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2 **Title page;**

3 **Title;**

4 Age prevalence of leiomyoma uteri; a histopathologic study

5 **Running title;**

6 Age prevalence of leiomyoma uteri

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8 **Summary**

9 **Introduction**



10 This was a retrospective study to demonstrate the age prevalence of uterine fibroid cases
11 diagnosed in a peripheral health facility within a ten year period with a view to improving
12 available demographic health data in Nigeria.

13 **Results**

14 Records obtained from ~~in~~ University of Benin Teaching Hospital showed that the commonest
15 age of occurrence within the period was within the 31-40 year interval (44.41%) except in
16 2003 were 41-50 year interval predominated. 29.42% occurred in the 41-50 age group while
17 18.48% occurred in the 21-30 age interval. Only 0.87%, 6.34% and 0.48% occurred in the
18 11-20, 51-60 and 61-70 age intervals respectively. There was an ~~an observed~~ significant
19 relationship between age and the prevalence of uterine fibroids during the entire period of
20 study: $p < 0.01$ ($\chi^2 = 9.54$; DF = 50).

21 **Conclusion**

22 Fibroids are common in Africans especially in early adulthood (the working class); the
 23 ~~opinion canvassed in this study therefore is that~~ concerned authorities should direct adequate
 24 resources towards managing symptomatic patients at a subsidized rate.

25 **Key words;** Fibroids, Nigerian, Age

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28 Introduction

29 Leiomyoma uteri also called uterine fibroids, is a benign uterine neoplasm composed of
 30 elements of the uterine wall¹. It has been reported to be the most common tumour in
 31 females². This benign ~~monoclonal~~ tumour has been reported to occur in about 20% of
 32 females aged over 35 years, ~~majority of which have been observed to be asymptomatic,~~
 33 ~~though a few rare cases have also been~~ observed in pre-pubertal females³.

34 Fibroids have been described to be more prevalent in Negroes than Caucasians, constituting
 35 over 6% of gynaecologic tumours in some Nigerian cities^{4,5}. Although the actual aetiologic
 36 basis for developing leiomyoma uteri has not been fully elucidated, several factors especially
 37 age, hormonal and genetic factors have been implicated as possible culprits in developing this
 38 lesion⁶.

39 Fibroids are often asymptomatic and ~~have rarely been reported to be fatal~~⁷. The presence of
 40 symptoms may ~~however~~ reduce the quality of life. Abdominal pain, swelling, abnormal
 41 menstrual bleeding and infertility have been some of the common complaints by patients
 42 diagnosed with this tumour and these have commonly resulted in surgical intervention with
 43 resultant enormous financial health burden⁸.

44 This study was therefore conducted to demonstrate the ~~age~~ prevalence of uterine fibroid cases
45 diagnosed between year 2001 and 2010 (10 years) with a view to improving available
46 demographic health data in Nigeria. It is believed that this study will motivate concerned
47 authorities to direct adequate resources towards managing symptomatic patients at a
48 subsidized rate.

49 **Material and methods**

50 This was a retrospective study conducted at the University of Benin Teaching Hospital, a
51 tertiary health facility which ~~sub~~ serves a considerable part of the ~~south-~~ south region of
52 Nigeria. The period of study was between 2001 and 2010 (ten years). Records were obtained
53 from the archives of the histopathology department and permission was obtained from the
54 institution's ethics and research committee (Protocol number; ADM/E22/A/VOLVII/742).
55 Demographic data (age) ~~was~~ obtained from the records unit of the institution.

56 **Results**

57 As shown in table 1, the commonest age of occurrence was within the 31-40 year interval
58 (44.41%); 29.42% occurred in the 41-50 age group while 18.48% occurred in the 21-30 age
59 interval. Only 6.34%, 0.87% and 0.48% occurred in the 51-60, 11-20 and 61-70 age intervals
60 respectively. The mean age was 30.5 years while the age range was 16-66 years. There was
61 an observed significant relationship between age and the prevalence of uterine fibroids during
62 the entire period of study: $p < 0.01$ ($\chi^2 = 89.54$; DF = 50).

63 **Discussion**

64 It has previously been noted that fibroids were common in females of child bearing age in the
65 western part of Nigeria⁹ ~~as was observed in this study were most cases were within the third~~
66 ~~and 4th decade of life~~¹⁰. This is also the period of maximum oestrogen secretion which has

67 been speculated to be associated with fibroids¹⁰. The observed low prevalence in prepubertal
68 and post menopausal females may therefore be a consequence of relatively low oestrogen
69 levels during these periods¹¹.

70 Several studies have documented an increased incidence of uterine leiomyoma in women of
71 African descent^{12,13,14}. A reported 3-9 times increased incidence of uterine fibroids, ~~age for~~
72 ~~age~~ when compared with Caucasians, has been attributed to genetic and racial
73 factors¹². Uterine fibroids have been documented to occur at about 30 years of age and
74 becomes symptomatic at about 35 - 45 years of age⁷. This could explain the age prevalence in
75 this study in which all the cases for this study were samples obtained from the gynaecology
76 section of the hospital following surgery most of which must have been symptomatic at
77 presentation.

78 The observation in this study is that most cases occurred during the most productive period of
79 female life with resultant increase in financial burden to affected individuals, their families,
80 the health sector and the entire country. Many hours that would have been spent in more
81 productive ventures are expended in managing fibroids ~~which~~ is sometimes associated with
82 complications resulting in fatality, ~~albeit rare~~⁷.

83 For this reason, it is advised that more resources be directed at ~~finding out the actual cause of~~
84 ~~this health scourge in a bid to~~ developing appropriate treatment to prevent and if possible
85 eliminate it.

86 Conclusion

87 This study was conducted to demonstrate the age prevalence of uterine fibroid cases
88 diagnosed between year 2001 and 2010 (10 years) in a peripheral health facility. The
89 commonest age of occurrence was within the 31-40 year interval. The mean age was 30.5
90 years while the age range was 16-66 years. It is believed that this study will motivate

91 concerned authorities to direct adequate resources towards managing symptomatic patients at
92 a subsidized rate.

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138 Table 1

Age Interval	Frequency										Σf	% TOTAL
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
11-20		1	1			2	2	3	2		11	0.87%
21-30	9	7	24	13	16	27	27	28	50	32	233	18.48%
31-40	38	18	29	22	38	82	71	79	93	90	560	44.41%
41-50	28	6	42	12	36	53	52	44	54	44	371	29.42%
51-60	18	1	6	3	11	16	3	8	7	7	80	6.34%
61-70			1		2			3			6	0.48%
TOTAL	93	33	103	50	103	180	155	165	206	173	1261	100.00%

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140 Table showing the age (interval of 10 years) versus the frequency of fibroids within each

141 year of the study

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