

**PREDISPOSING FACTORS RESPONSIBLE FOR UTERINE FIBROIDS
AMONG WOMEN OF REPRODUCTIVE AGE GROUP IN IBADAN
METROPOLIS, NIGERIA**

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Abstract

Over the past decades, researchers have been concerned about the factors responsible for uterine fibroids growth and its effect on the health of a patient. This study aims at providing Information on the contributory factors to the increased growth, and the preferred treatments by the people concerned. The study will also highlight some major treatments given to a fibroids patient.

Ibadan metropolis, Nigeria was used as the study area and 200 women were randomly selected from 7 private hospitals and 3 government health centres all within the metropolis. The data gathered were presented using simple percentage and chi-square statistical tool analyse all the hypotheses at 0.05 significant level by SPSS version 16.0.

This study observed common traits that increase the growth of uterine fibroid among women in Ibadan metropolis, Nigeria. It is recommended that workshop on Health promotion education and awareness on uterine fibroids should be on done among the stake holders.

Key words: Predisposing factors, uterine fibroid, reproductive health promotion, reproductive age

Introduction

Fibroids are abnormal masses of tissue or tumors found in the pelvic area typically during childbearing years in women. Fibroids range in size and are usually benign, are rarely detected because symptoms are slight. The type of fibroid problems that occur from development depends on location of the tumor. Symptoms that do present include changes in menstruation pattern, pain and abdominal pressure. The exact cause of fibroid is unknown; however the primary factor contributing to the growth of fibroid is hormone changes ¹

Fibroid tumors of the uterus are almost always benign in 99.5% of cases. They arise from the muscle tissue of the uterus and can be found in the lining muscle wall and outside surface of the uterus. They are common, occurring in about 20% of white women and 40-50% of African American Women ². They develop slowly in women between the ages of 25 and 40 years and may become large. Fibroids may cause no symptoms or they may produce abnormal vaginal bleeding. Other symptoms are due to pressure on the surrounding organs and includes pain, backache, and constipation etc².

Women especially at childbearing age encounter a lot of problem of reproductive system. Some disease conditions may eventually result to infertility when adequate attention is not paid. While in some cases, it may not completely cause a complication in reproductive system or even miscarriages of such pregnancy³.

Uterine fibroids at some point in life are life-threatening. The formulation of fibroids may be attributed to abnormalities in substances called “growth factor”. These are special

proteins secreted by different cell types and are responsible for cell to interact. Many of the substances regulate a process called Angiogenesis which cause new blood vessels to sprout from pre-existing ones⁴.

Uterine fibroids tend to shrink or disappear after menopause, when estrogen level falls. Research is beginning to provide information on why the growth. There has been much recent attention to research on uterine fibroids and progress is beginning to be encouraging and reaching the office of research on women health (ORWH)⁵.

Most women with fibroids do not have symptoms. However, it is sometimes associated with painful periods, infertility, miscarriages of pregnancy and anemia which if not promptly taken care of can eventually lead to death of such patient. Uterine Fibroid is therefore a life threatening issue among women of childbearing age. Even in pregnancy, the woman may experience premature labour which will bring about delivery of a premature baby that will require medical attention for the survival of such child.

Predisposing Factors/ Causes of Uterine Fibroids

According to Medicinet.com⁶, the main cause of uterine fibroid is unknown, but evidence suggests it is tied to some predisposing factors. The primary factor contributing to growth of uterine leiomyomata is hormonal changes, while others include Genetic Abnormalities, alteration in growth factors (protein formed in the body that direct the rate and extent of cell proliferation), Age, Red meat consumption, use of oral contraceptives, weight gain (obesity) and alcohol intake.

