



The effect of immediate postpartum etonegestrel implants on postpartum depression.

Erin Drake BA, Kira Grush MA, Jeanelle Sheeder MSPH PhD, Kristina Tocce MD MPH
University of Colorado School of Medicine, Department of Obstetrics and Gynecology



Background

- Immediate postpartum implant (IPI) placement prevents rapid repeat pregnancies in adolescents.¹
- Postpartum depression (PPD) affects approximately 1 in 10 women.²
- Progestin-only methods of contraception, such as the contraceptive implant, and their relationship with depression is unclear and understudied.

Immediate postpartum implant (IPI) placement in adolescents?

Pros:

- Reduces of rapid repeat pregnancy¹
- Cost effective²
- Highly desirable by patients
- High continuation rate³
- Takes advantage of access to care

Cons:

- ~~Interferes with breastfeeding³~~
- ~~Increases breakthrough bleeding⁴~~
- Increases rate of postpartum depression (PPD)?

OBJECTIVE:

To examine the relationship between IPI and PPD.

HYPOTHESIS:

IPI placement does not increase rates of PPD when compared to other methods of PP contraception.

The CES-D and EPDS

The Center for Epidemiologic Studies Depression Scale
Below is a list of the ways you might have felt or behaved. Please tell us how often you have felt this way during the past week.

	0 Rarely or none of the time (<1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of time (3-4 days)	3 Most or all of the time (5-7 days)
1. I was bothered by things that don't usually bother me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I did not feel like eating; my appetite was poor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I felt I could not shake off the blues, even with help from my friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I felt I was just as good as other people.*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I had trouble keeping my mind on what I was doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I felt depressed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I felt that everything I did was an effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I felt hopeful about the future.*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I thought my life had been a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I felt fearful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. My sleep was restless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I was happy.*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I talked less than usual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I felt lonely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. People were unfriendly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I enjoyed life.*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I had crying spells.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I felt sad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I felt people disliked me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I could not get "going".	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*reverse scored

Edinburgh Postpartum Depression Scale

Lots of new moms feel "down" or "blue" after their babies are born. But, some new mothers find these feelings are more than they can handle. In order for us to figure out how to help you feel happy while you are getting use to being a mother, we would like to ask you some questions about how you have been feeling. Please UNDERLINE or CIRCLE the answer which comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

1. I have been able to laugh and see the funny side of things.	6. I have looked forward with enjoyment to things.
As much as I always could	As much as I ever did
Not quite so much now	Rather less than I used to
Definitely not so much now	Definitely less than I used to
Not at all	Hardly at all
2. I have blamed myself unnecessarily when things went wrong.	7. I have been anxious or worried for no good reason.
Yes, most of the time	No, not at all
Yes, sometimes	Hardly ever
Not very often	Yes, sometimes
No, never	Yes, very often
3. I have felt scared or panicky for not very good reason.	8. Things have been getting on top of me.
Yes, quite a lot	Yes, most of the time I haven't been able to cope at all
Yes, sometimes	Yes, sometimes I haven't been coping as well as usual
No, most of the time I have coped quite well	No, most of the time I have coped quite well
No, not at all	No, I have been coping as well as ever
4. I have been so unhappy that I have had difficulty sleeping.	9. I have felt sad or miserable.
Yes, most of the time	Yes, most of the time
Yes, sometimes	Yes, quite often
Not very often	Sometimes
No, not at all	Hardly ever
5. I have been so unhappy that I have been crying.	10. The thought of harming myself has occurred to me.
Yes, most of the time	Yes, quite often
Yes, sometimes	Yes, quite often
Only occasionally	Sometimes
No, never	Hardly ever
	Never

