

Original contribution

Pediatricians' views of postpartum depression: A self-administered survey

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Summary

Objective: To assess pediatricians' knowledge and views about postpartum depression (PPD).

Method: Self-administered survey of a nationwide random sample of general pediatricians.

Results: Of 1200 eligible pediatricians sampled, 389 responded (32%). Half of pediatricians (49%) reported little or no education about PPD. Many respondents (51%) underestimated the overall incidence of PPD. Most pediatricians (80%) estimated the incidence in their practice as less than the published incidence. Few pediatricians felt confident they would recognize PPD (31%). Pediatricians were rarely familiar with available screening tools (7%). Many pediatricians (51%) felt screening was feasible in their practices. In logistic regression analysis, intent to begin screening was independently associated with <6 years in practice, positive view of feasibility and greater awareness of PPD.

Conclusions: Pediatricians sampled have limited awareness of PPD and are unfamiliar with screening tools. Efforts to involve pediatricians in screening should address these knowledge barriers.

Keywords: Pediatricians; postpartum depression; screening; survey.

Introduction

Postpartum depression (PPD) is the most common problem new mothers experience. Distinguished from the "baby blues" by moderate to severe symptoms of more than 2 weeks duration, PPD affects 10–15% of new mothers (Campbell and Cohn, 1991; Beck et al., 1992; O'Hara and Swain, 1996). When untreated, PPD may follow a protracted course with profound consequences

for both mother and baby. Longer delay in diagnosis and initiation of treatment is correlated with a longer duration of illness (England et al., 1994). Affected mothers are less responsive to infant cues, less affectionate, have blunted emotional responses to their infants and may interact with angry or interfering behaviors as compared to non-depressed mothers (Beck, 1995). Infants of mothers with PPD cry more and display fewer positive social interactions, both with their mothers and with other, non-depressed adults (Field et al., 1988; Cohn et al., 1990). Long term effects in these children include decreased intelligence test scores (Cogill et al., 1986; Sharp et al., 1995; Hay et al., 2001) and increased behavioral disturbances (Wrate et al., 1985; Hay et al., 2001). Male gender increases the risk of long term problems (Sharp et al., 1995; Hay et al., 2001). Despite the magnitude of established negative effects on children, this information has been slow to reach journals commonly read by practicing pediatricians.

Numerous studies demonstrate that physician recognition of general depression is low (Parchman, 1992; Heneghan et al., 2000; Pignone et al., 2002), and that PPD is significantly under-diagnosed and therefore undertreated (Cox et al., 1987; Hirschfield et al., 1997). The only published report that investigated physician knowledge regarding PPD studied obstetricians (Lepper et al., 1994). Although pediatricians are on the front lines to recognize PPD among the mothers of their youngest patients, no study has evaluated pediatricians' knowledge in this area. Since pediatricians have more

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frequent contact with mothers during the postpartum period, and commonly are the only health professional assessing the mother-infant dyad, it is important to understand their experiences and perceptions of this problem. This study investigated knowledge and attitudes about PPD and PPD screening in practicing general pediatricians. We hypothesized that pediatricians would underestimate the prevalence of PPD and would report little education in this area.

Methods

We developed a 2-page self-administered questionnaire assessing knowledge and attitudes about PPD and PPD screening that was mailed to a nationwide randomly selected sample of U.S. general pediatricians listed in the American Medical Association Physician Masterfile. The survey required less than 10 minutes to complete. The questionnaire was piloted among a small number of pediatricians to refine the clarity of survey questions. The initial survey was mailed in November 2001, and a second mailing to non-responders was sent in February 2002. Recipients were asked to complete the survey if they were practicing pediatricians who provided outpatient primary care for newborns. Recipients who did not meet these eligibility requirements were asked to return the survey blank. Data collected included demographic descriptors of the pediatricians and their practice settings.

We provided survey recipients with a definition of PPD as follows: "Postpartum depression is defined as depressive symptoms of at least moderate severity lasting longer than two weeks after delivery. This can be distinguished from Baby Blues, which consists of milder symptoms that resolve by 10–14 days after delivery." We asked pediatricians to estimate the incidence of PPD in the general population and in their own practices. In addition, pediatricians were asked about their experiences with identification and referral of mothers with PPD, their attitudes and beliefs about screening for PPD, and the perceived availability of resources for referral and barriers to screening.

Frequency distributions and other descriptive statistics were calculated for all measures. Associations between variables were analyzed using the Pearson product-moment correlation, Chi square and Fisher Exact tests where appropriate. Comparisons of ranked data were analyzed using the Wilcoxon rank sum test. Statistical significance was set at $P < 0.05$.

