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Dispositional optimism, mode of delivery and perceived labor control among recently-delivered parturients

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Abstract

Objective: Dispositional optimism (DO) is an understudied transdiagnostic resilience factor among peripartum individuals. Low DO is associated with increased fear and pain in labor and increased rates of emergent cesarean delivery, but it is unknown whether DO is associated with perceived control over the labor process.

Study design: This a planned secondary analysis of a prospective observational cohort of term parturients (n=164) who were recruited in July and August 2021 during their delivery hospitalization at a single, tertiary medical center. Participants completed a baseline demographic survey prior to delivery and then completed evaluations of DO (Revised Life-Orientation Test, LOT-R) and control over the labor process (Labour Agentry Scale- LAS) during their postpartum hospitalization. DO was dichotomized into low and high by score of ≤ 14 or >14 on LOT-R, respectively, and labor agentry scores were compared between groups. Maternal demographics, pregnancy and delivery characteristics were compared by DO status. Multivariable regression was performed, adjusting for known confounders (induction, labor analgesia and mode of delivery).

Results: Demographic, pregnancy and neonatal characteristics were similar between those with low compared to high DO. People with low DO had significantly higher rates of cesarean section (44 vs 24%, p=0.02) and overall had lower LAS scores (139.4 vs 159.4, P<0.001), indicating that they felt less control over their labor process than those with high DO. In the multivariable regression, those with low DO had higher odds of a low LAS score after controlling for induction, labor analgesia, and mode of delivery (aOR 1.29, 95% CI 1.20–1.39).

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Conclusions: People with low DO had significantly lower perceived control over their labor, even after controlling for differences in mode of delivery. Interventions to alter DO may be an innovative way to improve birth experience and its associated perinatal mental health morbidities.

Keywords

dispositional optimism; labor agentry; labor control; perinatal depression; perinatal anxiety

Introduction:

Dispositional optimism (DO) is an understudied resilience factor with widespread health impacts; higher DO is associated with lower cardiovascular risk,[1] postoperative rehospitalization rates,[2] psychiatric conditions,[3–5] and mortality.[6–8] In the perinatal period, data are limited, but lower DO has been associated with higher rates of in vitro fertilization failure,[9] preterm birth and low birth weight,[10,11] emergent cesarean delivery,[12] and postpartum depression.[9,13,14] It is postulated that baseline differences in DO alter motivational and behavioral factors linked with health outcomes: individuals with higher DO are more likely to engage in health promoting activities (i.e., smoking cessation, medication adherence, attendance at prenatal care), and in times of adversity, display healthier psychosocial coping mechanisms such as positive reframing and engagement of their social circle.[15,16]

There is mounting evidence that low DO is also associated with differences in labor experience including increased fear of the labor process[17] and labor pain[12] as well as mode of delivery.[18] DO[9,13,14], mode of delivery[19] and lack of control during labor[20–25] are linked to elevated risk of postpartum depression and anxiety and post-traumatic stress disorder. However, the association of DO with perceived labor control has never been studied. As DO has been demonstrated to be modifiable,[26–36] promoting resilience through interventions to increase DO could optimize labor experience and decrease birth trauma and its associated perinatal mental health impacts. Thus, we aimed to explore the interplay between DO, mode of delivery and perceived control over the labor and delivery process.

Study Design:

This is a planned secondary analysis of a prospective study of people admitted to the labor and delivery unit at Women and Infants Hospital of Rhode Island, a large tertiary medical center, in July and August 2021. People were eligible if they were nulliparous, English-speaking, and had singleton pregnancies at gestational age ≥37 weeks. Participants were excluded if they were scheduled for cesarean birth (as the parent study focused on labor control) or were non-English speaking. After obtaining consent, participants filled out a detailed survey of past medical and psychiatric history shortly after admission to the labor and delivery unit. After delivery, they completed the Revised Life Orientation Test (LOT-R),[37] a validated 10-item instrument that measures DO, and the Labour Agentry Scale (LAS), a validated 29-item instrument as a measure of perceived childbirth control.[38] Values on the LOT-R range from 0–24, and values on the LAS range from a score of 29–203. The

study was approved by the institutional review board prior to initiation of enrollment. All participants provided written informed consent.

