	1	3.3	29	96.7	30	100.0
RN/RM	26	8.9	267	91.1	293	100.0
RN/RM+Public Health Nursing	1	6.3	15	93.7	16	100.0
RN/RM + any other	16	16.3	82	83.7	98	100.0
Total	47	9.4	453	90.6	500	100.0

$X^2 = 8.669$; df = 4; $P > 0.05$

v Relationship Between Knowledge and Utilization of Pap Smear Services

Hypothesis four: states that, there is no association between knowledge of respondents on cervical cytology and their utilization of the services. To test this hypothesis, Pearson's product moment correlation coefficient was calculated. Result shows a significantly high correlation (r = 0.2278, $P < 0.05$) between the two variables (Table 40), indicating a significant relationship between them.

vi Attitude to, and Utilization of Pap Smear Services

Hypothesis six: there is no association between respondents' attitude to, and utilization of cervical cytology services.

Table 40 shows a significant correlation ($r = 0.1655$, $P < 0.05$) between attitude and utilization of Pap smear services.

TABLE 40

Correlation Matrix Between the Variables

Variables	Knowledge	Attitude	Utilization
Knowledge		0.2193*	0.2278*
Attitude			0.1655*
Utilization			

* Significant at $P < 0.05$

vii Suggestions on How to Improve the Utilization of Pap Smear Services

Respondents were asked to suggest ways by which the utilization of Pap smear services could be improved. 257 (51.4%) indicated public enlightenment through health education in the clinics, and mass media messages. 204 (40.8%) respondents suggested increasing the number of test centres, while 197 (39.4%) respondents suggested making the services accessible to the public through reduction in cost, distance and time spent at the test centres (Table 41)

TABLE 41

Respondents' Suggestions on Improving the Utilization of Pap Smear Services *

N = 500

Suggestions	no	%
Public enlightenment	257	51.4
Availability of test centres	204	40.8
Accessibility to test centres	197	39.4
Increase in equipment and government funding	19	3.8

* Multiple response: hence percentage adds up to more than 100%.

CHAPTER FIVE

DISCUSSIONS

The findings of the study are discussed in four parts as follows:

1. Demographic characteristics of the respondents;
2. Knowledge of cervical cancer and cervical cytology;
3. Attitude towards cervical cytology; and
4. Utilization of cervical cytology services.

Inferences are drawn of the implications of the findings on cancer education. Finally, recommendations are made on how to improve attendance at cervical screening facilities in order to reduce the incidence and prevalence of cancer of the cervix.

5.1 DISCUSSIONS

5.1.1 Demographic Characteristics of the Respondents

The nurses studied were found in the three tiers of the health care delivery system: primary, secondary and tertiary. This distribution reflects that nurses operate at all the levels of health care. This further suggests that their

responses represented a true aggregate of nurses' knowledge, attitude and practice in Ibadan.

The age of the respondents ranged from 20 to 50 years and above with majority, 190 (38%) falling within the 30 to 39 years age bracket. Incidentally, going by the recommendations of the various governments and organisations (Canadian Task Force on Cervical Cancer Screening 1979; American Cancer Society 1987), that Pap smear sereening should start at 18 years, all the respondents fell into the age category in which cervical screening is adjudged mandatory. This further strengthens the value of the research findings.

5.1.2 Knowledge of Cervical Cancer and Cervical Cytology

It was noted that the majority of the nurses, 406 (81.2%) had heard of cervical cytology, with most of them identifying their training schools as their source of information. This shows that there is a high level of awareness with respect to cancer of the cervix and cervical cytology.

While the level of awareness is high, it is distressing that less than 40% of the respondents could correctly define cervical cytology, and only 91 (18.2%) could correctly state up to three predisposing factors to cancer of the cervix. This is similar to the findings in Olukoya and Ogedengbe's study (1988) in which only 28.8% of the respondents had knowledge of the predisposing factors to cancer of the cervix.

