Dysmenorrhea in School Area in Benin

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Abstract

Introduction: Described since antiquity and long been considered as an Epiphenomenon Dysmenorrhea benefit since some years from a renewal of interest. The aim was to determine the prevalence and the social impact of Dysmenorrhea in school area.

Method and patients: It was a prospective, analytical and descriptive study, basing on a sample of 512 students in Cotonou during a period of 4 months (from March to June 2014).

Results: The global prevalence of Dysmenorrhea in school environment was high in 65.6%. The majority of investigated students (58.6%) is between 16 and 20 years old and is for the most part bachelors (96.6%). The essential Dysmenorrhea represented 49.1%. Premenstrual dysmenorrhea represented 51.5% followed by proto-menial dysmenorrhea 36.5% then tele-menial dysmenorrhea 10.9%. The family backgrounds of dysmenorrhea was found in 37.3% (p = 0.001). The dysmenorrhea was responsible of school absenteeism in 32.1% of cases. The statistical analysis had made that, there is a relation between the age and the dysmenorrhea (p = 0.021, OR=1.83 [1.04; 3.20]); the proportion of painful menses women is more important at the less than 20 years (67.4%) than in the row of more than 20 years (32.6%).

Conclusion: Dysmenorrhea in the teenager is becoming more and more frequent during gynecological consultation in our department. It affects more than one teenager over three during our survey.

Keywords: Female pupils; Dysmenorrhea; Psycho-social influence;

Introduction

Dysmenorrhea is a real public health problem. It was described since antiquity, and has been considered for a long time as an epiphenomenon. Dysmenorrhea knows since few years a regain of interest. Recent study indeed underlined the role of a uterine hyper contractibility associated with dysregulation of the synthesis of some uterine prostaglandins. It resulted a more coherent physio-pathological conception, and thereby, a better adapted therapeutic management [1,2,3]. According to Dawood, 50% of women complain of simple pain and 10% of the invalidating form. Nevertheless 79% of teenagers are attained by dysmenorrhea and 18% of them have the invalidating form according to Robinson [3, 4]. Dysmenorrhea had a considerable importance in socio-professional life of girls by conditioning their immobilization, their scholar absence, their sportive and intellectual counter performance, their sick stop. At this

important socio-professional dimension, is added the psycho-social impact and their repercussion in the psychism [5].

The aims were to identify the different factors susceptible to influence Dysmenorrhea in school environment and to study the psycho-social impact on the quality of the pupil's life.

Patients and Methods

The study was proceeded in four secondary school in Benin. Two public and two private: general teaching public college "Nokoué", general teaching public college "Pylônes", private teaching college "Marthin Luther King" and private college "Vatican". It was about a transversal, descriptive and analytical study, over a 4 months (March to June2014).The female pupils regularly registered in these 4 schools, having already menses and having freely agreed were included in the study. The sample size was determined by the formula of Schwartz(x = 1.96, $p = 0.79$, i = 5%). In accordance with the formula of Gauss, we multiply manpower by 2 (N= 509.85). The size of our sample was rounded to 512 pupils. We proceeded by simple random sampling: the first pulling of six districts of Cotonou of the thirteen, then the second pulling of three districts out of six. Then we indexed the public and the private schools in the three selected districts. We chose two privates and two publics by lot. Thus according to the size of our sample, we chose 128 girls randomly per school. As soon as one entered the school yard during the recreation, the first 128 girls met according to our criteria were selected. A specimen of enlightened assent was presented after a short explanation before the handing-over of the questionnaire. To respect the confidentiality, a ballot box was laid out in the secretariat of each school to slip there the filled out cards which we recovered at the end of each week. The entry and the data analysis were done by SPSS 21 software. The proportions were used to describe the qualitative variables. The average, and the standard deviation in one side or the median and the interquartile interval in the other side, were used to describe the quantitative variables. As for the comparison of the proportions, when the conditions are present, we use the CHI2 test of Pearson, the corrected test of Chi test of Yates and test of Fischer. When there is a link between 2 variables we used Odds Ratio. We chose to work with a risk of error of 5%. If the degree of significativity is $p < 0.05$, there is a significant relation.

Results

We recorded 512 pupils; only 65.5% of them were suffering

Table 1 : Division by type of triggering factors.

Triggering factors	Effective	Percentage (%)
High Genital infection	14	4.16
First Sex relation	11	3.27
Spontaneous abortion	4	1.19
Delivery	2	0.59
Induced abortion	1	0.3
Infection	1	0.3
Spontaneous	303	90.17
Total	336	100.0

