

# Clinical, psychological and socio-professional impact of uterine myomas: case of 101 women in care at the gynecological and pediatric hospital in Yaoundé, Cameroon

## Summary

Uterine myomas are a real handicap for women in Africa. The aim of this study was to determine the clinical, psychological and socio-professional impact of symptomatic uterine myomas.

We conducted a descriptive cross-sectional study from December 2017 to May 2018 in the gynecology department of the Yaoundé Gyneco - Obstetrics and Pediatric Hospital.

We included 101 women aged on average 38.7 +/- 7.6 years, living in urban areas. Female genital bleeding was found in 63.3% of women, anemia in 95%, women and infertility in 57% of women.

Moderate anxiety accounted for 46.5% of patients, mental depression 70.3%, social discomfort with a negative effect on the couple in 32.7%, absenteeism at work in 70.3%, decrease in work efficiency, 64.4% of the patients.

Uterine myomas have a clinical effect (bleeding and infertility), a psychological impact (anxiety, depression) and socio professional impact (decreased work efficiency and absenteeism at work) in women.

**Keywords:** impact, symptomatic myomas, assessment scale, Yaounde

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## Introduction

Uterine myomas are benign tumors of the human uterus derived from smooth muscle cells. They represent the most common benign tumors in women of childbearing age.<sup>1</sup> The prevalence of uterine myoma increases from 30 years; it is about 40% among women between 40 and 50 years old and can reach 70% of women over 50 years of age.<sup>2</sup> The black race,<sup>3</sup> and other factors, including familial and genetic susceptibility, obesity, early menses, were identified as risk factors.

Uterine myomas often remain asymptomatic. Nevertheless, they can present a diversified symptomatology, constituting a real handicap for the patients.<sup>4</sup> Symptoms range from menstrual disorders to infertility.<sup>1,5</sup>

Because of their symptomatology, uterine myomas have psychological and socio-professional repercussions on patients who suffer from them. Anxiety and depression are common during chronic diseases. These are the most common psychological disorders in patients with gynecological pathologies.<sup>5</sup> In 2015, in an evaluative and qualitative study of the burden of symptomatic uterine myomas on the emotional and psychosocial health of 60 women with symptomatic uterine myomas followed in an urban university medical center in the United States of America, Ghant et al.<sup>6</sup> found the presence of psychological disorders namely anxiety and depression in the majority of participants.<sup>6</sup>

In 2010, in a cross-sectional study of 1756 women with symptomatic uterine myoma from five Western European countries, Downes et al.<sup>2</sup>

found 32.7% of women in work absenteeism and 36.1% of women in reduced overall productivity.<sup>2</sup> The study by Zimmerman et al.<sup>7</sup> conducted in eight countries in Europe, America and Asia reports that 53.7% of women believe that myomas have a negative impact in their daily lives, particularly marked on their sex life.<sup>7,8</sup> Fernandez et al.<sup>9</sup> in a study conducted between December 2012 and February 2013 on the prevalence of uterine fibroids in France, and impact on the quality of life among 2498 women, 80.6% of them felt limited in their socio-professional activities.<sup>9</sup>

In our African context, myomas are a real public health problem. Many works have been done on clinical effects of myomas. In a study published in 2010 and conducted among Cameroonian women followed in two hospitals in the South Cameroon region, Noumi et al.<sup>10</sup> found a prevalence of uterine myoma of 9.8%.<sup>10</sup> In another study, uterine myomas were responsible for 14.3% of cases of gynecological surgery at the Gynecology-Obstetrics and Pediatric Hospital in Yaoundé.<sup>11</sup> However, studies on the psycho social impact of uterine myomas in our context are rare.

## Methodology

This was a descriptive cross-sectional study. It took place at the Yaoundé Gynecology-Obstetrics and Pediatric Hospital (YGOPH), in the gynecology department. The duration of our study was 8 months. Any woman with symptomatic uterine myoma diagnosed clinically and confirmed by pelvic ultrasound, being followed in the gynecology department, and having agreed to participate in our study, constituted our study population.

We performed a consecutive and exhaustive sampling of all women consulting for symptomatic uterine myoma during the recruitment period and meeting our inclusion criteria.

For the calculation of the minimum sample size, we used the Cochran formula. Taking the hospital prevalence of 4.70% found by Djibril Magassouba at the CHU Point G in Mali.<sup>18</sup> The minimum expected size of our sample, was 69 patients. We recruited 101 patients representing women with symptomatic uterine myomas followed during our recruitment period.