In the present study, the major predisposing factors mentioned were multiple sexual partners (28%) and multiparity (12.8%) which were also implicated for reduction of susceptibility to cancer of the cervix. Muluple sexual partners and multiparity as risk factors to cancer of the cervix have been confirmed in other studies (Nelson et al 1989; Singh and Ilanchcran 1989; Munoz and Bosch 1989; Mishra and Sinha 1990).

Although the level of knowledge was generally low, it is important to note that nurses in the teaching hospital, those aged 20 to 29 years, and those with post-basic certificates (excluding public health nursing) had significantly higher levels of knowledge. The availability of cervical cytology screening services at the University College Hospital

Ibadan and it being a referral centre for cancer of the cervix might have accounted for the higher level of knowledge of nurses working in this teaching hospital. The 20 to 29 year age group is strongly suggestive of the newly qualified nurses who are most likely to have retained the knowledge acquired in the recent course of their training. In addition, the respondents with post-basic training might have been exposed to more information during their course of continuing education. However, it is surprising to note that Public health nurses had a very low level of knowledge in spite of their post-basic training which emphasizes disease prevention (cervical cancer inclusive). This would most likely affect their health education role on cervical cancer prevention.

In summary, in this study, nurses' knowledge on various aspects of cervical cancer and cervical cytology was very low (mean score = 5.0). This finding seems to puncture the assumption that by virtue of their professional preparation and practice, nurses would be knowledgeable on cervical cancer and cervical cytology so as to serve as change agents to the entire female population. This discrepancy between expectations and reality in nurses' knowledge on cancer has been documented by several

authors. For example, Clark's (1979) study in the United Kingdom concluded that, "In the case of cancer, the public's view of the nurse as an 'expert' does not correspond with the reality of her knowledge base".

This general low level of knowledge could probably be due to less emphasis placed on the teaching of cancer of the cervix in the Schools of Nursing although it is inclusive in the current curriculum of the Schools of Nursing and Midwifery.

5.1.3 Attitude Towards Cervical Cancer

It is interesting to note that although 237 (47.4%) of the respondents believe that all adult females are susceptible to cancer of the cervix, 108 (22.6%) respondents indicated that they are not susceptible to the disorder. This attitude of personal non-susceptibility to cancer of the cervix is likely to decrease the likelihood of taking preventive action.

That most of the respondents believed that cancer of the cervix is a deadly disease which can only be cured if detected early through a Pap smear, did not seem to influence the perception of susceptibility by the

respondents. The implication of this is that although the respondents recognize the effectiveness of the Pap smear in the early detection of cervical cancer, the test does not have any personal relevance to them since they do not perceive themselves as susceptible to the disorder. Hence, the decreased likelihood of preventive action. The Health Belief Model (HBM) has emphasized the differential role of perceived susceptibility and perceived seriousness in preventive behaviour. That nurses do not believe themselves susceptible to cancer of the cervix should be of serious concern to health educators, and the focus of health educational strategies.

It was striking to note that respondents aged 50 years and above were less favourably disposed to cervical cytology. This confirms Elkind's (1980) findings that those in that age group have less confidence in smear tests than their younger colleagues. However, the finding is contrary to the author's expectation that because of their age and years of professional practice, they would be more positively disposed than the other age groups. Unfortunately, the author could not offer any explanation for this attitude. This expectation is further strengthened by the information

that the risk of cervical and endometrial cancers increases with age (Richart 1979).

In terms of professional qualifications, public health nurses were most favourably disposed to cervical cytology, while Registered Midwives were the least disposed. This finding suggests that the attitude of the public health nurses was positively influenced by the focus of their training on preventive aspect of health care. This positive disposition to cervical cytology by the public health nurses could be exploited in disseminating public information on cervical cytology at the grassroots level.

It is surprising that the Registered Midwives were not favourably disposed to cervical cytology in spite of the focus of their training on the female reproductive organs. One can assume that either the importance of cancer of the cervix and the need for preventive actions are not emphasized during their training, or they do not possess adequate practical experience to stimulate positive attitudinal disposition to cervical cytology.