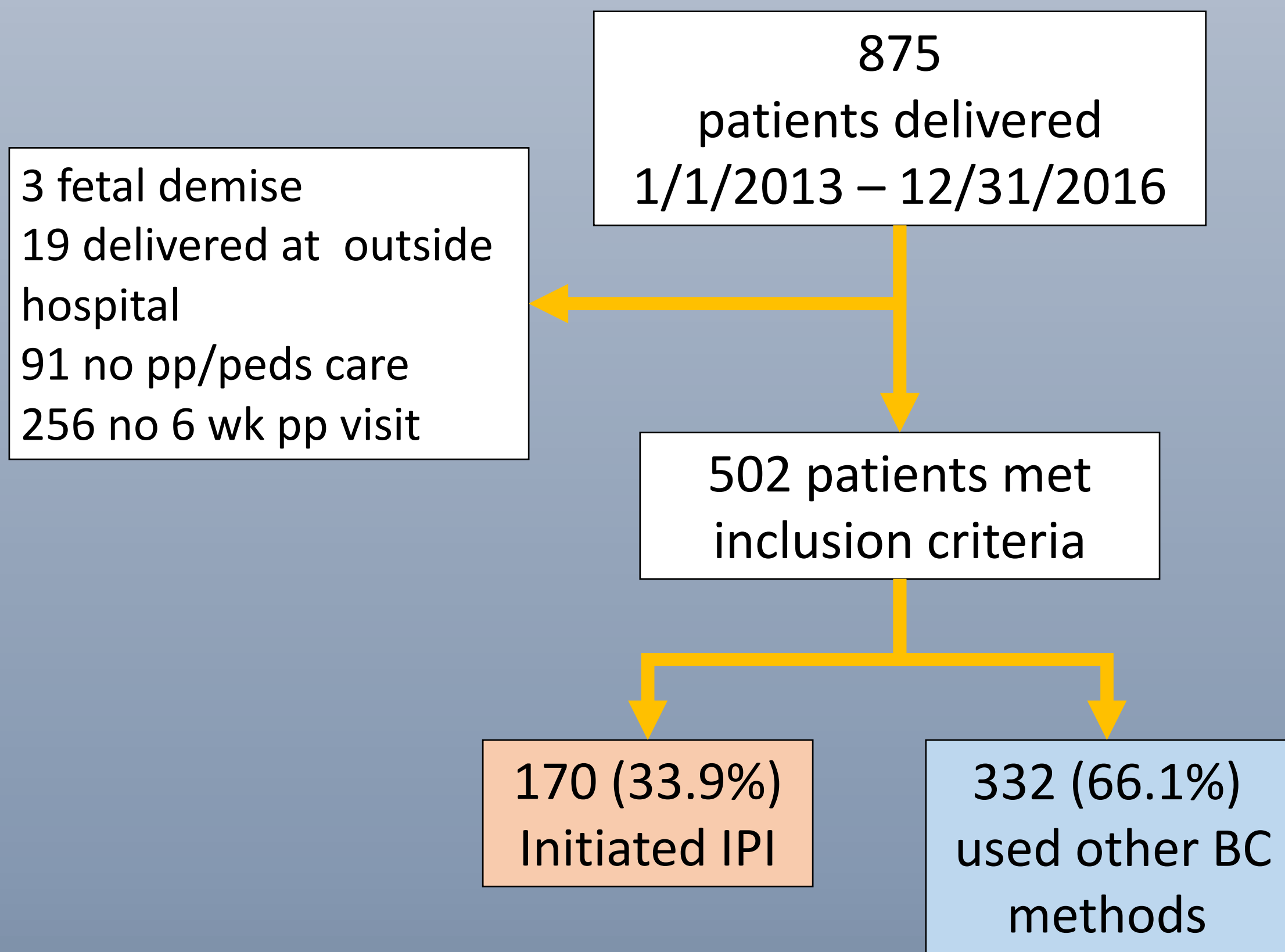
Scoring: Responses are scored as 0, 1, 2, 3 to indicate increasing distress. Items 1, 6, and 7 reflect positive (non-depressed) feelings; their responses are therefore in the reverse order of the other items. Sum all

