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PELVIC FLOOR POSTNATAL FOLLOW UP CLINIC: HOW TO SELECT PATIENTS? A PROSPECTIVE OBSERVATIONAL STUDY

Hypothesis / aims of study

Post-Partum Pelvic Floor Dysfunction (PFD) has been reported with a prevalence rate of up to 48%[1]. Policies for selecting women to postnatal Pelvic Floor Clinic (PFC) represent nowadays a critical issue. Extensive criteria for women selection hardly stand with current health systems resources; on the contrary a restrictive criteria, based on known Risk Factors (RFs), is extremely difficult to realize because of the heterogeneity of RFs emerging in the literature according to the different settings and populations. Moreover data on the actual health-seeking behavior in puerperium are lacking. Firstly we aimed at prospectively detect the adherence to an *extensive selection criteria* for a 3 month post-natal PFC in a tertiary obstetric referral center. Secondly we aimed at investigating potential RFs for PFD in order to build-up a home tailored model for an hypothetical *restrictive selection criteria*.

Study design, materials and methods

We prospectively included women ≥ 32 weeks gestational age who delivered in an obstetric tertiary referral center between July 2014 and December 2014. All the eligible women, who accepted to take part to the study and signed in a dedicated consent form, were invited for a postnatal PFC 3 months after delivery and received a reminder by text message (sms) a few days before the appointment. At that time the presence of PFD was detected according to the criteria reported in table 1.

Table 1:Selection criteria for PFD 3 months after delivery[2]

PFD	Measurement tool	Cut off
Urinary incontinence (UI)	ICI-Q SF	≥ 1
Anal Incontinence (AI)	Wexner score	≥1solid/liquid &/or ≥2 gas
Prolapse	POP q staging criteria	≥ 2
Pain/Dyspareunia	Pain &/or dyspareunia VAS	> 0
Perineal Testing	Oxford score (0-5)	≤ 2

An univariate analysis for categorical and continuous parameters in relation to 3 month post-partum PFD was performed with *Fisher* and parametric *t-Student* tests respectively. A logistic multivariate analysis was then also performed including the parameters that resulted significant at univariate analysis. The same elements were then tested separately or in combination for sensibility and specificity to 3 month post-partum PFD. The length of the inclusion phase of the study has been calculated in order to guarantee an 80% power of the sample size with a 5% significance for all the tested comparisons. Software Stata 9.0 was adopted (Stata Corporation, College Station, Texas, USA).

Results

Of the 1607 eligible women that delivered in the selected period 291 (18,1%) were not enrolled: 94 (32.3%) because of refusal, 69 (23.7%) because of linguistic difficulties and 128 (44.0%) representing missing data. One-thousand-three-hundred-and-sixteen women were actually invited for a postnatal PFC at 3 month after delivery. Incidentally, contrary to the standard way of recruitment, due to a one-day crash of the system 32 (2.4%) women didn't received the reminder sms, while due to logistic needs 120 (9.1%) women received a phone call in addition to the reminder message. Six-hundred-and-eighty-seven women (52.2%) actually came to the 3 month post-natal PFC. Table 2 shows the adherence rate to the proposed 3 month postnatal PFC according to the incidental different ways of recruitment.

Table 2: Adherence to PFC appointment according to different recruitment ways

Mode of appointment	PFC	NO PFC
Appointment + sms recall (standard)	611 (53.6%)	529 (46.4%)
Appointment + sms + phone call	65 (54.2%)	55 (45.8%)
Appointment only (no SMS)	11 (34.4%)	21 (65.6%)

During the study period we observed a 1.2% rate (15/1208 vaginal deliveries) of severe perineal tears (≥ III degree). Three of them didn't come to the post-natal PFC. Three months after delivery we observed a PFD in 238 (34.6%) women. In table 3 univariate RFs analysis for PFD is reported.