5.1.4 Utilization of Cervical Cytology Services

It is disturbing to note that the majority of the respondents, 453 (90.6%) had never had a Pap smear done on themselves. Furthermore, only 46.8% of the utilizers had the test within the past one year. These findings further confirm those of Olukoya and Ogedengbe (1988) among female health workers in Lagos, Nigeria in which only 4.8% of the respondents had the test in the preceding five years. Most surprising was the unwillingness of some (8.5%) of the utilizers (in the present study) to continue with the test because they perceived it as "not necessary and inconvenient".

Despite the finding that most respondents believed in the effectiveness of the Pap smear in reducing the incidence and prevalence of cancer of the cervix, more than half of those that never did the test, 237 (52.3%) were still unwilling to perform the test. These findings suggest that nurses might perceive themselves as non- vulnerable to cancer of the cervix. The major reasons for non-performance of this preventive action such as, "fear of the test result, test is not necessary, lack of susceptibility, indifference, and ignorance of when and where to get the test done" can be regarded as perceived barriers to action and are similar to those identified in several studies

(Davison and Clements 1971; Knopf 1976; Schwoon and Schmoll 1979; Charlton 1983; Elkind et al 1988; Olukoya and Ogedengbe 1988). This finding also tends to support the HBM which proposes that, if the perceived barriers outweigh the perceived benefits, action will not take place.

It was also noted that most of the utilizers work in the teaching hospital. This is not surprising as the only known screening facility for cancer of the cervix in Ibadan is located at the institution. However, one would still have expected a better level of utilization by nurses in this institution than those practising in hospitals where the services are not available.

Age was also found to significantly affect the rate of utilization of Pap smear services. It was observed that the 20 to 29 years age group were the least utilizers. However, it was surprising that the 50 years and above age group were the highest utilizers when one considers the findings that respondents in this age group were the least attitudinally disposed to Pap smear test. Could this mean that attitude does not influence behaviour? The author could not fathom an explanation of this trend except that it is probable that the younger age groups feel they are too

young to be afflicted by the disorder. A similar trend was reported by Schwoon and Schmoll (1979) in a German population. However, Ferraroni et al's (1989) study among Italian women revealed a higher frequency of Pap smear screening among the younger middle aged (30 to 49 years), and a substantial decline above age 50. This difference in findings might have occurred as a result of the difference in the study population because Ferraroni's study population was Italian women, while the present study utilized nurses.

Furthermore, on a general basis, a positive correlation was found between knowledge of, attitude to, and utilization of cervical cytology services. This correlation suggests that adequate knowledge of, and a positive attitude to cervical cytology could invariably promote acceptance and use of Pap smear screening services, and vice versa. These findings further strengthen the theoretical assumptions implied in the HBM, PRECEDE model and the Theory of reasoned action, on which this study was based.

The respondents suggestions on ways by which utilization of Pap smear services could be improved such as, increasing the awareness level of the public, making the

services available and accessible through increasing government funding of the programmes are noted. Ironically, none of the respondents suggested ways of increasing their own level of utilization of Pap smear services, probably due to the belief that cancer of the cervix can only "affect other people and not nurses".

5.2 IMPLICATIONS FOR CANCER EDUCATION

5.2.1 Implications for Nursing Education and Practice

The findings from this study have shown that nurses do not possess an adequate knowledge base necessary for them to value and utilize Pap smear services. This suggests further that nurses may not be providing appropriate public education to promote the behaviour. In view of this situation, before nurses can be effectively used as change agents for the entire female population, their knowledge level should be improved.

Although most respondents identified training schools as their source of information on cervical cancer and cytology, a review of the basic nursing curriculum showed that the disorder was only vaguely mentioned as part of

gynaecological disorders. Emphasis was not laid on its aetiology, epidemiology and preventive aspects (cervical cytology screening). In the light of this finding, there is an urgent need for improving nurses' knowledge through continuing education programmes such as workshops, seminars and symposia.

In addition, the basic nursing curriculum need to be revised. Content areas that need to be emphasized include, the aetiology, epidemiology, prevention and treatment modalities. A lot of emphasis has to be placed on personal susceptibility and the development of a positive attitude to cervical cytology. Preferably, the above content areas can be taught under courses like Maternal and Child Health (including sexually transmitted diseases) and Health Education in view of the increasing public health concern associated with the disorder. Suggested methods of instruction include lecture-discussions, film shows, and symposia.