of Dysmenorrhea. The age means was 17 years with extreme of 10 and 25 years. The dominant age range was 16 to 20 years (62.2%). The majority of the student are single (96.6%) and were Beninese. The pupils which had their first menses between 13 and 15 years represented 65.8%. The age means of the beginning of menses was 13 to 17 years (Min=9 Max=19 standard deviation= 1.7). The majority of the pupils had irregular cycle (61.1%), primary dysmenorrhea 49.1% and secondary dysmenorrhea 50.9%. In 4.16%, dysmenorrhea started after an upper genital infection Table 1. Premenstrual dysmenorrhea represented 51.5% followed by proto-menial dysmenorrhea 36.5% then tele-menial dysmenorrhea 10.9%. The average duration of the pains was 2.9 days (min=1, max=6, standard deviation 1.4, median, 3.0). According to the scale of Sultan, the severe and moderated dysmenorrhea was found respectively in 40.1 % and 44.1%. More than half of the pupils are suffering from Dysmenorrhea (50.5%) announced asthenia like signs accompaniment Table 2. More of the third of the dysmenorrhea pupils 45.8% announced that the pain menses increased with the years and 32.8% announced that the pain menses did not vary. The family antecedent of dysmenorrhea was found in 56.8%. The majority of dysmenorrhea pupils 97.3%, did not have a surgical antecedent. The statistical analysis had made that, there is a relation between the age and the dysmenorrhea (p= 0.021, OR = 1.83 [1.04; 3.20]); the proportion of painful menses women is more important at the less than 20 years (67.4%) than in the row of more than 20 years (32.6%). A link is between dysmenorrhea and matrimonial situation (p= 0.002 OR = 1.70 [0.90; 3.23]) the single pupils 60.5% makes more dysmenorrhea than the others. There is no link between the dysmenorrhea and the age of the first menses (p = 0.201). There is no link between the duration of the cycle and the painful menses (p = 0.026, OR = 1.52 [1.03; 2.25]). There is no link between the use of contraceptive method and dysmenorrhea (p = 0.085, OR = 1.7 [0.93; 2.33]). There is no link between the upper genital infections and the dysmenorrhea (p = 0.474, OR = 1.7 [0.75; 1.84]). There is a link between the family antecedent of dysmenorrhea (37.3%) and coming up of painful menses to the pupil (p = 0.001, OR = 2.25 [1.52; 3.33] Table 3. The school absence the first day of the menses was noted at 32.1%; there is a link between the intensity of the pain and the absence in class (p = 0.001). The premenstrual moral state for the majority of dysmenorrheic appeared by nervousness (42.9%) with the approach of menses, by unhappiness (33.9%) and the

others are indifferent. The majority from painful menses patients 58.3% declared that the pain did not obstruct at all their social life; on the other hand for 8%, dysmenorrhea had an enormous impact on their social life. 38.7% of painful menses pupils thought that the dysmenorrhea was normal and 44.0% thought that the pain was a momentary state Table 4.

Discussion

The frequency of dysmenorrhea is variable in the literature. Wildhom [6] in Norway, over 5000 female school pupils interrogated, 13% had constantly painful menses, and 38% had it occasionally either a global frequency of 51% of dysmenorrhea. According to Klein [7], the frequency of dysmenorrhea increases with age (39% at the age of 12 years and 72% at the age of 17); it increases no matter the age when gynecological life passes 2 years. The age means in our survey was 14.37 years. The strongest rate of dysmenorrhea was found in the 15 years old patients. We observed a progressive increase of dysmenorrhea frequency as from the age of 16 years. The majority of the teenagers were nulligestes (84.6%) and the nulliparous ones (93%).The nervous mechanisms of the dysmenorrhea make it possible to explain this phenomenon. Indeed there is a regression even the disappearance of the menstrual pains after a pregnancy carried out in long in term. It makes think that the uterine innervation is completely altered and deteriorated by pregnancy [8]. It is not the simple fact of the state of pregnancy since dysmenorrhea does not disappear after a miscarriage or a voluntary interruption of pregnancy in the first term. This phenomenon is not constant since NG [9] finds 60% of dysmenorrhea after the first childbirth. We observed 7% of dysmenorrhea after the first childbirth. The pelvic surgery with effraction in uterine cavity exposes to uterine synechia responsible of secondary dysmenorrhea. In our survey, 2 painful menses patients had an antecedent of caesarian and one painful menses patient had the antecedent of myomectomy. Out of our survey, 60.8% had their first menses after the age of 13 years and 24.8% before the age of 13 years. Andersch [3] finds that dysmenorrhea is higher if the first menses occurs earlier. We found 53.2% of genital and urinary infection antecedent. Dysmenorrhea can occur in certain cases at the ending of a pelvic infection syndrome. Although coelioscopy does not always objectify visible adherences or lesions, the responsibility for the infectious process old sometimes, is to be retained [10]. The intensity of the pain appreciated at the scale

Table 2 : Division of dysmenorrhea by type of malaise.

Type	Effective	Percentage (%)
Wickness	107	50.5
Loss of appetite	77	36.3
Bad feeling	36	17.0
Hungry	35	16.5
Head ache	32	15.1
Vomissement	31	14.6
Nausea	24	11.8
Lots of knowledge	5	02.3

Table 3 : Factors can influenced the dysmenorrhea.