Hormonal changes

Steroid Hormones: Estrogen and progesterone are the two main hormones that stimulate development of the uterine lining during each menstruation cycle in preparation for pregnancy, appear to promote the growth of fibroids. Fibroids contain more estrogen and progesterone receptors than do normal uterine muscle cell⁴

While Abayomi⁷ is of the opinion that fibroid growth is most likely controlled by hormonal factor especially the production of estrogen and progesterone. It tends to grow during the reproductive years and may expand rapidly during pregnancy when estrogen level is very high. They generally shrink after menopause as the estrogen levels decline.

Genetic alteration

Inherited genetic factor may be important in many causes of uterine leiomyomata. Researchers have identified chromosome where genes may play a role in fibroids growth. Abnormal genetic factors may produce smooth muscle cells in the uterus that undergo changes that mimic pregnancy when the cells in the uterus are exposed to female hormone. These impaired cells however do not respond normally to the signals that should make them self-destruct and return to non-pregnancy state. Genetic may as well play a part in the overall scheme of our health and our own body tendency to develop symptomatic uterine fibroids. Many uterine fibroids contain alterations in genes that code for uterine muscle cells. The Mayo clinic notes that hereditary and race are risk factors for developing fibroids. The likelihood of fibroids development if the females in the family develop growth increases the risk. Additionally, African-America Women are more likely to develop fibroids than

women of any other race. Monozygotic twins have a 2-3 times greater risk of fibroids than dizygotic twins when one twin is affected ⁴.

Growth factor

The formulation of fibroids may be attributed to abnormalities in substances called growth factors. These are special proteins secreted by different cell interaction. Many of these substances regulate a process called Angiogenesis which causes new blood vessels to sprout from pre-existing ones. Researchers are investigating unique genetic factors that may be responsible for some of the abnormalities leading to uterine muscle overgrowth. Growth factors that have been studied for a role in uterine fibroids includes basic fibroblast growth factor (BEGT) which is normally suppressed during the premenstrual phases, but in women who have fibroids, it is not. This indicates that over-activity of basic fibroblast growth factor may result in excess production of blood vessels clusters and the growth of fibroids. Insulin-like growth factor may decrease the growth of fibroids⁸

Nulliparity and Oral Contraceptive Use

Although this appears to be protective, the Nurses' Health study in 2009 showed an increased risk in women who use oral contraceptive pills at age 13-16 years. Low dose of oral contraceptives and menopausal hormone therapy are not contraindicated by women with fibroids. So far, strong data exist showing that women who takes oral contraceptives have a lower risk of fibroids which is generally true for all women except for those who starts at earlier age are at high risk. It is only progestin contraceptives may decrease

Age

Fibroids usually do not develop until between ages 25-35 years. It might be expected that women with fibroids are making too much estrogen or progesterone. However, the levels of these hormones in the blood are absolutely normal. But fibroids have enzymes that convert androgens (male hormones made by the ovary and the adrenal gland) into estrogen within the fibroid cells so the fibroid cells actually contain higher levels of estrogen than the rest of the body. Fibroids occur during the reproductive years, most commonly becoming clinically apparent during the fourth and fifth decades of life. They do not occur in prepubescent girls and usually shrink at menopause. Childless women are more likely to develop fibroids in their uterus. Women who have given birth to their last sibling at an early age can also be at risk for fibroids growth⁹.

Research questions

- (1) Is Uterine Fibroids hereditary?
- (2) Does reproductive age contribute to the increased growth of Uterine Fibroids?
- (3) Will infertility/lack of pregnancy contribute to occurrence of uterine fibroid?
- (4) Will the use of contraceptives increase the risk of Uterine Fibroids growth

Hypotheses

H₀₁: Uterine Fibroids will not significantly be caused be hereditary trait.

H₀₂: Reproductive age will not significantly contribute to increased growth of Uterine Fibroids.

H₀₃: Infertility/lack of pregnancy will not significantly contribute to occurrence of uterine fibroids

H₀₄: Use of contraceptives will not significantly increase the risk of Uterine Fibroids growth.

