



Surveillance of Uterine Myomata Cases in Tradomedical Centres in Benin Metropolis, Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. The research idea, design and work plan originated from author BEO. Authors BEA and BEO actively participated in carrying out field exercises necessary for the successful completion of this study. Lastly, author BEO handled all literature searches and the preparation of this manuscript for publication, which was critically reviewed by author BEA. Both authors read and approved the final manuscript, in which they contributed immensely to justify authorship.

Article Information

DOI: 10.9734/AJMAH/2017/32946

Editor(s):

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- Complete Peer review History: <http://www.sciencedomain.org/review-history/19232>

Original Research Article

Received 24th March 2017
Accepted 9th May 2017
Published 29th May 2017

ABSTRACT

Aims: The information relating to uteri myomata in tradomedical centres (TMC) in Benin metropolis, Nigeria are lacking compared with the same from modern hospitals. The aim of this study is to assess the patterns of care for uteri myomata sufferers attending TMC in Benin metropolis. The physical and observational factors (hygiene condition, environment, and herbs preparation for patients) were also studied in each centre.

Study Design: Involved probabilistic (simple random) sampling of attendees from 32 tradomedical centres.

Place and Duration of Study: The study was carried out in Benn Metropolis, South-southern, Nigeria from June 2015 to December 2016.

Methodology: This study was a probabilistic (simple random) surveillance of 462 women of reproductive age who participated voluntarily using multiple choice questionnaires, while, the

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physical factors were observed and documented. The statistical software INSTAT⁺ version 3.3 was used for data analysis while the statistical significance was set at $P < 0.05$.

Results: Majority of participants were aged (31-40), mean age (37.5), median (36.5) and range (19-56) years. In addition, 21/32(65.6%) of TMCs were of poor hygiene conditions, 31/32(96.9%) herbs preparation were unscientific and 19/32(59.4%) operated in an uncondusive environment.

Conclusions: Generally the hygiene situations, practising environments and herbs preparation were questionable. The decision to patronise tradomedical centres was majorly by choice, phobia for surgery, and cost of hospitalisation amongst others. Hence, widespread health education on uterine myomata for the general public and amongst traditional birth practitioners is recommended.

Keywords: Uteri myomata; traditional birth attendants; tradomedical healing centers; tradomedical attendees; uteri myomata cases.

1. INTRODUCTION

Uteri myomata (UM) are the most common benign neoplasia that develops in the muscular layer of the uterus. It may arise in any of the three layers or coats of the uterus and as such, there could be intramural (inside the perimetrium), submucous (inside the endometrium) and subserous fibroid i.e. suspended by a stalk inside or outside the uterus [1]. It has been speculated that UM is the most common benign tumours found in reproductive age women. It is remarkably common; conversely, only a subset of women have their UM clinically detected and with associated symptoms, or have surgical treatment [2]. The precise cause of UM is unknown; though advances have been made in the understanding of the hormonal, genetic, and growth factors, and the molecular biology of this benign tumour [3].

Detailed characteristics of UM [1,2], gross and histology [3,4], management patterns [5], general health information [6], diagnosis and treatment plans [3,6], clinical report [4-6], signs and symptoms [7], general information relating to UM [8], and sufferers of the ailment both locally [9], and internationally [2,3], have been documented [1-11]. It also comprised of the demographic information, presentation, and management outcomes in Southwestern, Nigeria [9], which excludes care patterns and demographic, physical and observational information from tradomedical centres (TMC) in Benin metropolis, South-southern, Nigeria. It is, therefore, not possible to apportion resources to combat health complications and challenges in the society without an accurate and reliable demographic information [7], and management plans [3,9,11], and related policies. There exist a large proportion of reproductive-age women suffering from UM and do not have access to health

services, thereby, relying on traditional healing homes to meet their healthcare needs irrespective of how safe these centres and the nature of care given in the management of UM, as well as the limited information on TMC and their activities relating to the crude treatment of UM in this part of the world (Benin City, Nigeria), calls for concern. This study, therefore, was to assess the care patterns adopted by traditional birth attendants to uterine myomata sufferers attending TMC in Benin metropolis. Other goals were to investigate the hygiene condition, environment, and herbs preparation available to attendees.