Trained medical personnel then performed a detailed chart review of participant maternal outcomes including baseline medical comorbidities, body mass index (BMI) at delivery, hypertensive diseases of pregnancy, gestational diabetes mellitus, gestational age at delivery, induction of labor, labor analgesia, mode of delivery and postpartum complications including hemorrhage, infection and anal sphincter injuries. Neonatal outcomes collected included birthweight, APGAR scores, admission to the neonatal intensive care unit (NICU), oxygen and antibiotic administration and jaundice.

Statistical Analyses

All data was analyzed using R.[39] For this analysis, we compared participants with a low DO (LOT-R score of ≤14) to moderate/high DO. Prior studies have utilized one of two approaches in creating a dichotomous low/high DO threshold: either using a score of ≤14,[2] or using the lowest quartile compared to the other three upper quartiles.[3,8] In our final cohort, the lowest quartile was consistent with a score of 14, supporting use of that threshold. Our primary outcome was LAS score, where differences of 10–20 points have generally been considered clinically significant in prior analyses,[40,41] including the initial scale creation and validation study.[38] Non-parametric analyses were performed with the use of Fisher's exact test for categorical variables and Kruskal Wallis for continuous variables. Multiple logistic regression was performed to assess for confounding, or factors that might be intermediaries on the causal pathway between DO and perceived labor control. Factors were chosen a priori based on prior literature and included induction of labor,[42] delivery analgesia,[43] and mode of delivery.[19]

Results:

A total of 295 people were approached for inclusion in the study, and 164 (55.6%) enrolled. In the analytic sample, 41 (25%) participants had low DO and 123 (75%) had moderate/high DO. The LOT-R score cutoffs by quartile were 14 (Q1), 18 (Q2), 20 (Q3) and 24 (Q4).

Baseline demographic factors were similar between DO groups, including maternal age, type of insurance, level of maternal education, and body mass index (Table 1). Pregnancy characteristics were also similar between groups, including medical complications (hypertension and diabetes), psychiatric morbidity, gestational age at delivery, and labor anesthesia (Table 2). Rates of induction were high in both groups, but did not differ by DO status (80 vs 72%, P=0.7). People with low DO had significantly higher rates of cesarean section (44 vs 24%, P=0.02) compared to those with moderate/high DO. No differences in neonatal characteristics were detected between groups, including birthweight, APGAR score <7 at 5 minutes, admission to NICU or neonatal complications (Table 3).

People with low DO had lower LAS scores than those with moderate/high DO (139.4 vs 159.4, p<0.001), indicating that they felt less control over their labor process. In the multivariable regression, those with low DO had higher odds of a low LAS score (Odds Ratio (OR) 1.35, 95% Confidence Interval (CI) 1.25–1.45), a difference which persisted

when controlled for induction, method of labor analgesia and mode of delivery (aOR 1.29, 95% CI 1.20–1.39).

Discussion:

Although DO and a lack of control during childbirth have been independently associated with increased risk of postpartum mental illness, to date, the potential association between DO and lack of control during childbirth has yet to be examined. In this prospective study of a diverse cohort, newly postpartum women with low DO had significantly lower scores on the Labour Agentry Scale, suggesting that low DO is associated with reduced perception of control over the labor and delivery process.

Our results are consistent with prior studies that have found that higher DO is associated with improved labor experiences including decreased labor pain[12] and decreased fear of the labor process.[17] Data are accumulating that labor expectations and experience are key tenets to preventing traumatic childbirth[22–25] and by extension, postpartum mental health disorders.[20,21] However, there is no prior research in the perinatal sphere on leveraging resilience resources such as DO to improve birth experience or prevent perinatal mental health conditions.

DO has been proven to be changeable through various methods including visualization exercises,[26–28] cognitive and behavioral therapy,[29,30] mindfulness[31–33] and other programs that foster resilience.[34–36] These methods have yielded durable changes in DO and its associated outcomes, particularly depression and anxiety.[30,36] However, none of these studies evaluated a perinatal population. Thus, targeting alterations in DO is an innovative mechanism to improve perinatal somatic and mental health outcomes.

