

## Postnatal depression screening in pediatric immunizations centers in Italy. A pilot study

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### Background

Postnatal depression (PND) is a mental health problem frequently experienced by mothers in the first year postpartum. It has a prevalence of about 10-15% with high variation between population, but, despite the availability of effective treatments it often goes undetected; in fact, healthcare professionals detect less than 50% of cases in their routine clinical practice. Since it is increasingly recognized as the leading complication of childbearing, the early diagnosis and treatment can help to reduce its negative effect on the development of the newborn child. The pediatric immunizations center is a promising screening setting for early detection of PND, since almost all mothers go there for the first vaccination of the newborn at three months of life.

### Objective and methods

The purpose of this project was to implement and evaluate a postpartum depression screening program during the first vaccination of newborns. The screening was organized by the Family Counseling Center and by the Department Of Mental Health. It was conducted in 9 outpatient pediatric vaccine centers of Pediatric Counseling and it was attended by mothers of children born between January 1st 2016 and 30 September 2016, living in Italy's Rieti Local Health Unit area, who carried out the vaccinations required by law in the third month of life.

Maternal PND was assessed using the Edinburgh Postnatal Depression Scale (EPDS), a well-validated and extensively-used screening tool for this condition. It is a 10-item self-report questionnaire upon which women rate their feelings over the previous week, with a score ranging from 0 to 30. The mothers who were considered at risk for PND, if the EPDS score was 12 or more, were contacted by phone by the Family Counseling psychologists and invited to a clinical interview. Women with depressive symptoms at the interview were clearly addressed to the psychiatric specialist of the Mental Health Department, to continue the diagnostic procedure and treatment.



### Results

Between April and December 2016, 770 infants received the first vaccination at the 9 pediatric centers of the Rieti Local Health Unit area. 10% (79) of them were accompanied by the father alone or by grandparents or by mothers who were unable to understand the Italian language. 62 mothers did not return the questionnaire, 24 have returned it not filled, and 55 mothers did not receive the questionnaire due to overcrowding of the vaccination center. A total of 550 females (71.4%) with mean age of 33.0 years (SD 5.3) underwent screening. In all, 59% of mothers were 30-39 years old. 63.8% of infants carried out the first vaccination between the 66th and the 90th day of age. 17.5% of mothers were foreign ( E.U. 41.6%, 17.7% from others European countries, 11.5% from America, 9% from Asia and Africa, not known 19,8%).

A total of 44 mothers (8.4%, 95%CI 6.1%-10.9%) resulted positive to the EPDS test. The prevalence differed significantly between centers, with a range from 4.26 to 25% (chi square test, p=0,017). Between foreign mothers the prevalence was 13.1%(95%CI 6.7%-22.2%) . 40 mothers were contacted by phone by the family counseling psychologists and subsequently invited to a clinical interview, 5 of them were addressed to the psychiatric specialist who confirmed the diagnosis of PPD.

The multivariate logistic analysis showed that foreign women have a significantly increased risk (OR 3 CI 95% 1.4-6.4) of suffering from PPD, while women who carry their child to be vaccinated after fourth month have an increased (OR 2.5) but not significant risk.

ASSOCIATION BETWEEN EPDS POSITIVENESS AND SOCIODEMOGRAPHIC FACTORS

Children birth place	PREVALENCE OF EPDS + (%)	OR	IC 95%
Rieti	7,5	1	
In other place	9,5	1,5	0,7-3,0
District of residence			
District 1	9,4	1	
District 2	7,3	0,5	0,3-1,2
Mother's nationality			
Italian	7,1	1	
Foreign	14,1	3,0*	1,4-6,4
Child's age at the first vaccination			
61-90 days	8,2	1	
91-120 days	7,9	1,1	0,5-2,3
>120 days	15,6	2,5	0,9-7,6

### Conclusions

The main strength of our pilot study was the possibility to screen a significant number of mothers of a cohort of newborns in a homogeneous setting, covering 95% of mothers. In fact, in our area, there are few mothers who refuse vaccination (less than 5%).

Moreover the synergy of three different Health Services has proven effective, without additional costs for the Local Health Unit. Limitations concerned language difficulties for foreign women, which can be overcome in the future by involving local Associations, and the growing work of vaccination centers due to implementation of vaccinations in the immunization schedule, which did not allow a constant attention by operators. We also found a reluctance of women to contact the psychiatrist specialist, preferring to be followed by the Family Counseling psychologists.