Methods

- RETROSPECTIVE COHORT OF ADOLESCENTS
- 13-24 years of age. Prenatal and postnatal care provided by the Colorado Adolescent Maternity Program (CAMP). Delivered at the University of Colorado Hospital. Pre- and postnatal depression screening performed at CAMP.
- Medical records review to identify: demographic, reproductive, & delivery characteristics; postpartum contraceptive initiation; pre- and postnatal depression scores.
- Depression evaluated using the Center for Epidemiologic Studies Depression scale (CES-D; prenately⁵) and the Edinburgh Postpartum Depression Scale (EPDS; postnatally⁶).
- CES-D positive if score ≥ 24 ; EPDS positive if score ≥ 10 .⁶
- We compared women initiating contraceptive implants within 14 days of delivery (IPI) vs all others.

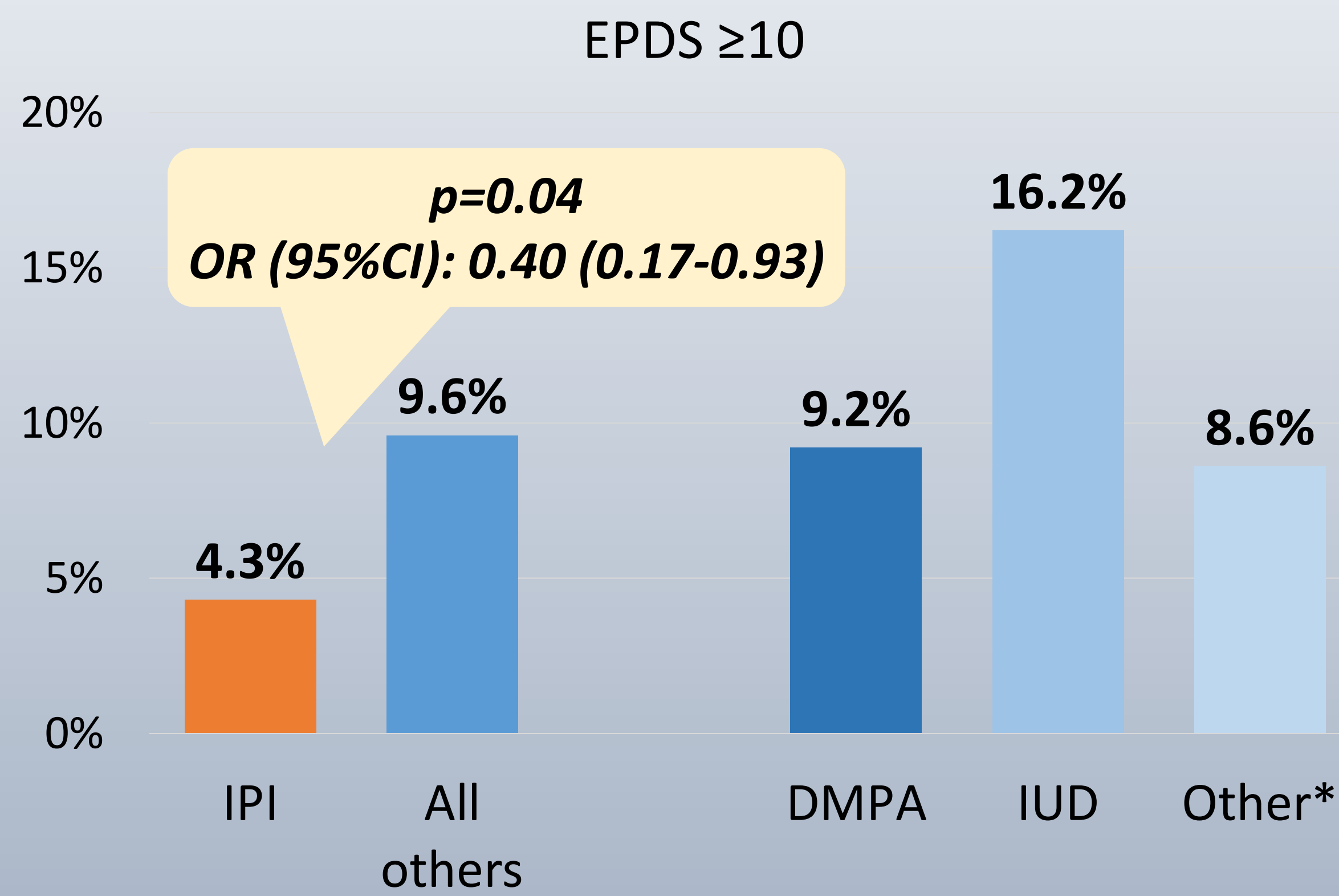
PRIMARY OUTCOME: Positive EPDS at 6-weeks postpartum⁸