More nurses could also be encouraged to undertake post-basic training programme in cytopathology in order to improve their knowledge.

With improvement of the nurses' knowledge, their attitudinal disposition towards Pap smear could be enhanced through the use of appropriate instructional techniques (both at basic schools and continuing education). Such techniques include role play, simulation techniques and value clarification. Negative beliefs, attitudes and values could be changed through simulation of real life situations, sharing of views and clarification of ideas and values. All these can lead to positive attitudinal disposition to the Pap smear test which can consequently increase nurses' utilization of the services. If nurses performed Pap smear regularly, they would advocate its use in the course of doing their duties, and thus promote its utilization among the general female population.

5.2.2 Implications for Public Education

It could be assumed that the general population lack adequate information on cancer of the cervix and the Pap smear since nurses themselves are not adequately informed about the disorder. Public education is therefore necessary to improve the utilization of the available screening facilities, in order to reduce mortality from cancer of the cervix.

To achieve this, short-term in-service training could be organized for nurses to improve their knowledge. This can be followed by setting up community cancer education units within the Health Education departments at the various local governments. The trained nurses could man these units which will perform cancer education roles.

Furthermore, clinic based education, use of radio and television and cancer education activities through the various women's organisations and religious groups in each local government can enhance public knowledge of cancer of the cervix and cervical cytology.

5.2.3 Implications for Policy Formulation

Presently, there are no national screening guidelines and programmes in Nigeria on cancer of the cervix. A national screening guideline is necessary to ensure that infrastructures for screening programmes, backed by efficient and effective health education, are provided for all women of child bearing age and especially for the at risk groups. This can be done through the collaborative efforts of both the Federal Government of Nigeria and the Nigerian Cancer Society. In addition, within this larger

programme, mass screening programmes need to be integrated into the Family Health Services component of the Primary health care programme. This will ensure wider coverage . The implication of this is the making of the services available, accessible and affordable to the general public.

Furthermore, the training of personnel to obtain the smears and interpret the results is vital to programme efficiency. In addition, quality screening equipment and those needed for further investigation of females with abnormal smears need to be provided. With an increase in public education, an upsurge in the number of females seeking the screening services would be expected to occur. Meeting this envisaged increase in need and demand necessitates the setting up of screening centres at Maternal and Child Health care centres or Primary Health Care clinics at each local government level. The services should also be made free.

Due to limited resources, yearly Pap smears (though ideal) may not be feasible, rather emphasis should be on screening in the first instance, as large a number of females as possible.

5.3 SUGGESTIONS FOR FURTHER RESEARCH

Further studies can be done in the following areas:-

1 Replication of this study in other parts of the country among different female occupational groups to determine the trends of practice.

2 In depth studies of barriers to utilization of Pap smear services among nurses and other female health workers. Specific areas on attitude and knowledge can also be studied in depth.

5.4 RECOMMENDATIONS

Based on the research findings, the following recommendations are made:-

1 More screening facilities should be provided to meet the expected increase in demand by females for the Pap smear tests. In addition, more personnel should be trained on how to obtain smears and interpret results, also screening equipment including those needed for further investigation of abnormal smears should be provided.

2 The importance of cervical cancer prevention through Pap smears should be emphasized in the basic Schools of Nursing.

3 There should be refresher courses and in-service training for the practising nurses to increase their level of knowledge and emphasize the importance of Pap smear screening in preventing cancer of the cervix. Thus, nurses would develop confidence in disseminating cancer prevention information, and function as change agents in the community at large.

4 Nurses should be encouraged to organize and attend workshops, seminars and conferences on cancers and their prevention in order to promote positive attitudes to Pap smears.

5 More female nurses should be trained in cytopathology. Cervical cytology requires an intimate examination which might be embarrassing to most women. Therefore, the knowledge that a female will obtain the smears would encourage more women to attend the screening services.