For each patient included in the study, we used a pre-established data sheet to collect the data. The variables studied were:

- Socio-demographic profile including age, marital status, place of residence, level of education.
- Clinical data including the history of patients: gynecological (menarche, duration of menstrual cycle, pregnancy desire, notion of infertility) , obstetrical (, desire for pregnancy), The current predominant symptom: menorrhagia, metrorrhagia, pelvic heaviness, pelvialgia, dysmenorrhea, menometorrhagia, abundance of menses, presence of clots,
- Paraclinical data: analysis of blood count for anemia, analysis of pelvic ultrasound to assess the size and mapping of uterine myoma (s)
- Assessment of the psychological impact: we looked for two variables; anxiety and depression using psychological scales.

The search for depression was based on the PHQ-9 “Patient Health Questionnaire-9” which is a scale of nine questions. Each question is scored from 0 to 3. A total score of less than or equal to 4 equals an absence of depression, a score between five and nine equals a slight depression; a score between 10 and 14 corresponds to a moderate depression; a score between 15 and 19 equals a moderately severe depression; a score between 20 and 27 corresponds to severe depression.<sup>12</sup>

To investigate anxiety among our participants, we used the GAD-7 (General Anxiety Disorder-7) scale which is a scale to detect a generalized anxiety disorder. It consists of seven questions scored from 0 to 3. A total score between 0 and 4 equals to minimal anxiety, a total score between 5 and 9 corresponds to mild anxiety, a score between 10 and 14 corresponds to moderate anxiety, a score between 15 and 21 corresponds to severe anxiety.<sup>13</sup> The socio-professional impact was evaluated globally according to the Sheehan disability scale, which allows determining the level of discomfort concerning family, sexual life, leisure and working life from 0 (no embarrassment) to 10 (maximum discomfort).<sup>14</sup>

Data collected using our data sheet has been integrated and analyzed using CSpro version 7.0 software to enter the data. We then exported them to the SPSS software (Statistical Package for Social Sciences) version 23 for analysis. The software Microsoft Word and Excel 2013 were used for the realization of tables.

Ethical considerations and respect for confidentiality were in order. Administrative permissions have been obtained. We respected the fundamentals of medical research.

Patients were informed about the different aspects of the study and their agreement was illustrated by signing the informed consent form presented to them.

## Results

### Sociodemographic characteristics (Table 1)

Table 1 Sociodemographic characteristics of recruited patients N=101

Variables	Number	Frequency (%)
<b>Age (years)</b>		
[20-25]	2	2
[25-30]	9	8.9
[30-35]	15	14.8
[35-40]	27	26.7
[40-45]	31	30.7
[45-50]	8	7.9
[50-55]	9	9
<b>Marital status</b>		
Married	51	50.5
Single	48	47.5
Divorced	2	2
<b>Area of residence</b>		
Urban zone	94	93.1
rural zone	7	6.9
<b>Level of study</b>		
University	49	48.5
Secondary education	35	34.7
Primary education	16	15.8
No education	1	1.0

We recruited a total of 101 patients ranging in age from 24 to 66 years with an average age of 38.7±7.6 years. A median of 42 years.

The majority of patients, 50.5% (50/101) were married women, single women accounted for 47.5% (48/101) of patients.

### Clinical features (Table 2)

Table 2 Patients clinical characteristics

Variables	Number	Frequency (%)
<b>Age of menarche (years)</b>		
[9-16]	91	90.1
≥16	10	9.9
<b>Parity</b>		
0	40	39.6
I	17	16.8

Table Continues...

Variables	Number	Frequency (%)
2	14	13.8
3	12	11.9
4	12	11.9
≥5	6	6
<b>Duration of the menstrual cycle</b>		
[21-28]	12	11.9
[28- 35]	89	88.1
<b>Duration of menses (days)</b>		
<3	2	2
[3-7]	80	79.2
≥7	19	18.8
<b>Abundance of menses</b>		
Abundant flow	81	80.2
Normal Flow	20	19.8
<b>Presence of blood clots</b>		
Yes	75	74.3
No clots	26	25.7
<b>Desire for pregnancy</b>		
Yes	64	63.4
No	37	36.6
<b>Infertility (n=64)</b>		
Yes	42	65.6
No	22	34.4
<b>Types of infertility (n=42)</b>		
Primary infertility	18	43
Secondary infertility	24	57

Uterine myomas were diagnosed in 27.7% of cases (28/101). Mean age at first menses in patients was 12.8±1.9 years.