2. MATERIALS AND METHODS

2.1 Study Population

A cross-sectional survey of women of reproductive age attending TMC was adopted in this study. An observational approach was espoused for hygiene condition, whether or not the environment is conducive for care in general (availability of generators, provision of standing or ceiling fan or a cooling system, good source of ventilation, clean toilet facility, good mattress, pillow and chair for visitors, clean environment, access to clean water supply etc.), types of care offered and herbs preparation available to patients. The study population comprised 462 females attendee in 32 TMC in Benin City, Nigeria. The probabilistic (simple random) method was used in recruiting volunteers; aged (19-56) years and participated in the study. Verbal informed consent was permitted where participant declined to the written format, which was also voluntary and without inducement or coercion while the administration of questionnaires and informal interviews were carried out for 18 months (June 2015 to December 2016). It also involved a repeated visit to respondents in the 32 study locations. Ethics

permit was obtained prior to the study with protocol no HA 099/ Vol.12.057.

About 25 questions centred on age, ethnicity, education (primary, secondary and tertiary), occupation, marital status, income, reasons for patronising TMC and cost implication for hospitalisation. Others are phobia for surgical treatment, hygiene condition, nature of environment (conductive / unconductive environment), types of care or treatment plans offered, (herbs only, massage only, massage and herbs combination), routes of administration (oral- eating, chewing, licking, and drinking), bathing, topical application, vaginal insertion, washing, and rubbing, and the prior awareness of TMC location (media, family, friends and peer groups influence). Critical observations were photographed with permission using a Canon Digital Camera (HD Powershot- A2400IS; Canon, Tokyo, Japan) at 5X Image Stabiliser/ Optical Zoom And 20.0 Megapixels. The coded data were double entered into excel in different personal computers and analysed using the statistical software INSTAT+ version 3.3 (Informer Technologies, Inc, United States). Frequency tables were computed for age and ethnicity and observational factors. Tests of statistical significance were performed based on 95% confidence interval or X^2 test with Yate's correction or student's t-test as appropriate [12], while the statistical significance was set at $P < 0.05$.

3. RESULTS AND DISCUSSION

Uteri myomata distribution among age groups and the occurrence amongst Ethnic Groups in Benin City were taken into consideration (Tables 1-2, Fig. 2). Out of the 462 female respondents that participated in this study, 347/462(75%) were married with the majority aged (31-40) years. Additional information indicated that the mean age (37.5) years, median (36.5) years and range (19-56) years are patronising the tradomical centres across the Benin metropolis within the study period. The average numbers of months of literate respondents in the patronage of TMC on UM related issues were (5.5) months. The results further revealed that respondents with formal education accounted for (79%) of the participants. Others are traders (16%), working class (67%), business class (11%), housewives (4%) and applicants (2%) (Fig. 2). The prevalence of married respondent (75%) was significantly higher in young females who are

educated and working class ($P < 0.05$). The observational study showed that upon physical examination at various traditional birth homes, it was observed that 21/32(65.6%) of TMC are of poor hygiene conditions, 19/32(59.4%) of the unconductive environment and 32/32(100%) pattern of treatment (massaging and herbs administration combined) (Table 3, Fig. 1). The awareness of TMC location/ referral suggests that media/ publicity accounted for 12/462 representing (2.6%), family referral 4.11%(19/462), friends 318/462(68.83), peer groups/ workplace influence 14.94%(69/462) while personal determination accounted for 44/462(9.52%) from different TMCs in Benin metropolis (Table 3, Fig. 3).

A substantial proportion of women in Nigeria still patronise traditional birth homes for various reasons ranging from infertility, blocked fallopian tubes, ovarian cysts, to management and treatment of ailments, which are usually handled by the traditional birth attendants in the traditional way. A vast majority of these attendants lack formal education or medical training [13], and some of their clients end up with serious complications, which may lead to severe maternal morbidity and mortality [13] if caution is not taken. Different health problems have been attributed to or linked with uteri myomata (uterine fibroid) in women [7]. Apart from infertility, UM has been reported as another reason most women visit TMC and is found to occur in women of all ages. It was observed that most sufferers of UM in this study either presented to the TMC on the account of infertility or were diagnosed at the hospital. Significant record of a hospital-based diagnosis of UM resulted in 391/462(84.63%) of respondents agreeing to have been diagnosed in the hospital before their visitation at the TMC ($X^2=2.421$, $P<0.05$) (Table 3). This report agrees to the older published papers [14], relating the ties between fibroid and infertility, which has been elucidated by numerous studies [15-18].