	Effective	Effective Percentage %	Not Effective	Not Effective Percentage %	
IMC (18-25)	294	57.4	143	27.9	P=0.078
Age (16-20 ans)	209	40 .8	91	17.7	P=0.021
Single	310	60.5	154	30.0	P=0.002
Menarche (13-15 ans)	214	41.7	123	24.0	P=0.201
Cycle irregular	219	42.7	97	18.9	P=0.026
Flow of menstruation more than two days	260	50.7	124	24.2	P=0.144
Use of family planning	244	47.6	140	27.3	P=0.085
More than two girl in the fratry	271	52.9	143	27.9	P=0.871
No sexual disease transmission	250	48.8	136	26.5	P=0.474
No chirurgical antecedent	244	47.6	140	27.3	P=0.085
Good relationship with parents	115	22.4	70	13.6	P=0.646
Antecedent familial of dysmenorrhea	191	37.3	65	12.6	P=0.001

of Sultan (EVS) had shown 37.9% of moderated pain during the menses and 6.1% had a very intense pain. The other cases are of 33.6% for the weak pains and 22.4% for the intense pains. With the score of numeric scale 65.3% had a clinical score ranging between 4 and 7 (moderate pain) and 16.4% of the patients with a clinical score ranging between 8 and 10 (unbearable pain). We note that results got on simplified verbal scale (E.V.S) and on numeric scale are very different. There might be either an over estimation of the pain intensity either a difficulty in patients to understand the principle of evaluating the pains that they felt. The socio-economic repercussion of the dysmenorrhea was evaluated by the absentee rate. In our series we found 37.4% of absenteeism. CH. Sultan [11] finds 35% of absenteeism related to the dysmenorrhea. Klein and Litt [7] reported a rate of 25% while Andersch and Milsom [3] found 15.4% of absenteism. It is indeed a social phenomenon with a considerable socio-economic repercussion since dysmenorrhea is responsible for 600 million hours lost a year in the United States, representing two million dollars and 30 million hours lost in France [12,13,7,14,15,6]. The use of clinical score enabled us to obtain 68.7% from light dysmenorrhea, 27.1% of moderate dysmenorrhea and 4.2% of severe dysmenorrhea. Klein and Litt [7] in their study in the United States found 49% from light dysmenorrhea, 37% of moderate dysmenorrhea and 14% of severe dysmenorrhea. A psychological problem of order was found at 41.1% of the painful menses teenagers during our study. The psychological factors were evoked from time immemorial in so far as the pain will be an element of attraction or attention of the other people on oneself. The cyclic character of the pain becomes a "recall then". In our study, 71.2% (n=163) had a primary dysmenorrhea and

23.8% (n=51) a secondary dysmenorrhea. It is known as that the primary dysmenorrhea is the prerogative of the young teenager before 20 years, and the secondary dysmenorrhea occurs rather after 20 years [10].

Statistical analysis

Type of dysmenorrhea in function of Age

We observed that primary dysmenorrhea occurred mainly between the age of 13 years and 16 years. On the other hand, the secondary dysmenorrhea is more frequently observed at more advanced age in particular between 17 years and 19 years [Khi2 = 28.85, p = 0.0000001]. This difference is statistically significant. These results can be explained by the immaturity of the hypothalamo-hypophyso-ovarian axis creating a hormonal imbalance in the case as of primary dysmenorrhea and the exposure to etiologic factors in the case of secondary dysmenorrhea.

Type of Dysmenorrhea in function of Menarche Age

Primary dysmenorrhea is more frequent when the first menses occurs after the age of 13 years [Khi2 = 27.17, p = 0.0000009]. This difference is statistically significant. The survey of Andersch [3], emphasiezed that dysmenorrhea is frequency higher if the first menses occurs earlier.

Severity of Dysmenorrhea in function of Psychological Factors

Psychological factors affect the severity of dysmenorrhea.

Table 4: Division of dysmenorrhea by the thinking about it.

Types	Effective	Percentage (%)
Normal	130	38.7
Will passed	148	44.0
For all the live	10	03.0
disease	33	09.8
Indifferent	15	04.5
Total	336	100.0

This marked influence is noted in the moderate and sever dysmenorrhea [Khi2 = 58.78, *p* = 0.000000]. This difference is statistically significant. According to Sultan CH [11], psychological factors play a central role. They were mentioned every time: refusal of femininity, desire to draw the attention of the entourage, absenteism. We noticed that dysmenorrhea occurs willingly to unique girls raised up by unique mothers (widowed or divorced) or when the phratry is only made of boys. When scholar performance is low, dysmenorrhea is a pretext to miss class.

Type of Dysmenorrhea in function of socio-economic state of parents

We noticed that primary dysmenorrhea occurs frequently in high socio-economic category. One can see there a great availability of parents to listen to and take care of the pains of their teenagers. On the second hand, secondary dysmenorrhea is observed with a higher frequency in low socio-economic category. It can be explained by a great risk exposure to various supporting factors. This difference is significant [Khi2 = 7.73, *p* =0.0054416]. Klein [7] had found a correlation between the dysmenorrhea and the socio-economic statute. It is more frequent in high socio-economic category.

Conclusion

Dysmenorrhea in the teenager is becoming more and more frequent during gynecological consultation in our department. It affects more than one teenager over three during our survey. Psychological factors must be taken into account in the moderate and sever dysmenorrhea. Primary dysmenorrhea is the most frequent and as for the secondary one, it develops on a lesion context.

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