The cycle varies from a minimum of 21 days to a maximum of 32 days. The mean duration of menstruation was 5.1±1.3 days, the median was 5 days, with a minimum of 1 day and a maximum of 8 days. The symptomatology was dominated by bleeding, that is menorrhagia (28.7%; 29/101) and menometrorrhagia in 31.7% (32/101) of cases, and pelvic pain in 25.7% (26/101) of cases.

### Paraclinical features (Table 3)

Table 3 characteristics of the full blood count

Variables	Number	Frequency (%)
Anemia (Hb <11g/dl)	n= 41	
Yes	39	95.1
No	2	4.9
Grade of anemia	n=39	
Mild anemia (Hb≥8 et <10g/dl)	13	33.3
Moderate anemia (Hb≥6 et<8g/dl)	16	40
Severe anemia (Hb<6g/dl)	10	25.7
Microcytosis (MCV< 80fl)	(n=39)	
Yes	36	92.3
No	3	7.7
Hypochromia (n=39) (MCHC<32g/dl)		
Yes	36	92.3
No	3	7.7

MCV, mean corpuscular volume; MCHC, mean corpuscular hemoglobin concentration

A blood count was performed by 40.6% (41/101) of the patients. In that sample, 95.1% (39/41) had anemia. At the ultra sound, 76.2% (77/101) of the patients had an enlarged uterus and polomyomatous uterus. Multiple locations were mostly met in 44.6% (45/101).

### Psychological impact of uterine myomas (Table 4)

Table 4 patient distribution by presence of GAD-7 anxiety, and mental depression PHQ-9

Variables	Number	Frequency (%)
<b>Anxiety</b>		
Minimal anxiety	11	10.9
Mild anxiety	21	20.8
Moderate anxiety	47	46.5
Serious anxiety	22	21.8
<b>Depression</b>		
Absence of depression	30	29.7
Mild depression	25	24.8
Depression moderate	30	29.7
Moderately severe depression	10	9.9
Severe depression	6	5.9

The average GAD-7 score was 9.8 with 0 and 21 as the minimum and maximum respectively.

The average score on the PHQ-9 scale was 8.1 with 0 and 27 as the minimum and maximum respectively.

### Socio-professional impact of uterine myomas

Table 5 shows that alteration of working life was observed in 87.1% (88/101) of patients. The degree of disability at work was responsible for absenteeism in 70.3% of patients.

**Table 5** Distribution of Patients Recruited for Work Impact according to the Sheehan Scale (N=101)

Variables	Number	Frequency (%)
<b>Disability at work</b>		
No disability	13	12.9
Mild	21	20.8
Moderate	19	18.8
Severe	47	46.5
Very severe	1	1
<b>Absenteeism at work</b>		
Cannot go to work anymore	34	33.7
Never absent	30	29.7
Rarely absent	20	19.8
Often absent	17	16.8
<b>Efficacy at work</b>		
Decrease of efficiency at work	65	64.40%
No decrease	36	35.60%

The effects of myomas on social life are reported on Table 6. Alteration of social life was observed in 82.2% of patients and alteration of family life was observed in 73.3% of patients.

**Table 6** distribution of patients recruited according to the impact on social life (N=101)

Variables	Number	Frequency (%)
<b>Embarrassment in social life (SHEEHAN scale)</b>		
No embarrassment	18	17.8
Mild	23	22.8
Average	27	26.7
Severe	33	32.7
<b>Discomfort in family life and domestic responsibilities (SHEEHAN scale)</b>		
No discomfort	27	26.7
Mild discomfort	41	40.6
Average discomfort	18	17.8

Table Continues...

Variables	Number	Frequency (%)
Severe discomfort	15	14.9
<b>Negative impact on couple life</b>		
Yes	33	32.7
No	68	67.3
<b>Negative Impact on Couple Life (n=33)</b>		
Decreased/lack of sexual intercourse	15	45.45
Bad physical perception	8	24.24
Infertility	7	21.21
Permanent bleeding	3	9.09

## Discussion

### Limitations of the study

This work has some limitations that deserve to be highlighted. Our study was conducted in hospital; this does not allow us to have a representative sample of the general population of Cameroonian women with symptomatic uterine myoma.

Patients with high anxiety and mental depression scores were not routinely reassessed by a psychiatrist.

### Characteristics of the study population

The mean age of the study population was 38.7±7.6 years; the most represented age group was 40 to 45 years (30.7%) and 72.2% of patients were between 30 and 45 years old. Similar results were found by Belley Priso et al.<sup>15</sup> in 2015, which had a mean age of 37.8±13.4 years at the Douala General Hospital.<sup>15</sup> Similarly, the Nigerian study by Geidam et al.<sup>16</sup> found this age group in 78.4% of cases.<sup>16</sup> In Algeria, Nourelhouda et al.<sup>4</sup> found that the age group most affected by symptomatic uterine myoma was between 40 and 44 years old.<sup>4</sup> The high frequency of the age group between 30 and 45 years of these different studies can be explained by the high prevalence of uterine myomas during this period of life.