Table 3.: Univariate analysis on 687 women presenting at 3 month postnatal PFC

Parameter		No PFD 450 (%)	PFD 237(%)	*p-value*
PF symptoms before Pregnancy		72 (16.3%)	68 (28.6%)	*<0.0001**
PF symptoms during Pregnancy		228 (51.5%)	166 (69.8%)	*<0.0001**
Ethnicity	Caucasic	380 (84.6%)	216 (91.1%)	*0.010**
	Others	69 (15.4%)	21 (8.9%)	
Age	Mean ± SD	33.85 ± 4.93	34.05 ± 5.11	*0.311§*
BMI	Mean ± SD	25.67 ± 4.75	25.82 ± 4.07	*0.340§*
Nulliparity	n.	291 (64.7%)	159 (67.1%)	*0.292**
Singleton pregnancy	n.	442 (98.2%)	233 (98.3%)	*0.598**
Labour Induction #	n.	138 (35.1%)	63 (29.2%)	*0.080**
Length of induction (h)	<24 h	425 (94.7%)	225 (95.3%)	
	≥ 24 h <48 h	14 (3.1%)	9 (3.8%)	*0.409**
	≥48 h	10 (2.2%)	2 (0.9%)	
Pushing second stage	< 60 min	274 (78.3%)	155 (78.3%)	*0.540**

Oxytocin augmentation n.	110 (24.4%)	71 (30.0%)	*0.072**
Epidural analgesia n.	173 (38.4%)	102 (43.0%)	*0.139**
Mode of Delivery Vaginal Vacuum extractor Caesarean Section	284 (63.1%) 59 (13.1%) 107 (23.8%)	153 (64.8%) 45 (19.1%) 38 (16.1%)	*0.017*
Vacuum extractor: > 3 tractions	4 (0.9%)	6 (2.5%)	*0.086**
Episiotomy n.	94 (20.9%)	61 (25.6%)	*0.094**
Severe perineal tears n.	2 (0.4%)	10 (4.2%)	*0.001**
Cephalic circ. Mean ± SD	33.98 ± 1.19	34.12 ± 1.12	*0.069§*
Neonatal birth weight Mean ± SD	3318 ± 468	3338 ± 434	*0.289§*

** Fisher's exact test; § t-Student test;* # elective CS excluded

The significant data on ethnicity at univariate was biased by the fact that non-caucasic women attended in a significant lower rate the PFC. This parameter was therefore excluded from the multivariate analysys. A multivariate analysis was thus performed on the following factors: *PF symptoms before pregnancy* [OR 1.76; p=*0.005]; PF symptoms during pregnancy* [OR 2.03; p< *0.0001]; Vacuum extractor* [OR 1.61; p=*0.034]; Severe perineal tears* [OR 10.13; p=*0.003]; T*he same RFs (isolated or in combination) were assessed for sensibility and specificity (table 4).

Table 4.: Sensibility and specificity of significant RFs

Risk Factors	**Sensib.**	**Specific.**	**Combined RFs**	**Sensib.**	**Specific.**
Symptom before Pregn	29%	84%			
Symptom during Pregn	73%	46%	At least 1/2	75%	42%
Severe perineal tears	4%	100%	At least 1/3	76%	42%
Vacuum extractor	19%	19%	At least 1/4	82%	37%

Interpretation of results

In a tertiary obstetric referral center slightly less than 20% of women cannot be reached by an extensive offer of post-partum PF assessment. Out of the remaining 82% only 687 puerpere actually attended the 3 month postnatal PFC representing 42.8% of the eligible women. From our incidental observation an sms recall close to the date of the appointment seems to be useful to raise patients participation while an adjunctive phone call doesn't make any difference. Our prevalence data on perineal tears and PFD are comparable to those reported in the literature. Similarly PF history and severe perineal lacerations represent highly significant RFs for PFD 3 months after delivery, while differently from part of the literature the other most significant RF is the Vacuum extractor application. This is representative of our setting being forceps not currently adopted in our obstetric practice. The combination of the four significant RFs showed a good sensibility with mild specificity and could therefore be effectively adopted.

Concluding message

35% of women presents with symptoms and signs of PFD 3 month after delivery. Management of all of them in a postnatal PFC would be more than welcome. Unfortunately Health Systems resources are limited. Our study offers realistic epidemiological data to better tailor clinical services on actual needs.

References

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