Multiple logistic regression analysis evaluated attitudes and demographic characteristics associated with the pediatrician's stated intent to screen. Attitude measures were correlated with intent to screen in the next 12 months, coded as yes or no. Those that were significantly related ($p < 0.10$ screening level) were entered in the multiple logistic regression model. Demographic characteristics that might influence pediatrician attitudes (sex, length of time in practice) were also included. The model was accepted when the overall likelihood chi square was significant at $p < 0.05$. We performed these analyses in JMP, version 6.0 (SAS Institute Inc, Cary, NC).

The study was approved by the Institutional Review Board of Connecticut Children's Medical Center.

Results

Study population

Of 1200 pediatricians sampled, 32% responded. Of 389 respondents, 77 were excluded because they were not pediatricians or did not provide outpatient care for newborns. The remaining 311 respondents comprise the study group.

Males and females were nearly equally represented in this study (52% males). The mean age of the pediatricians was 47 years, (range 29–78 years), and the average length of time in practice was 16 years (range 1–50 years). Most respondents described their practice setting as private (81%) and suburban (56%). Twenty-six percent of the pediatricians reported caring for children who were predominantly uninsured or insured under Medicaid. Both respondents and non-respondents were fairly evenly distributed among the 4 U.S. geographic regions (South: 30% respondents, 32% non-respondents, Northeast 28%: respondents, 27% non-respondents, West: 22% respondents, 21% non-respondents and Midwest: 20% respondents, 19% non-respondents).

Pediatricians' education and knowledge

Forty-nine percent of pediatricians reported little or no education about PPD. Journal articles were the most frequently cited source of information (50%), followed by residency training (17%) and CME conferences (13%). Only 18% of pediatricians cited more than one source of education. Participation in formal education about PPD did not correlate with years in practice ($P = 0.39$), gender ($P = 0.65$), practice type ($P = 0.21$), percent of mothers who graduated from high school ($P = 0.32$) or % Medicaid patients ($P = 0.88$). When compared to a published incidence of 10–15%, many pediatricians (51%) underestimated the incidence of PPD in the general population (Fig. 1). The vast majority (80%) estimated that the incidence of PPD in their own practice was less than the accepted incidence in the general population. Nearly half of the respondents (45%) estimated the incidence of PPD in their practices to be less than 5%. Pediatricians reporting education about PPD were more likely to report screening (85% vs. 67% of pediatricians with no formal education, $P = 0.002$), although only 5 respondents screened with a specific instrument. Pediatricians reporting education did not report a higher incidence of PPD in their practice ($P = 0.31$), but they were somewhat more likely to suspect PPD at least once in an average month (7% vs. 2%,

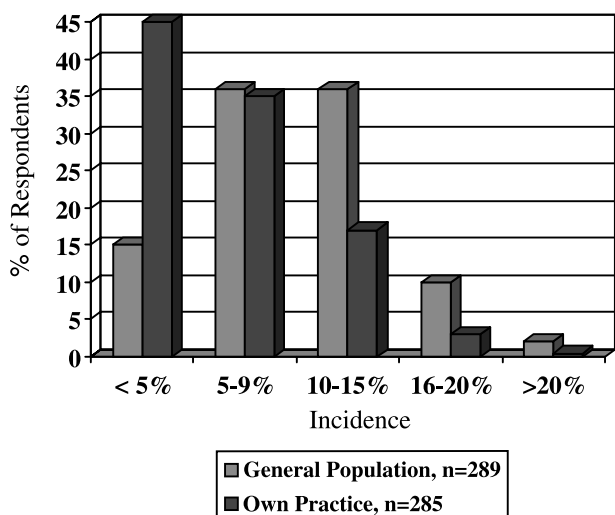


Fig. 1. Pediatricians' estimates of the incidence of postpartum depression

$P = 0.07$) and were more likely to have made 5 or more such referrals in the last year (14% vs. 5%, $P = 0.01$).

Pediatricians' attitudes and practices

Attitudes about PPD were assessed by responses to a series of 13 Likert-like questions coded from strongly disagree to strongly agree on a 5-point scale (Table 1). Almost all pediatricians felt that PPD is a validated diagnosis (94%) and that a mother with PPD may not realize she is depressed (96%). Most pediatricians believed PPD causes lasting effects (83%) and that effective treatment exists (73%). However, only 35% of pediatricians believed there were adequate treatment resources in their community to treat affected mothers and a minority (28%) thought health insurance would cover treatment for the mothers of their patients. Some pediatricians reported they would not seek treatment for depression themselves due to concern about a stigma attached to the diagnosis (11%) and less than half acknowledged a diagnosis of depression in themselves or a family member (41%).