In our study, 50.5% of the patients were married. This result is similar to that of Nicholls et al.<sup>17</sup> in the United States of America who found that 49% of patients with symptomatic uterine myomas were married.<sup>17</sup> In our environment, myomas are responsible for infertility, as found by Belley Priso et al.<sup>15</sup> Thus this would justify the marital status of the patients in our sample.

In our sample, 73.3% of the patients had a profession, so they had a source of income and could take care of their medical care

Nulliparous patients (39.6%) are more exposed to this pathology than multiparous patients. A similar result was found in the Algerian study of Nourelhouda et al.<sup>4</sup> In which 37.8% of patients with symptomatic uterine myomas were nulliparous.<sup>4</sup> This supports numerous studies highlighting the parity-uterine myoma association which highlights the protective nature of multiparity against the appearance of uterine myomas.<sup>1</sup>

Our study shows that 76.2% of patients had a polymyomatous uterus. This result is comparable to that of Geidam et al.<sup>16</sup> in Nigeria, who found a polymyomatous uterus in 85.5% of cases.<sup>16</sup> The main

location was corporeal (80.1%) and multiple siege in 44.6% of cases. Similarly, Nourelhouda et al.<sup>4</sup> Found that 90% of cases were corporeal.<sup>4</sup>

### Clinical impact of symptomatic uterine myomas

In our study population, genital haemorrhage, anemia-causing, pelvic pain and secondary infertility were the most common clinical complications, consistent with literature data.<sup>6,9,18,19</sup>

Our investigation revealed that symptomatic uterine myomas mainly manifest as uterine bleeding in 63.3% of cases and pelvic pain in 25.7% of patients. This description is in line with the results published by Fernandez et al.<sup>9</sup> in France who had uterine bleeding in 73.7% of patients and pelvic pain in 27.5% of cases.<sup>9</sup>

In Nigeria, Geidam et al.<sup>16</sup> Found that menorrhagia was the primary reason for consultation in 57.7% of cases.<sup>16</sup> In Mali, Djibril Magassouba found a prevalence of genital hemorrhage in 39% and pelvic pain in 27.5% of cases.<sup>18</sup>

These high percentages of abnormal bleeding in our different studies may be explained by the fact that uterine myomas cause an increase in the endometrial surface, and an increase in uterine vascularization.

Anemia was found in 95.1% of patients who had a blood count. She was most often moderate (40.0%). Nevertheless, 25.7% of patients had severe anemia. In addition, Nelson et al.<sup>20</sup> In the United States of America found that symptomatic uterine myomas were responsible for severe anemia in 40.5% of cases.<sup>20</sup> This difference could be explained by the fact that only one third of our patients had a blood count and some patients with severe clinical anemia benefited directly from a blood transfusion without prior blood count.

Infertility was found in 65.6% of patients with a desire for conception. It was secondary in 57% of cases. This result is in line with the study by Belley Priso et al.<sup>15</sup> in Cameroon, where the uterine myomas were found in 57.4% of cases as lesions responsible for secondary infertility.<sup>15</sup> This could be explained by the fact that the uterine myomas cause a significant distortion of the uterine cavity requiring a longer trip to spermatozoa often preventing fertilization; similarly, myomas are responsible for endometrial dystrophy due to a uterine vascularization disorder that is not favorable to implantation.

### Psychological impact of symptomatic uterine myomas

During our study, we looked for anxiety and mental depression as a psychological impact in our study population.

Anxiety was present in the vast majority of patient's recruited (89.1%) as was Spies et al.<sup>21</sup> in the United States of America in 2002, who found that the majority of women with symptomatic uterine myomas were anxious.<sup>21</sup> The highest anxiety score found in our study was moderate anxiety (46.5%). Nevertheless, 21.8% of patients had severe anxiety. This result is in line with Nicholls et al.<sup>17</sup> in 2004 in the United States of America, which found a moderate anxiety score in 50% of cases of symptomatic uterine myomas.<sup>17</sup>

Anxiety can also be found in other gynecological pathologies. Indeed, according to the study by Bodurka et al.<sup>22</sup> in the year 2000 in Iran, 29% of patients with ovarian cancer would suffer from severe anxiety.<sup>22</sup> Similarly, in 2009 Benson et al.<sup>23</sup> in Germany found severe anxiety in 59.6% of women with micropolycystic ovarian syndrome.<sup>23</sup> In 2013, Banzargani for et al.<sup>24</sup> in Iran found that 32% of patients with micropolycystic ovarian syndrome suffered from severe anxiety.<sup>24</sup>