6 Pap smear tests should be made part of the general assessment for all hospitalized women regardless of whether they have gynaecological symptoms or not. It should also be integrated into antenatal, post natal and family planning services.

5.5 CONCLUSION

In Nigeria, and in most developing countries, cervical cytology screening of the adult female population is minimal hence the high incidence of cervical cancer. This study has shown that not only are services yet to become widely available, the expected providers of the care (nurses) have poor knowledge of the screening programme and consequently fail to utilize the few available services.

If nurses acknowledge themselves as important professionals in the health care delivery system especially in preventive medicine, they are more likely to appreciate their roles better as change agents. Their numerical strength and closer contact with the public both in the hospital and community setting are added advantages to this expected role.

The improvement of nurses' knowledge base, through reviews of the basic nursing curriculum and continuing education to emphasize the preventive aspects of cervical cancer, is imperative to promoting positive attitudinal disposition to, and utilization of Pap smear services. Consequently, their role as change agents for the wider female population can thus be enhanced.

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APPENDIX I

DEPARTMENT OF PREVENTIVE AND SOCIAL MEDICINE
UNIVERSITY OF IBADAN

This study intends to find out the knowledge, attitude and utilization of cervical cytology services by professional female nurses. It would be appreciated if you answer the questions truthfully and since names are not required, confidentiality is highly assured. Thank you.

Please tick (X) the box next to the most appropriate answer(s) and fill in the blanks for other responses.

SECTION A

1. What type of hospital are you working in?
   a. Teaching Hospital [ ]
   b. State/General Hospital [ ]
   c. Mission Hospital [ ]
   d. Private Hospital [ ]
   e. Health Centres/Clinics [ ]

APPENDIX 1

DEPARTMENT OF PREVENTIVE AND SOCIAL MEDICINE
UNIVERSITY OF IBADAN

This study intends to find out the knowledge, attitude and utilization of cervical cytology services by professional female nurses. It would be appreciated if you answer the questions truthfully and since names are not required, confidentiality is highly assured. Thank you.

Please tick (X) the box next to the most appropriate answer(s) and fill in the blanks for other responses.

SECTION A

1. What type of hospital are you working in?
   a. Teaching Hospital [ ]
   b. State/General Hospital [ ]
   c. Mission Hospital [ ]
   d. Private Hospital [ ]
   e. Health Centres/Clinics [ ]

2. Age:

a.	20 - 29 yrs.	[ ]
b.	30 - 39 "	[ ]
c.	40 - 49 "	[ ]
d.	50 yrs and above	[ ]

3. Marital Status:

a.	Single	[ ]
b.	Married	[ ]
c.	Widowed	[ ]
d.	Divorced	[ ]
e.	Separated	[ ]

4. Parity:

_____

_____

5. Religion:

a.	Christianity	[ ]
b.	Islam	[ ]
c.	African Tradition	[ ]
d.	Others (specify)	[ ]

6. Professional Qualifications attained

_____

_____

_____

7. For how many years have you been practising nursing post qualification?

_____

_____

8. Present designation

a.	Staff Nurse	[ ]
b.	Staff Midwife	[ ]
c.	Staff Nurse/Midwife	[ ]
d.	Nursing Sister/Officer	[ ]
e.	Senior Nursing Sister/Officer	[ ]
f.	Matron	[ ]
g.	Others (specify)	[ ]

SECTION B

9. Have you ever nursed a patient with cancer of the cervix?

a.	Yes	[ ]
b.	No	[ ]

10. Which of the following relatives of yours has suffered from cancer of the cervix?

a.	Mother	[ ]
b.	Sister	[ ]
c.	Cousin	[ ]
d.	Aunt	[ ]
e.	Grand-mother	[ ]
f.	Others(specify)	[ ]
g.	None	[ ]

11. Which of the following non-relatives of yours has suffered from cancer of the cervix?

a.	Friend	[ ]
b.	Colleague	[ ]
c.	Classmate	[ ]
d.	Others (specify)	[ ]
e.	None	[ ]