Fewer than 1/3 of pediatricians expressed confidence that they would be able to recognize PPD in the mothers of their patients (31%) and only 1/4 of pediatricians agreed that a mother experiencing PPD would be willing to discuss her symptoms with them. Few pediatricians were familiar with available tools for screening (7%), though many reported that they would use a brief screening tool if available (58%). Half of the respondents (51%) felt it would be feasible to screen for PPD in their practices.

Table 1. Pediatricians' attitudes about postpartum depression

Item	Response			
	N	Strongly disagree or disagree (%)	Unsure (%)	Strongly agree or agree (%)
PPD ^a is not a validated diagnosis	311	94	3	3
Mother with PPD may not realize she is depressed	311	1	3	96
PPD causes no lasting effects	308	83	15	2
Treatment for PPD is effective	309	4	23	73
Adequate resources in my community to treat PPD	308	30	35	35
Health insurance coverage would not cover treatment of PPD for many of my patients	308	28	39	33
I would be unwilling to seek treatment for depression myself because of the stigma	308	78	11	11
I or someone close to me has been diagnosed with depression	305	41	3	56
Confident I would recognize PPD	307	26	43	31
Mother with PPD will be willing to discuss her symptoms with me	309	33	42	25
I am familiar with available tools to screen for PPD	309	76	16	7
I would use a brief tool to screen for PPD in my practice	303	14	28	58
Feasible to screen mothers for PPD in my practice	308	22	27	51

^a PPD indicates postpartum depression.

When asked "How do you currently screen for PPD?" most pediatricians (72%) reported screening only with general questions such as "How are you doing?" Twenty-seven percent of respondents reported that they did not screen by any method. Pediatricians were also asked whether they planned to begin PPD screening in the next 6 months, the next year, perhaps in the distant future, or never. Overall, a third of pediatricians (34%, $n = 262$) planned to incorporate screening

Table 2. Characteristics associated with intent to screen for postpartum depression

Predictor	Direction	Intent to screen ^a (O.R.)	95% CI	<i>P</i>
Post partum depression causes no lasting effects	disagree	1.6	0.84–2.3	0.0254
It would be feasible to screen mothers for postpartum depression in my practice	agree	3.75	2.0–7.1	0.0001
I would use a brief, self administered tool to screen for postpartum depression in my practice	agree	2.04	1.1–4.0	0.0321
I would be unwilling to seek treatment for depression myself because I would be concerned about the stigma attached to the diagnosis	disagree	1.7	0.86–1.34	0.0033
Less than 6 years in practice	positive	3.45	1.7–7.3	0.0008

Model fit $X = 54.03$, $P < 0.0001$.

^aIntent to begin screening within 1 year.

for PPD within the next 6–12 months and 60% would consider screening in the distant future. Among the 181 pediatricians who currently screen with general questions, 40% plan to begin screening formally within a year. Among those who currently do not screen at all, only 18% plan to begin screening within a year. Sixty-four percent of male pediatricians did not screen, compared to 36% of females ($X^2 = 6.48$, $P < 0.02$) and non-screening female pediatricians were more likely to plan to begin screening sooner than males (42% vs. 27%, $P = 0.009$). Female pediatricians were more likely to assess that screening would be feasible in their practices (59% vs. 33% males, $P < 0.025$).

Pediatricians reported the following barriers to screening in their practices: lack of time (69%), lack of office resources (57%), lack of referral resources (43%), and lack of effective treatment (5%). Only 10% of pediatricians felt screening for PPD was not appropriate to their job. Pediatricians in private practice whose patients were mostly privately insured were somewhat less likely to view “lack of office resources” as a barrier to screening than those in other practice types (34% vs. 66%, $P = 0.052$). However, respondents in this group more often agreed that screening for PPD is “not my role” (13% vs. 6%, $P = 0.02$).

When comparing the relationship between specific barriers to screening and individual attitudes, pediatricians who declared that screening would be unfeasible most often cited lack of time ($P < 0.0001$) as a barrier.

Multiple logistic regression was used to examine the relationship between readiness to screen and the attitudinal responses (Table 2). Among the attitude measures, “PPD causes lasting effects”, “Willing to use a brief screening tool”, “It would be feasible to screen” and “Willing to seek treatment for myself” were independently associated with intent to begin screening in the next year. Among pediatrician characteristics, fewer

than six years in practice significantly and independently increased the likelihood of screening.

Discussion

Most pediatricians in our study were aware that PPD is a validated and treatable diagnosis, with lasting consequences for infants and children of affected mothers. However, many pediatricians underestimated the prevalence of PPD in the general population and in their own practices. The incidence of PPD has been reported to be as high as 20–35% in high risk settings (Hobfoll et al., 1995; Mandl et al., 1999; Evins et al., 2000; Yonkers et al., 2001; Fergerson et al., 2002; Morris-Rush et al., 2003). Of note, pediatricians’ estimates of PPD incidence did not differ between practice types (setting, percentage of mothers with high school diplomas, type of health care insurance). Since pediatricians practicing in higher risk settings did not perceive a higher prevalence of PPD, it is not surprising that these pediatricians were no more likely to screen for PPD than other pediatricians.