Results also found Cooney et al.<sup>25</sup> in 2017 who experienced severe anxiety in 59.6% of patients with micropolycystic ovarian syndrome.<sup>25</sup>

Mental depression was found in 70.3% of our patients. The study by Shen et al.<sup>26</sup> In Taiwan, showed the presence of depressive symptoms in 54% of patients with symptomatic uterine myomas, a difference of 16.4% with our results.<sup>26</sup> The most represented depression score in our study was moderate depression (29.7%). In addition, 9.9% had moderately severe depression and severe depression was present in 5.9% of our patients. Our results diverge from those of Nicholls et al.<sup>17</sup> in which the grade of mental depression most found was mild depression in 56.7% of cases.<sup>17</sup> This difference could be explained by our different sample sizes.

Mental depression is also common in other gynecological conditions. Studies on breast cancer by Bener et al.<sup>27</sup> in 2017 in Turkey found that 27.7% of breast cancer patients had moderate depression.<sup>27</sup> In 2018, Jafari et al.<sup>28</sup> Found that 69.4% of breast cancer patients had moderate mental depression in 26.9%.<sup>28</sup> These results are in line with our results found in patients with symptomatic uterine myomas. In 2017, Li Liu et al.<sup>29</sup> in China, mental depression was found in 47% of patients with ovarian cancer.<sup>29</sup>

In 2008, Tan et al.<sup>30</sup> in England found that 23.9% of patients with micropolycystic ovary syndrome had moderate depression.<sup>30</sup> Results also found by Cooney et al.<sup>25</sup> In 2017, mild depression was found in 23.9% of patients with micropolycystic ovarian syndrome.<sup>25</sup> Similarly, Bazarganipour et al.<sup>24</sup> In Iran, moderate mental depression was found in 23.9% of patients with micropolycystic ovary syndrome and severe mental depression in 25.2% of these patients.<sup>24</sup> These results are similar to ours found in patients with symptomatic uterine myomas.

During chronic gynecological pathologies, the alterations of sexuality and the representation of femininity may compromise the psychic representation of the disease and have dramatic consequences for the social life of the patients.

In our study, we found that 32.7% of patients felt severely embarrassed in their social life because of the symptoms caused by uterine myomas. Uterine myomas had a negative impact on couples' lives in 32.7% of patients; this is mainly due to a decrease in the frequency or absence of sexual intercourse (45.5%), poor physical perception and infertility. Our results are similar to those of Borah et al.<sup>31</sup> Who found that 37% of patients considered that uterine myomas had a negative impact on their social life.<sup>31</sup> Similarly, Ertunc et al.<sup>32</sup> Have found that uterine myomas have a negative impact on the married life of patients marked on their sex life.<sup>32</sup>

Absenteeism at work was found in 70.3% of the patients recruited, of whom 33.7% declared that they could no longer exercise their profession. A decrease in occupational effectiveness was observed by 64.4% of patients. Similarly, Brito et al.<sup>33</sup> study in Brazil in 2014 showed a negative impact of uterine myoma symptoms on the socio-professional life of patients.<sup>33</sup> A similar study by Downes et al.<sup>34</sup> found 32.7% of patients with work-related absenteeism and 36.1% of women with symptomatic uterine myoma had decreased work efficiency.<sup>34</sup>

### Conclusion

Women with symptomatic uterine myomas suffer in the majority of cases from abnormal bleeding such as menometrorrhagia. These are responsible for anemia, which is mostly moderate in our study. The uterine myomas can cause psychological disorders such as anxiety and mental depression which are found in the majority of our

patients. According to the GAD-7 scale, the highest level of anxiety is moderate anxiety. Nevertheless, a significant degree of serious anxiety is found in the patients.

Similarly, uterine myomas are responsible of mental depression in patients who suffer from it. Like anxiety, mental depression was present in the majority of patients. According to the PHQ-9 used to screen for it, the most common level of mental depression in our study is moderate depression with a significant percentage of severe mental depression. Symptoms caused by symptomatic uterine myomas have an impact on the social life of patients, in particular on the emotional life, by harming their life as a couple; as well as on professional life resulting in absenteeism at work and a decline in professional efficiency. The psycho social impact of this disease has to be considered by physicians in the management of patients suffering of myomas.

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## Conflicts of interest

Authors disclose no conflict of interests in publication of this study.

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