Methodology

The research design employed for this study is the descriptive case study research design. The sample population for the study is made up of all women from age 30-50 years with the incidence of uterine fibroids from private hospitals and public health in Ibadan metropolis, Nigeria. The sampling method employed was the purposive sampling technique. In order to reduce the population of women with incidence of uterine fibroids, two hundred of them were chosen at random from both private hospitals and public health centers within the metropolis for proper data collection and accuracy in information gathered. The instrument used for data collection is questionnaire on the factors responsible for Uterine Fibroids among women in Ibadan metropolis, Nigeria, which was validated and tested for reliability. The questionnaires were administered to two hundred women identified to have uterine fibroids within the metropolis. The data collected from the field survey through questionnaires administered were analyzed by *SPSS* version 16.0 using Frequency Distribution Tables and the set hypotheses were tested using the Pearson Chi-Square [X^2] statistic at 0.05 alpha level of significant.

Results and discussion of findings

Table 1: Percentage of respondents according to their age, marital status, religion, occupation, educational qualification, number of children and use of contraceptives N=200

Age (in years)	Frequency	Percentage (%)
≤ 20	62	31.0
21-30	72	36.0
31-40	49	24.5
≥ 41	17	8.5
Marital Status		
Single	37	18.5
Married	136	68.0
Divorced	24	12.0
Others	3	1.5
Religion		
Christianity	108	54.0
Islam	88	44.0
Traditional	4	2.0
Occupation		
Civil servant	100	50.0
Trader	52	26.0
Self Employed	48	24.0
Educational Qualification		
No school	30	15.0
Primary	11	5.5
Secondary	56	28.0
Tertiary	103	51.5
No. of Children		
None	31	15.5
1-2	56	28.0
3-4	91	45.5
5-6	12	6.0
7 and above	10	5.0
Use of Contraceptive		
Yes	98	49.0
No	102	51.0
Total	200	100.0

The table above shows the frequency distribution of the age, marital status, religion, occupation, educational qualification, number of children and use of contraceptives of the respondents.

TABLE 2: X² results on predisposing factors causing Uterine Fibroids in Ibadan, Nigeria

Ho 1: Hereditary trait and risk of Uterine Fibroid									
Items	SA	A	D	SD	Row Total	Df	Cal X ² Value	Critical Value	Decision
There is history of uterine fibroids in my family.	22(44)	65(93.25)	89(49.25)	24(13.5)	200	9	202.55	16.92	H ₀ Rejected
Uterine fibroids are more common among black women than white women.	28(44)	118(93.25)	42(49.25)	12(13.5)	200				
The main cause of uterine fibroids is hormonal imbalance.	26(44)	134(93.25)	36(49.25)	4(13.5)	200				
All women irrespective of heredity and genetics in their reproduction age are prone to uterine fibroid	100(44)	56(93.25)	30(49.25)	14(13.5)	200				
Column Total	176	373	197	54	800				
Ho 2: Reproductive age and risk of Uterine Fibroid									
At reproduction stage of a woman there is likelihood of increased growth of uterine fibroid	45(57)	120(91.25)	30(40.75)	5(11)	200	9	704.27	16.92	H ₀ Rejected
Women with late marriage are more prone to uterine fibroid	63(57)	83(91.25)	47(40.75)	7(11)	200				
Early sexual relationship can increase the rate of uterine fibroid	14(57)	29(91.25)	68(40.75)	89(11)	200				
Women at menopausal stage cannot have uterine fibroid	20(57)	106(91.25)	56(40.75)	18(11)	200				
Column Total	228	365	163	44	800				
Ho 3: Infertility/lack of pregnancy and risk of uterine fibroid									
My uterine fibroid occurred as a result of infertility/no pregnancy	15(34.5)	26(53.3)	56(65.5)	103(46.7)	200	15	322.95	24.99	H ₀ Rejected
My uterine fibroid occurred as a result of pregnancy loss	108(34.5)	57(53.3)	35(65.5)	0(46.7)	200				
My uterine fibroid occurred as a result of dilation and curettage (D &C)	14(34.5)	54(53.3)	98(65.5)	34(46.7)	200				
My uterine fibroid occurred as a result of no frequent sexual intercourse.	17(34.5)	43(53.3)	73(65.5)	67(46.7)	200				
I have never had sexual intercourse and I still have uterine fibroid.	16(34.5)	56(53.3)	88(65.5)	40(46.7)	200				
My uterine fibroid is as a result of taking some	37(34.5)	84(53.3)	43(65.5)	36(46.7)	200				