Among pediatricians who did screen for PPD, most screened only with general questions. Numerous studies document a dramatic increase in the diagnosis of PPD when one of the available screening instruments is used, (Cox et al., 1987; Schaper et al., 1994; Beck, 1996a; Mandl et al., 1999; Evins et al., 2000; Fergerson et al., 2002) and use of a screening instrument has been shown to be far superior to education about PPD alone in increasing diagnosis (Fergerson et al., 2002). Screening instruments developed specifically for PPD are preferred, because the physiologic changes experienced by postpartum mothers commonly yield false positive results on general depression screens (Cox et al., 1987; Beck, 1996b). To enlist pediatricians in an effective initiative to identify affected mothers, further education

is likely to be necessary, as a minority of pediatricians were aware of any of the available tools for screening. Though half of the study pediatricians already feel it is feasible to screen for PPD, more pediatricians might view screening favorably if familiar with accepted tools. Since attendance at a CME course covering postpartum depression also correlated with screening, more frequent inclusion of this topic may stimulate pediatricians to begin PPD screening.

Some controversy may remain concerning the appropriate role of pediatricians in PPD screening. Ten percent of pediatricians in this study felt that screening for PPD was not their role. In a study by Olson et al. (Olson et al., 2002) only 57% of pediatricians felt that screening for postpartum and maternal depression was their responsibility. Pediatricians may be reluctant to screen for a condition affecting the mother and feel that this responsibility lies with the obstetrician. In our study, pediatricians in practice less than 6 years were more likely to express an intent to screen for PPD. Although these pediatricians did not report more education about PPD, they may more fully embrace the philosophy of "the new pediatric morbidity," particularly the emphasis on considering children's needs in the context of their families (Green, 1995).

Another obstacle to screening is the perception by the majority of pediatricians in this study that a mother experiencing PPD would be unwilling to discuss her symptoms with them. Tam et al. (Tam et al., 2002) found that some pediatricians feared alienating their patients by screening for PPD. In Kahn's study, more than 85% of mothers said they would not mind or would welcome pediatricians' questions about and referral for depression (Kahn et al., 1999). Pediatricians also may displace their own discomfort with discussing depression onto mothers. Tam et al. found that some pediatricians doubted their ability to talk to a mother with depression (Tam et al., 2002) and Olson found that 63% of pediatricians did not use the term "depression" when speaking with mothers they suspected to be depressed (Olson et al., 2002).

In our analysis, female gender was associated with current screening and plans to begin screening. Office visits by female pediatricians average 5 minutes longer than male counterparts, which may allow more topics to be addressed (Galuska et al., 2002). Female pediatricians also cover more psychosocial topics during office visits, even when adjusted for length of visit. However, in Heneghan's study, male and female pediatricians were equally poor in recognizing maternal depression during pediatric visits (Heneghan et al., 2000). Female pedia-

tricians may be more aware of PPD or may identify more closely with the mother than male pediatricians. Better understanding of gender and experiential differences regarding PPD would allow focused educational interventions for pediatricians.

There are several limitations to this study. The results are limited by a small sample size and may not be generalizable to all U.S. pediatricians. However, the demographic characteristics of our study sample closely mirror those of the national general pediatric workforce, (male 52% study vs. 49.2% national, mean age 47 years vs. 43.3 years, rural practice 15% vs. 12.3%, inner city practice 16% vs. 22%) (American Academy of Pediatrics). Pediatricians in our sample were more often in private practice (81% vs. 58.4%); however in this study, practice type did not predict attitudes. This study is also limited by a low response rate. The geographic distribution of both the respondents and non-respondents also closely parallels the general pediatric workforce (South 33%, Northeast 26%, West 22%, Midwest 19% national workforce). We do not know whether non-respondents would differ in their attitudes about PPD, but we speculate that pediatricians with more interest in or experience with PPD might be more likely to participate. This bias would increase the percent of pediatricians with greater awareness of the issues of PPD and more favorable attitudes toward screening in the study group. Reports of favorable attitudes toward screening may also be bolstered by perceived social desirability of this response.

We conclude that pediatricians often report minimal education about PPD, have limited awareness of the disorder and are unfamiliar with available instruments for screening. Younger pediatricians and female pediatricians are more likely to view screening favorably. Educational efforts to involve pediatricians in effective screening should also address barriers to screening and negative views held by some pediatricians regarding their role in PPD screening.

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