

SUPPLEMENTAL TABLE 1

Adjusted prevalence ratios and 95% CIs on the relationship between PCOS and psychological factors (2016–2018) (n = 3686^a)

Psychological characteristics	PCOS diagnosis	Irregular periods and acne	Irregular periods and hirsutism	Irregular periods, acne, and hirsutism
Prenatal psychological factors ^b				
Prenatal depression				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.05 (0.98–1.11)	1.05 (1.02–1.09)	1.04 (0.99–1.10)	1.06 (1.00–1.13)
Prenatal anxiety				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.07 (0.99–1.14)	1.07 (1.03–1.10)	1.05 (1.00–1.11)	1.06 (0.99–1.13)
Prenatal depression or anxiety				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.38 (1.08–1.77)	1.36 (1.18–1.58)	1.30 (1.05–1.59)	1.36 (1.08–1.72)
Prenatal depression and anxiety				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.17 (0.76–1.82)	1.34 (1.07–1.69)	1.19 (0.85–1.67)	1.27 (0.86–1.88)
Postpartum psychological factors ^b				
Postpartum depressed mood				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.38 (0.83–2.27)	1.40 (1.05–1.87)	1.08 (0.69–1.68)	1.14 (0.68–1.92)
Postpartum anhedonia				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.30 (0.77–2.19)	1.14 (0.85–1.53)	1.16 (0.76–1.77)	1.56 (0.99–2.47)
Postpartum depressed mood or anhedonia				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.17 (0.77–1.80)	1.15 (0.91–1.46)	1.03 (0.72–1.48)	1.21 (0.81–1.81)
Postpartum depressed mood and anhedonia				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.81 (0.93–3.55)	1.64 (1.10–2.45)	1.37 (0.77–2.46)	1.76 (0.93–3.36)

BMI, body mass index; CI, confidence interval; PCOS, polycystic ovary syndrome; Ref., reference.

^a Reflecting an estimated population size of 142,963 women; ^b Models adjusted for age, prepregnancy BMI, ethnicity, race, education, and marital status.

Koric et al. Polycystic ovary syndrome and postpartum depression symptoms. *Am J Obstet Gynecol* 2021.

SUPPLEMENTAL TABLE 2

Indirect, direct, and total effects on the postpartum depressed mood and anhedonia and PCOS diagnosis by healthcare provider and symptomology (2 + symptoms) mediated through pregnancy depression and anxiety (n = 3686^a)

	NDE aPR (95% CI)	NIE, aPR (95% CI)	TE, aPR (95% CI)	Proportion mediated ^b
PCOS diagnosis ^c				
Prenatal depression and anxiety	1.38 (0.81–2.33)	1.04 (1.00–1.10)	1.44 (0.85–2.43)	13
Prenatal depression	1.27 (0.75–2.15)	0.96 (0.73–1.25)	1.22 (0.67–2.20)	23
Prenatal anxiety	1.33 (0.79–2.25)	0.97 (0.72–2.29)	1.29 (0.72–2.29)	14
Delivery modality ^d	1.37 (0.81–2.32)	1.02 (0.81–1.28)	1.40 (0.79–2.48)	7
GDM	1.41 (0.83–2.68)	1.00 (0.96–1.03)	1.40 (0.83–2.38)	0
HDP	1.37 (0.81–2.32)	1.03 (0.97–1.08)	1.40 (0.83–2.38)	10
Preterm births (<37 wk) for index pregnancy	1.35 (0.80–2.29)	1.04 (0.97–1.08)	1.40 (0.83–2.38)	13
Small for gestational age ^e	1.38 (0.81–2.35)	1.00 (0.97–1.05)	1.40 (0.82–2.37)	0
PCOS symptomology ^{c,e}				
Prenatal depression and anxiety	1.34 (0.97–1.84)	1.10 (1.07–1.14)	1.47 (1.07–2.03)	28
Prenatal depression	1.31 (0.96–1.81)	0.95 (0.81–1.11)	1.24 (0.88–1.78)	27
Prenatal anxiety	1.32 (0.96–1.81)	0.94 (0.82–1.10)	1.23 (0.87–1.74)	33
Delivery modality ^d	1.47 (1.07–2.01)	1.01 (0.88–1.15)	1.48 (1.05–2.08)	3
GDM	1.45 (1.06–1.99)	1.00 (0.98–1.02)	1.45 (1.05–2.00)	0
HDP	1.46 (1.07–2.01)	1.01 (0.98–1.04)	1.48 (1.07–2.03)	3
Preterm births (<37 wk) for index pregnancy	1.47 (1.08–2.02)	1.01 (0.97–1.05)	1.48 (1.08–1.04)	3
Small for gestational age ^f	1.47 (1.07–2.07)	1.00 (0.97–1.03)	1.47 (1.07–2.02)	0

aPR, adjusted prevalence ratio; BMI, body mass index; CI, confidence interval; GDM, gestational diabetes mellitus; HDP, hypertensive diseases of pregnancy; NDE, natural direct effect; NIE, natural indirect effect; OR, odds ratio; PCOS, polycystic ovary syndrome; TE, total effect.

^a Reflecting an estimated population size of 142,963 women; ^b Proportion mediated=(NDE/[NIE-1])/(NDE×NIE-1); ^c Models adjusted for age, prepregnancy BMI, ethnicity, race, education, and marital status; ^d Cesarean delivery is used as a reference; ^e Defined as having a and b, a and c, or a, b, and c; 4 common PCOS symptoms include (1) skin conditions that cause pimples (acne); (2) irregular periods (menstruation); (3) increased hair growth on the face, chest, or other parts of the body; and (4) being overweight or obese; ^f 34% missing observations of gestational age at birth.