This study showed that <20 and >50 years experienced little or no UM presentation in traditional birth homes (Table 1). The most affected age group (early-late 30s) suffering from UM and are managed at TMC in Benin is consistent to report from similar cases of UM, which is managed at the hospital [10]. This information relates to several emanating reports from government hospitals [7], which suggest that the similarity (TMC vs. hospitals) conforms



Fig. 1. Showed photograph of select Tradomedical centers in Benin City, South-southern, Nigeria where (A and B) herbs are air-dried, (C) cooking pots used for the preparation of herbal concoction seen with the attendees clothing hung on lines (D) child's deliveries are taken on bare floors together with materials for herbs preparation including pistols for pounding herbal materials, (E and F) traditional birth delivery room also used for massaging

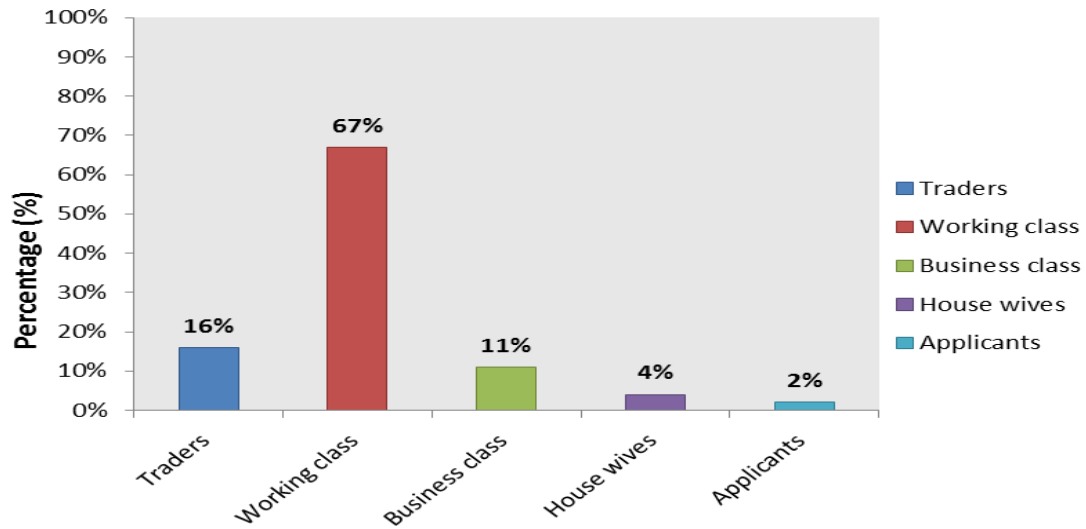


Fig. 2. Sources of income of respondents attending TMC in Benin City, Nigeria

to earlier epidemiologic studies [14]. In support of the above, UM is found most likely to be diagnosed in the third decade of lifespan [9,11],

and is corroborated by the finding of Balogun and Nwachukwu [10]. The reasons for younger women and those in their early to late 30s being

diagnosed of UM may be due in parts to the unusual presentation of UM before age (30 years) and therefore, in strong support of similar findings [16], reporting that between 20-25% of women of reproductive age are clinically assessed for UM. Recall that UM is hormone-dependent benign tumours that trail reproductive life cycle of women thereby increasing risk with age to the fifth decade after that declines impulsively in menopause [15]. Age, therefore, can be said to be a major factor in the development of UM [17], so is ethnicity [18]. In this study, women in their (31-40) years are the worst hit by uteri myomata while the Bini ethnic group is mostly affected, which is the dominant ethnicity in Benin City, Nigeria; thus, it is expected (Table 2).

The observational factors used in the physical examination of TMC in this study (Table 3) suggests that TMC in Benin metropolis is relatively unsafe for taking child's delivery nor for the purpose of UM management and other life-threatening ailments. Factors like hygiene condition [13], conduciveness of the environment [11], herbs preparation [19], amongst others are grossly compromised. Comparable observations had been reported by some authors [6,19], that relate to the matters by which herbs are prepared, and thus conclude that the environment and hygiene situations in tradomedical centres call for concern. The observation at TMC in this study, therefore, connects with a well-documented report by Chen et al. [19], which suggests that huge measure of clinical studies are needed to proving the clinical effectiveness and safety of locally prepared herbal products [19], and other related herbs [6]. The methods for herbal preparation by observation accounted for 31/32(96.9%) that are unscientific, local, unhygienic and totally crude (Table 3, Fig. 1).