hormonal therapy for treating infertility									
Column Total	207	320	393	280	1200				
Ho 4:Use of contraceptives and risk of Uterine Fibroid									
My use of oral contraceptive pills (OCPs) exposes to uterine fibroid	11(13)	59(67.75)	90(89)	40(30.25)	200	9	105.53	16.92	H0 Rejected
My use of emergency contraceptive pills (ECPs) makes me prone to uterine fibroid	11(13)	47(67.75)	117(89)	25(30.25)	200				
My use of Norplant implant exposes to uterine fibroid	16(13)	44(67.75)	95(89)	45(30.25)	200				
My use of intra uterine contraceptives device (IUCD) exposes me to uterine fibroid	14(13)	121(67.75)	54(89)	11(30.25)	200				
Column Total	52	271	356	121	800				

$P \leq 0.05$

Discussion of findings

Based on the analyzed data, emanating from the questionnaire some findings were however made, hypotheses formulated were examined and tested through statistical calculations.

Hypothesis one which stated that uterine fibroids will not significantly be caused be hereditary trait which was rejected. This simply implies that uterine fibroids can be due to hereditary trait; this is therefore in line with Akinola who is of the opinion that hereditary is one of the likely trait that brings about the fibroids manifestation in women¹⁰.

Hypothesis two, that reproductive age will not significantly contribute to increased growth of uterine fibroid which was also rejected means that it was formally discovered by the Gynecologist second opinion⁹, that age (reproductive) is also a contributory factor to the rate of growth of uterine fibroids in women within that age bracket.

Similarly, hypothesis three which state that Infertility/lack of pregnancy will not significantly contribute to occurrence of uterine fibroids was also rejected. This is in line with the Siccardi that stated that uterine fibroids mat begin to grow in the uterus when conception did not occur after several attempts of trying to conceive¹¹. This also support the opinion of conceiveonline.com that stated that there is no convincing evidence that subserous and intramural fibroids substantially invade uterus when pregnancy delayed¹².

Finally, hypothesis four which state that use of contraceptives will not significantly increase the risk of Uterine Fibroids growth was also rejected. This is in line with Hughey

that there is an increased risk in women who used oral contraceptives pills at early stage of their life, ranging from ages 13-16¹³.

Conclusions and Recommendations

Based on the findings of this study, the following conclusions were made:

- . Uterine fibroids can be hereditary, meaning that it can be passed from parents to offspring. As the reproductive age increases, this may prone individual to having uterine fibroids. Infertility/lack of pregnancy has been seen to causing uterine fibroids. Pregnancy loss and involvement in dilation and curettage (D & C) can cause uterine fibroids, and the use of contraceptives may lead to the growth of uterine fibroids.

Based on the findings, it is recommended that reproductive health promotion should be launched and workshops of such should be held periodically among the stakeholders on the awareness of predisposing factors to uterine fibroids. Advocacy should be intensified on educating the populace especially women on the causative factors of uterine fibroids in schools and communities. Different means of information dissemination such as newspapers, radio, and television among others must be adequately employed to achieve this goal. Health institutions and departments should draw course programmes and curriculum on reproductive health, for the purpose of training people to become certificated and useful to helping others in their walks of life. Indiscriminate use contraceptives should be avoided, except prescribed by the medical or reproductive health experts. Uterine fibroids' medical check-up should also be done at a very affordable cost if not wholly free as this will help in early detection, thereby

preventing the tumors from growing bigger to the size that can inhibit fertility and /or lead to malignancy.

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