Results



Characteristic	IPI n=170 32.7%	Other n=332 67.3%	p-value or OR (95% CI)
Age (years)	19.3 (14.3-22.2)	19.4 (13.9-22.2)	0.64
Primigravid	79.4%	74.7%	1.31 (0.74-2.04)
Primiparous	87.6%	84.6%	1.29 (0.75-2.22)
In school or graduated	69.5%	63.0%	1.34 (0.89-2.00)
Has relationship with father of child	89.3%	89.7%	0.96 (0.52-1.77)
Lives with parents	53.4%	59.5%	0.78 (0.52-1.17)
CES-D ≥ 24	12.0%	15.2%	0.77 (0.44-1.34)
C-section delivery	16.3%	12.9%	0.77 (0.48-1.31)
Preterm birth (<37 weeks gestation)	19.9%	11.9%	1.83 (1.10-3.05)
Low birth weight (<2500 gms)	12.9%	8.3%	1.64 (0.90-2.98)

Results



Discussion

- IPI placement reduces rapid repeat pregnancy, is cost-effective, highly desirable for patients, and has a high continuation rate in adolescents.^{1,9}
- IPI placement does not interfere with breastfeeding or increase breakthrough bleeding.
- IPI placement does not increase rate of postpartum depression in adolescent women.** In this study, IPI users had **lower rates of postpartum depression** than those initiating other methods.
- Providers should encourage adolescent mothers to choose whichever highly-effective contraceptive method they prefer for postpartum use and be reassured that progestin-containing methods do not increase PPD.

References

- Tocce K, Sheeder J, Teal S. Rapid repeat pregnancy in adolescents: do immediate postpartum contraceptive implants make a difference?. *Am J Obstet Gynecol.* 2012;206(6):481.e1-481.e7.
- Vesga-López O, Blanco C, Keyes K, Olfson M, Grant BF, Hasin DS. Psychiatric disorders in pregnant and postpartum women in the United States. *Arch Gen Psychiatry.* 2008 Jul;65(7):805-15.
- Braga G, Ferrioli E, Quintana S, Ferriani R, Pfrimer K, Vieira C. Immediate postpartum initiation of etonogestrel-releasing implant: A randomized controlled trial on breastfeeding
- Wilson S, Tennant C, Sammel M, Schreiber C. Immediate postpartum etonogestrel implant: a contraception option with long-term continuation. *Contraception.* 2014;90(3):259-264.
- Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. *Appl Psychol Measure.* 1977; 1:385-401.
- Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry.* 1987; 150: 782.
- Roberts RE, Lewinsohn PM, Seeley JR. Screening for adolescent depression: A comparison of depression scales. *J Am Acad Child Adolesc Psychiat.* 1991; 30:58-66.
- Sheeder J, Kabir K, Stafford B. Screening for postpartum depression at well-child visits: is once enough during the first 6 months of life? *Pediatrics.* 2009 Jun;123(6):e982-8
- Han L, Teal S, Sheeder J, Tocce K. Preventing repeat pregnancy in adolescents: is immediate postpartum insertion of the contraceptive implant cost effective?. *Am J Obstet Gynecol.* 2014;211(1):24.e1-24.e7.

Acknowledgements

We would like to thank the patients and staff of the Colorado Adolescent Maternity Program!