Our study has a number of strengths and limitations to consider. Our study was completed in a high-volume, tertiary-care medical center, and the study population was diverse. In addition, participants completed their questionnaires during the delivery hospitalization, while birth experience was still recent and before development of postpartum mental health conditions might have impacted their responses. However, there were some study limitations. This study was completed at a single medical center, and involved a relatively small cohort of patients, which may limit our generalizability. DO and labor agentry were assessed cross-sectionally in the postpartum period, so there is the potential for reverse causality, by which factors that impacted their labor agentry might have changed the assessment of DO. This is unlikely, as prior studies have demonstrated that without targeted intervention, DO is a stable metric, even across stressful life events such as the diagnosis of cancer,[44] or undergoing major cardiac surgery.[45] Second, while we had self-report data on mood and anxiety disorders (historical and current collected together) we did not collect any mental health measures/scales, nor were we able to follow participants longitudinally into the postpartum period, so we could not evaluate if birth trauma or postpartum mental health conditions developed. Third, we did not evaluate people undergoing a scheduled cesarean section, which is likely a different experience from a perceived control over the birth process perspective. Lastly, this cohort was limited to full term births, which made assessment of

adverse perinatal outcomes impractical and might have restricted the range of LAS scores (and traumatic birth experiences) among those who delivered preterm.

In conclusion, low DO is associated with higher rates of unplanned cesarean section and lower perceived control over the labor process, which are both risk factors for development of birth trauma and postpartum mood/anxiety disorders. Thus, leveraging interventions to intentionally build resilience and improve DO prior to childbirth may serve to be an innovative mechanism to improve patient-centered perinatal mental health outcomes.

References:

1. Hernandez R, González HM, Tarraf W, et al. Association of dispositional optimism with Life's Simple 7's Cardiovascular Health Index: results from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Sociocultural Ancillary Study (SCAS). BMJ Open. 2018;8(3):e019434. doi:10.1136/bmjopen-2017-019434
2. Tindle H, Belnap BH, Houck PR, et al. Optimism, Response to Treatment of Depression, and Rehospitalization After Coronary Artery Bypass Graft Surgery. Psychosom Med. 2012;74(2):200–207. doi:10.1097/PSY.0b013e318244903f [PubMed: 22286847]
3. Weitzer J, Trudel-Fitzgerald C, Okereke OI, Kawachi I, Schernhammer E. Dispositional optimism and depression risk in older women in the Nurseś Health Study: a prospective cohort study. Eur J Epidemiol. Published online January 15, 2022. doi:10.1007/s10654-021-00837-2
4. Ai AL, Carretta H. Depression in Patients with Heart Diseases: Gender Differences and Association of Comorbidities, Optimism, and Spiritual Struggle. Int J Behav Med. 2021;28(3):382–392. doi:10.1007/s12529-020-09915-3 [PubMed: 32617901]
5. Uribe FAR, de Oliveira SB, Junior AG, da Silva Pedroso J. Association between the dispositional optimism and depression in young people: a systematic review and meta-analysis. Psicol Reflex E Crítica. 2021;34(1):37. doi:10.1186/s41155-021-00202-y
6. Giltay EJ. Dispositional Optimism and the Risk of Cardiovascular Death: The Zutphen Elderly Study. Arch Intern Med. 2006;166(4):431–436. doi:10.1001/.431 [PubMed: 16505263]
7. Giltay EJ, Geleijnse JM, Zitman FG, Hoekstra T, Schouten EG. Dispositional Optimism and All-Cause and Cardiovascular Mortality ina Prospective Cohort of Elderly Dutch Men and Women. ARCH GEN PSYCHIATRY. 2004;61:10.
8. Tindle HA, Chang YF, Kuller LH, et al. Optimism, Cynical Hostility, and Incident Coronary Heart Disease and Mortality in the Women's Health Initiative. Circulation. 2009;120(8):656–662. doi:10.1161/CIRCULATIONAHA.108.827642 [PubMed: 19667234]
9. Bleil ME, Pasch LA, Gregorich SE, Millstein SG, Katz PP, Adler NE. Fertility Treatment Response: Is It Better to Be More Optimistic or Less Pessimistic? Psychosom Med. 2012;74(2):193–199. doi:10.1097/PSY.0b013e318242096b [PubMed: 22286845]
10. DeVincent CJ, Kaminer A. The Impact of Prenatal Maternal Stress and Optimistic Disposition on Birth Outcomes in Medically High-Risk Women. :10.
11. Lobel M, DeVincent CJ, Kaminer A, Meyer BA. The impact of prenatal maternal stress and optimistic disposition on birth outcomes in medically high-risk women. Health Psychol. 2000;19(6):544–553. doi:10.1037/0278-6133.19.6.544 [PubMed: 11129357]
12. Moyer CA, Yang H, Kwawukume Y, et al. Optimism/pessimism and health-related quality of life during pregnancy across three continents: a matched cohort study in China, Ghana, and the United States. BMC Pregnancy Childbirth. 2009;9(1):39. doi:10.1186/1471-2393-9-39 [PubMed: 19723332]
13. Robakis TK, Williams KE, Crowe S, Kenna H, Gannon J, Rasgon NL. Optimistic outlook regarding maternity protects against depressive symptoms postpartum. Arch Womens Ment Health. 2015;18(2):197–208. doi:10.1007/s00737-014-0446-3 [PubMed: 25088532]
14. Julian M, Le HN, Coussons-Read M, Hobel CJ, Dunkel Schetter C. The moderating role of resilience resources in the association between stressful life events and symptoms