8. Present designation

a.	Staff Nurse	[ ]
b.	Staff Midwife	[ ]
c.	Staff Nurse/Midwife	[ ]
d.	Nursing Sister/Officer	[ ]
e.	Senior Nursing Sister/Officer	[ ]
f.	Matron	[ ]
g.	Others (specify)	[ ]

SECTION B

9. Have you ever nursed a patient with cancer of the cervix? [ ]

a.	Yes	[ ]
b.	No	

10. Which of the following relatives of yours has suffered from cancer of the cervix? [ ]

a.	Mother	[ ]
b.	Sister	[ ]
c.	Cousin	[ ]
d.	Aunt	[ ]
e.	Grand-mother	[ ]
f.	Others(specify)	[ ]
g.	None	

11. Which of the following non-relatives of yours has suffered from cancer of the cervix? [ ]

a.	Friend	[ ]
b.	Colleague	[ ]
c.	Classmate	[ ]
d.	Others (specify)	[ ]
e.	None	

12a. Have you ever suffered from any malignant changes of the cervix?

a. Yes [ ]
b. No [ ]

12b. If yes, state the particular disorder

_____
_____
_____

13. List 6 factors that can predispose a woman to cancer of the cervix

a. _____
b. _____
c. _____
d. _____
e. _____
f. _____

14. State 4 ways by which susceptibility to cancer of the cervix can be reduced.

a. _____
b. _____
c. _____
d. _____

15. Have you ever heard of cervical cytology (Pap smear) services?

a. Yes [ ]
b. No [ ]

16. What do you understand by Pap smear?

_____
_____
_____

17. From what sources did you learn about Pap smear?
(Tick all the relevant items)

a.	Formal training in School of Nursing	[ ]
b.	Books/Journals/Pamphlets	[ ]
c.	Co-workers	[ ]
d.	Mass media	[ ]
e.	Friends	[ ]
f.	Others (specify)	[ ]

18. At what age should the test be commenced?

_____

_____

19. How frequent should the test be performed?

a.	Monthly	[ ]
b.	Every six months	[ ]
c.	Yearly	[ ]
d.	Every two years	[ ]
e.	Every five to ten years	[ ]

20. Who should determine the need for a woman to go for Pap smear?

a.	The woman herself	[ ]
b.	The Doctor	[ ]
c.	The Nurse	[ ]
d.	The Husband	[ ]
e.	Others (specify)	[ ]

21a. Is cancer of the cervix curable ?

a.	Yes	[ ]
b.	No	[ ]

21b. If Yes, by what means can it be cured ?

_____

_____

21c. If No, why not ?

_____

_____

SECTION C

Tick (X) as appropriate

		Strongly Agree	Agree	Unde-cided	Dis-agree	Strongly Disagree
22.	All adult females are susceptible to cancer of the cervix					
23.	It is unlikely that I would ever develop cancer of the cervix					
24.	Cancer of the cervix is not a deadly disease					
25.	Cancer of the cervix is likely to result in infertility					
26.	Persons with cancer of the cervix are likely to have severely painful sexual intercourse					
27.	Cancer of the cervix has no association with severe inter menstrual bleeding					

Tick (X) as appropriate

		Strongly Agree	Agree	Unde-cided	Dis-agree	Strongly Disagree
28.	It is likely that early detection of cancer of the cervix will minimize the number of deaths arising from					
29.	A person whose cancer of the cervix was detected and treated early enough has a greater chance of living					
30.	Time is not a constraint to my going for Pap smear services at the available centres					
31.	It is easy for me to get to the clinic that offers Pap Smear services.					
32.	The cost of Pap Smear at the hospital that offer this service is affordable					

SECTION D

33a. Have you ever had a Pap Smear ? [ ]

a. Yes [ ]

b. No

IF NO, GO TO QUESTION 40.

33b. If yes, what prompted the test?