It was also observed that the combination of an oral administration (drinking, licking, chewing and eating) and vaginal insertion are the most frequently used choice, which appeared to be the best choice combination for the management and treatment of UM in TMC. This observation is consistent with similar claims by Borokini et al. [20], where the method of preparation varied but oral administration remained the same. The mode of preparation ranges from pulverisation into uniform powder, grinding, pounding, decoction, soaking, squeezing, maceration, boiling (in water), infusion, burning, roasting, drying, prepared as food, spicing as pepper

soup, as well as other variant methods [19]. The above-mentioned methods are observed at various TMC in Benin City but are not documented in this report, owing in large part to the several same reports [20], already in circulation. However, it was greatly observed that oral route appeared as the sole prerogative for the majority of TMC in herbal medicine administration, apart from vaginal insertion.

Empirical data on the knowledge of the location of TMC for the purpose of managing UM revealed that referral by friends dominated the chat (Table 3, Fig. 2). It may, however, be a reflection of frequently advertised and publicised successes and advances generated by tradomedical centres in Nigeria including TMC on electronic, social and print media [21]. The majority of the respondents 318/462 representing (68.83%) of the participants are referred by friends who are aware that fibroid is being managed or treated in that particular location. These are well-documented observation and empirical report [21]. Nonetheless, our findings did not agree with the report by Vollenhoven et al [21], where electronic and print media dominated with a whopping (33%) of the respondents informing on the awareness of TMC location and or referral compared to the 12/462(2.6%) responses connected to media publicity in Radio and TV in this study. The reason for the disparity may be related to the cost of adverts in television and radio stations in Benin City, Nigeria while the government-owned media houses are either bad in transmission or are often on and off in operation. Again, most media advert in this part of Nigeria is majorly from the tradomedical healing homes compared to the traditional birth homes, which is focused upon by the present study.

In another development (Fig. 3, Table 3) showed the relativeness in the source of income by respondents and also attendants without formal education constituted (70.4%) of the TMC attendants respectively. This study aligned with other related articles already published [20]. The source of income of respondents includes trading working class, business class and housewives, which is also familiar with some notable published work [13]. Women with auxiliary nursing experience constituted 12/41(29.3%), family trained i.e. mother to daughter training amounted to 19/41(46.3%), old retired matrons in practice showed 9/41(22%), while old without formal education had a devastating record of about 29/41(70.4%). These revelations portray

that most sufferers of UM are at a greater risk of being medically misguided while taking treatment. In support of the preceding, similar findings [20], noted that all except the retired civil servant claimed that they inherited their vocation from parents, and possibly their ethnomedicinal knowledge as well. This information and much more from the Southwest [6], Southeast [11],

North central [10], and the Northwest [13], are in keen agreement with this study, which is from the South Southern, Nigeria. Therefore, irrespective of the geographical location, patriots of herbal practitioners exhibit and have the same fundamental knowledge and perception [6], about herbal therapies.

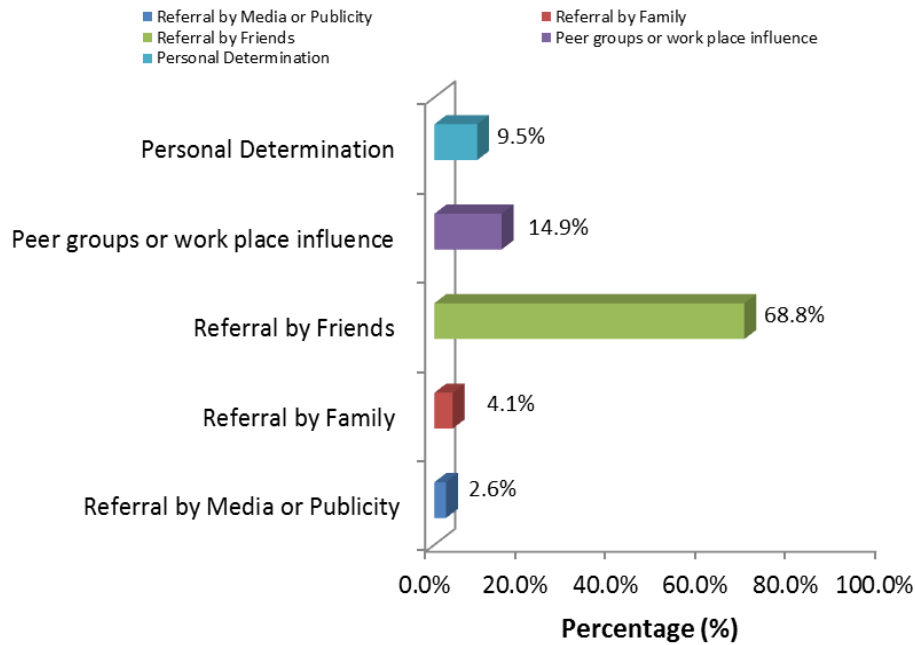


Fig. 3. Awareness of TMCs centres by Referral

Table 1. Distribution of Uteri myomata among age groups in Benin City, Nigeria

Variables (Age)	Σf	Percentage (n=462)	P-values
<20	1	0.22	0.01
21-30	49	10.61	0.11
31-40	329	71.21	0.41
41-50	72	15.58	0.22
>50	11	02.38	0.01
Total	462	100.00	