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SUPPLEMENTAL TABLE 3

Adjusted direct, indirect, and total effect on the effects of PCOS (diagnosis by healthcare provider and symptomology) on postpartum depressed mood and anhedonia mediated through clinical and psychological factors (n = 3906^a)

PCOS diagnosis	NDE, aPR (95% CI)	NIE, aPR (95% CI)	TE, aPR (95% CI)	Proportion mediated ^b
PCOS diagnosis ^c				
Infertility (treatment)	1.89 (1.23–2.90)	0.94 (0.86–1.03)	1.78 (1.17–2.68)	15
Prepregnancy depression	1.61 (1.06–2.45)	1.07 (1.02–1.13)	1.73 (1.14–2.64)	16
PCOS symptomology ^{c,d}				
Infertility (treatment)	1.46 (1.08–1.98)	0.99 (0.96–1.02)	1.44 (1.07–1.95)	3
Prepregnancy depression	1.30 (0.96–1.77)	1.09 (1.05–1.13)	1.43 (1.05–1.93)	28

aPR, adjusted prevalence ratio; BMI, body mass index; CI, confidence interval; NDE, natural direct effect; NIE, natural indirect effect; OR, odds ratio; PCOS, polycystic ovary syndrome; TE, total effect.

^a Reflecting an estimated population size of 142,963 women; ^b Proportion mediated=(NDE/[NIE-1])/(NDE×NIE-1); ^c Models adjusted for age, prepregnancy BMI, ethnicity, race, education, and marital status; ^d Defined as having a and b, a and c, or a, b, and c; 4 common polycystic ovary symptoms include (1) skin conditions that cause pimples (acne); (2) irregular periods (menstruation); (3) increased hair growth on the face, chest, or other parts of the body; and (4) being overweight or obese.

Koric et al. Polycystic ovary syndrome and postpartum depression symptoms. Am J Obstet Gynecol 2021.

SUPPLEMENTAL TABLE 4

Adjusted prevalence ratios and 95% CIs on the relationship between PCOS and psychological factors (2016–2018) (n = 3906^a)

Psychological characteristics	PCOS diagnosis	Irregular periods and acne	Irregular periods and hirsutism	Irregular periods, acne, and hirsutism
Prenatal psychological factors				
Prenatal depression (yes vs no)				
Model I ^b	1.03 (0.99–1.07)	1.02 (1.00–1.05)	1.01 (0.97–1.05)	1.01 (0.96–1.05)
Model II ^c	1.04 (1.00–1.08)	1.02 (1.00–1.05)	1.01 (0.97–1.06)	1.01 (0.96–1.06)
Prenatal anxiety				
Model I ^b	1.07 (1.02–1.13)	1.04 (1.01–1.07)	1.03 (0.98–1.08)	1.01 (0.96–1.08)
Model II ^c	1.07 (1.02–1.14)	1.04 (1.01–1.08)	1.03 (0.98–1.08)	1.02 (0.96–1.08)
Prenatal depression or anxiety				
Model I ^b	1.31 (1.08–1.60)	1.19 (1.05–1.35)	1.15 (0.97–1.37)	1.11 (0.92–1.36)
Model II ^c	1.33 (1.09–1.62)	1.19 (1.05–1.36)	1.15 (0.96–1.37)	1.12 (0.91–1.37)
Prenatal depression and anxiety				
Model I ^b	1.20 (0.88–1.65)	1.10 (0.91–1.33)	1.01 (0.74–1.38)	0.95 (0.65–1.37)
Model II ^c	1.24 (0.91–1.70)	1.11 (0.91–1.35)	1.03 (0.76–1.40)	0.96 (0.66–1.39)
Postpartum psychological factors				
Postpartum depressed mood				
Model I ^b	1.30 (0.86–1.70)	1.32 (1.01–1.74)	0.98 (0.64–1.52)	1.02 (0.62–1.69)
Model II ^c	1.23 (0.81–1.86)	1.30 (1.00–1.70)	0.94 (0.62–1.43)	0.98 (0.61–1.58)
Postpartum anhedonia				
Model I ^b	1.52 (1.02–2.26)	1.13 (0.86–1.49)	1.12 (0.74–1.68)	1.47 (0.95–2.28)
Model II ^c	1.49 (1.00–2.22)	1.12 (0.85–1.47)	1.09 (0.73–1.62)	1.44 (0.94–2.21)
Postpartum depressed mood and anhedonia				
Model I ^b	1.31 (0.94–1.82)	1.13 (0.91–1.41)	0.96 (0.68–1.36)	1.10 (0.74–1.63)
Model II ^c	1.27 (0.90–1.79)	1.12 (0.90–1.40)	0.93 (0.66–1.32)	1.07 (0.73–1.58)
Postpartum depressed mood or anhedonia				
Model I ^b	1.71 (0.99–2.98)	1.53 (1.04–2.24)	1.33 (0.77–2.29)	1.66 (0.91–3.02)
Model II ^c	1.60 (0.97–2.64)	1.49 (1.02–2.17)	1.25 (0.75–2.05)	1.57 (0.91–2.71)

BMI, body mass index; CI, confidence interval; PCOS, polycystic ovary syndrome.

^a Reflecting an estimated population size of 142,963 women; ^b Model I adjusted for age, prepregnancy BMI, ethnicity, race, education, marital status, and previous depression (3 months before);

^c Model II adjusted for age, prepregnancy BMI, ethnicity, race, education, marital status, and previous depression (3 months before) and infertility (treatment).

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