_____

_____

34. When did you have the last test done ?

_____

35. Where did you do the test ?

_____

36. What influenced your choice of place ?

_____

37. How many times have you done the test in past 3 years?

_____

38. How often do you usually do the test ?

_____

39a. Would you like to continue with the test ? [ ]

a. Yes [ ]

b. No

39b. Give reasons to support your answer

_____

_____

_____

40. If you have not done a Pap Smear, please indicate your reasons for not doing so.

_____

_____

41a. Would you want to go for the test ? [ ]

a. Yes [ ]

b. No

41b. Give reasons to support your answer

_____

_____

42. Do you believe that regular Pap Smear can reduce the prevalence of cancer of the cervix ?

a. Yes [ ]

b. No [ ]

43. Make suggestions on how the utilization of Pap smear services can be improved.

_____

_____

_____

APPENDIX 2

REVISED FIGO STAGING FOR CANCER OF THE CERVIX (1988)

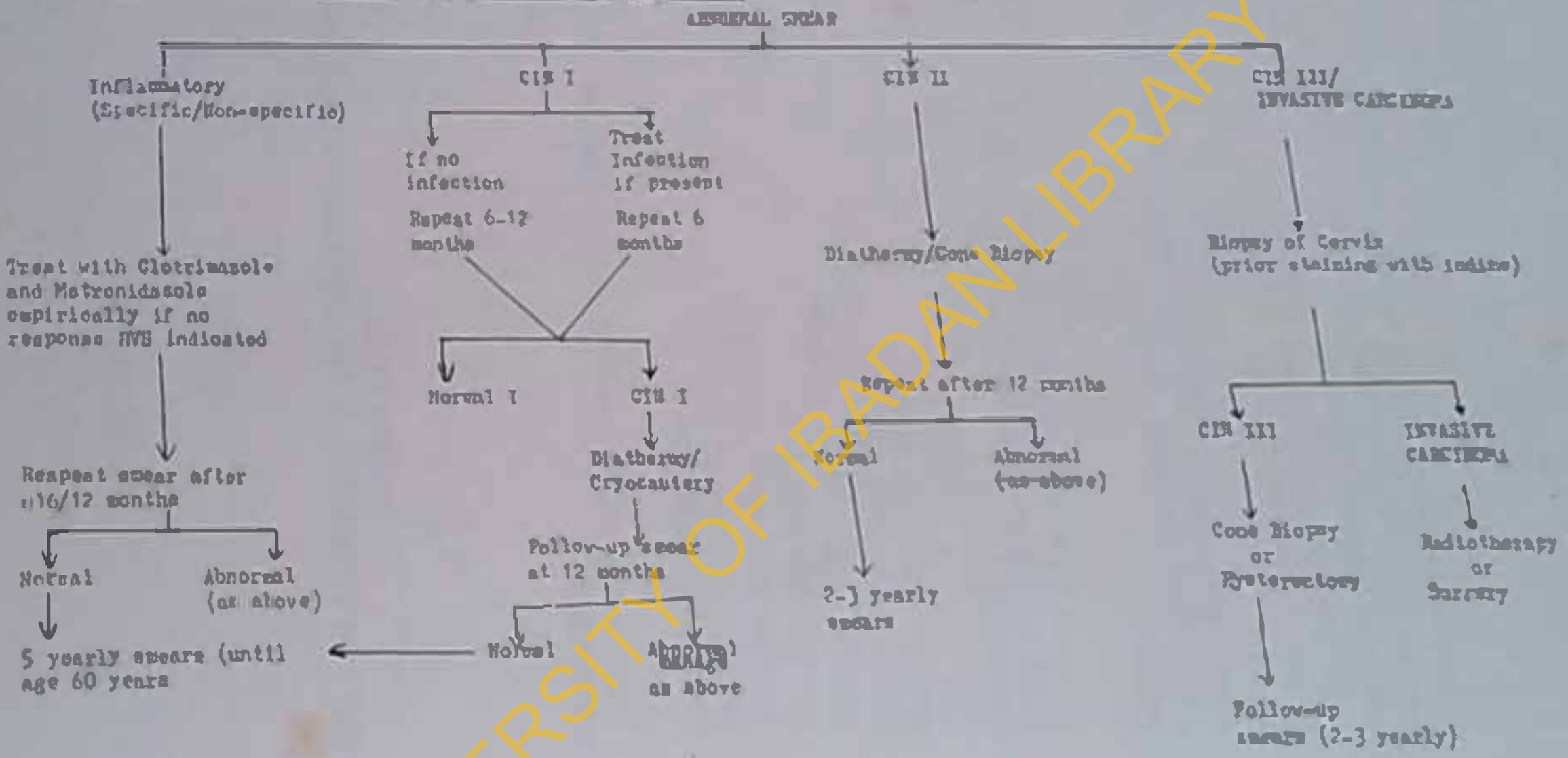
STAGES	CHARACTERISTICS
O	Carcinoma-in-situ, intraepithelial carcinoma (cases of stage O should not be included in any therapeutic statistics for invasive carcinoma).
I	The cancer is strictly confined to the cervix.
Ia	Preclinical Cancer of the cervix that is diagnosed only by microscopy.
Ia 1	Minimal microscopically evident stromal invasion
Ia 2	Lesions detected microscopically and can be measured, the upper limit of the measurement should not show a depth of invasion of > 5mm taken from the base of the epithelium. either surface or glandular from which it originates: a second dimension, the horizontal spread must not exceed 7 mm. Larger lesions should be staged as Ib.
Ib	Lesions of greater dimension than stage Ia 2 whether seen clinically or not.
II	The cancer extends beyond the cervix but has not extended to the pelvic wall: the cancer involves the vagina but not as far as the lower third.