Note: Student t test was used in obtaining the p-values

Table 2. Distribution of uteri myomata among Ethnic Groups in Benin City, Nigeria

Independent variables (Ethnic groups)	Σf	Percentage (%) n=462	95% C.I.
Bini	128	27.71	1.2-2.8
Esan	63	13.64	2.1-3.3
Etsako	39	08.44	1.6-6.4
Igharra	23	04.98	1.4-2.6
Owan	16	03.46	0.6- 1.3
Others	193	41.77	2.2-5.6
Total	462	100	

Key: Other ethnic groups (Igbo, Yoruba, Urhobo, Ijaw, kwale, Ika, Ibilo and Effik)

Note: 95% confidence intervals refer to risks of uterine fibroids among different ethnic groups

Table 3. Summary of physical/ observational factors in 32 TMCs in Benin City, Nigeria

Physical factors (Observational)	Percentage of respondent and key findings
TMC hygiene conditions	21/32 (65.6%) of TMCs are of poor hygiene conditions. Dirt on every side, UM treatment and body massage are handled on the mat, while, some clothes are spread on the bare floor and were statistically significant ($X^2=2.324$, $p<0.05$).
Unconducive environment	59.4% (19/32) of the environment were not conducive for health delivery services. The centres are without waiting and consulting rooms, and was statistically significant ($X^2=2.121$, $p<0.05$).
Awareness of TMCs	Media/ publicity in Radio and TV adverts showed 12/462 representing (2.60%) of respondents. Family referral 19/462 (4.11%), Friends accounted for 318/462 (68.83%), Work place influence 69/462 (14.94%) and Personal decision to turn over to traditional treatment option 44/462 (9.52%) were significant ($X^2=3.113$, $p<0.05$).
The pattern of UM treatment	Combination of massaging and herbs administration using different specialised local techniques accounted for 32/32 of all TMCs surveyed thereby representing (100%).
Herbs preparation	About 31/32 representing (96.9%) preparation of herbs in the 32 hubs engaged in the survey are unscientific, local, unhygienic and crude in the method of herbal preparation.
Attendants experience	(n=41) number of attendants interviewed in 32 TMCs within the Benin metropolis, in which 12/41(29.3%) are women with Auxiliary nursing experience. Old and illiterate women with no formal education constituted 29/41(70.4%) of the attendants surveyed. Family trained traditional birth attendants accounted for 19/41(46.3%) meaning the transfer of technical know-how from mother to daughter. And 22.0% (9/41) are old retired hospital matrons, which was statistically significant ($X^2=1.021$, $p<0.05$).
UM diagnosis	391/462 (84.63%) of cases of UM were diagnosed in the hospital, while 71/462 (15.37%) were diagnosed at TMCs (during the regular massage and or during traditional birth delivery).

Note: X^2 test with Yate's correction was used in obtaining the p-values

4. CONCLUSION

Hygiene situations, practising environments and herbs preparation in the majority of the tradomedical centres in Benin metropolis, Nigeria is questionable. The decision to patronise tradomedical centres was majorly by choice, phobia for surgery, and cost of hospitalisation. However, the present study may be seen as a traditional birth center-based and the discoveries may not represent the general women population patronising traditional healing hubs for management and treatment of UM in Benin City, Nigeria. Therefore, further studies should endeavour to examine patient's satisfaction in terms of symptom relief assessments after tradomedical therapy and also assess other tradomedical hubs for similar ongoing activities in order to complement the possible gaps in this study.

CONSENT

The study is an empirical and observational study. No personal data of participants have been presented. An informed consent of all volunteered participants was obtained prior to collection of data.

ETHICAL APPROVAL

All authors hereby declare that this study was approved by the appropriate ethical committee and has been performed in accordance with ethical standards laid by ethics and research committee of the Edo State Ministry of Health, Benin City, Nigeria, protocol no HA 099/ Vol.12.057.

ACKNOWLEDGEMENTS

We sincerely wish to thank all traditional birth attendants and attendees from the 32 tradomedical centres who participated in this study, and the Edo State Ministry of Health, Benin City for approval to conduct this research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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The peer review history for this paper can be accessed here:
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