IIa	No obvious parametrical involvement
IIb	Obvious parametrical involvement
III	The cancer has extended on to the pelvic wall; on rectal examination, there is no cancer free space between the tumour and the pelvic wall; the tumour involves the lower third of the vagina; all cases with hydronephrosis or non-functioning kidney should be included unless they are known to be due to other causes.
IIIa	No extension on to the pelvic wall but there is involvement of the lower third of the vagina.
IIIb	Extension onto the pelvic wall or hydronephrosis or non-functioning kidney.
IV	The cancer has extended beyond the true pelvis or has clinically involved the mucosa of the bladder or rectum.
IVa	Spread of the growth to the adjacent organs.
IVb	Spread to distant organs.

Source: Shephard, J.H. (1989)

APPENDIX 3

MANAGEMENT PLAN FOR ABNORMAL PAP SMEARS



Flow Chart for the Management of an Abnormal Smear.

Source: Konje et al 1991.

APPENDIX 4

LIST OF HOSPITALS AND HEALTH CENTRES SELECTED FOR THE STUDY

A. Teaching Hospital
1. University College Hospital (UCH), Ibadan.

B. State Government Hospitals
1. State Hospital Ring Road
2. Adeoyo Maternity Hospital
3. Jericho Nursing Home
4. Jericho Orthopaedics Hospital
5. Oni Memorial Children Hospital
6. Jericho Chest Hospital

C. Mission Hospitals
1. Oluyoro Catholic Hospital, Oke-Ofa
2. St Mary's General Hospital, Elcta

D. Health Centres
1. Agbongbon Maternity Home
2. Local Government Maternity Home Alafaran-Olubadan Road
3. Oranyan Maternity Home
4. Solundero Maternity Home
5. Inalende Maternity Home
6. Molete Unit and Maternity Centre
7. Maternal and Child Health Unit Moor Plantation.

E. Private Hospitals

1. St. Martina's Hospital
2. Beta Hospital (Annex)
3. Iyalomi Memorial Medical Clinic
4. Idi-Ape Medical Centre
5. St. George's Nursing Home
6. Abiyelomo Clinic and Maternity Home
7. Faith Medical Centre
8. Oluranti Hospital
9. Falewa Hospital
10. Mayday Clinic and Maternity Home
11. Alafia Hospital
12. Monarch Specialist Hospital
13. Castle Hospital and Maternity Hospital
14. Ibadan Medical Clinic
15. Savat Medical Clinic
16. Florence Memorial Dental Specialist Clinic
17. St. Anthony's Clinic
18. ICY Medical Centre
19. Full House Medical and Maternity Centre
20. St Vincent Medical Centre
21. Badejoko Hospital
22. Teju Specialist Hospital
23. Odunlakin Specialist Hospital
24. Agency Clinic