of postpartum depression. J Affect Disord. 2021;293:261–267. doi:10.1016/j.jad.2021.05.082 [PubMed: 34217964]

15. Carver CS, Scheier MF. Dispositional optimism. Trends Cogn Sci. 2014;18(6):293–299. doi:10.1016/j.tics.2014.02.003 [PubMed: 24630971]
16. Carver CS, Scheier MF, Segerstrom SC. Optimism. Clin Psychol Rev. 2010;30(7):879–889. doi:10.1016/j.cpr.2010.01.006 [PubMed: 20170998]
17. Guszkowska M The effect of exercise and childbirth classes on fear of childbirth and locus of labor pain control. Anxiety Stress Coping. 2014;27(2):176–189. doi:10.1080/10615806.2013.830107 [PubMed: 24199962]
18. Moyer CA, Elsayed Y, Zhu Y, Wei Y, Engmann CM, Yang H. Is Generalized Maternal Optimism or Pessimism During Pregnancy Associated with Unplanned Cesarean Section Deliveries in China? J Pregnancy. 2010;2010:1–10. doi:10.1155/2010/754938
19. Floris L, Irion O, Courvoisier D. Influence of obstetrical events on satisfaction and anxiety during childbirth: a prospective longitudinal study. Psychol Health Med. 2017;22(8):969–977. doi:10.1080/13548506.2016.1258480 [PubMed: 27855515]
20. Watson K, White C, Hall H, Hewitt A. Women's experiences of birth trauma: A scoping review. Women Birth. 2021;34(5):417–424. doi:10.1016/j.wombi.2020.09.016 [PubMed: 33020046]
21. Nakić Radoš S, Martinić L, Matijaš M, Brekalo M, Martin CR. The relationship between birth satisfaction, posttraumatic stress disorder and postnatal depression symptoms in Croatian women. Stress Health. Published online November 18, 2021:smi.3112. doi:10.1002/smi.3112
22. Garthus-Niegel S, von Soest T, Vollrath ME, Eberhard-Gran M. The impact of subjective birth experiences on post-traumatic stress symptoms: a longitudinal study. Arch Womens Ment Health. 2013;16(1):1–10. doi:10.1007/s00737-012-0301-3 [PubMed: 22940723]
23. Allen S A qualitative analysis of the process, mediating variables and impact of traumatic childbirth. J Reprod Infant Psychol. 1998;16(2–3):107–131. doi:10.1080/02646839808404563
24. Czarnocka J, Slade P. Prevalence and predictors of post-traumatic stress symptoms following childbirth. Br J Clin Psychol. 2000;39(1):35–51. doi:10.1348/014466500163095 [PubMed: 10789027]
25. Soet JE, Brack GA, DiIorio C. Prevalence and Predictors of Women's Experience of Psychological Trauma During Childbirth. Birth. 2003;30(1):36–46. doi:10.1046/j.1523-536X.2003.00215.x [PubMed: 12581038]
26. Peters ML, Flink IK, Boersma K, Linton SJ. Manipulating optimism: Can imagining a best possible self be used to increase positive future expectancies? J Posit Psychol. 2010;5(3):204–211. doi:10.1080/17439761003790963
27. Meevissen YMC, Peters ML, Alberts HJEM. Become more optimistic by imagining a best possible self: Effects of a two week intervention. J Behav Ther Exp Psychiatry. 2011;42(3):371–378. doi:10.1016/j.jbtep.2011.02.012 [PubMed: 21450262]
28. Murphy SE, Clare O'Donoghue M, Drazich EHS, Blackwell SE, Christina Nobre A, Holmes EA. Imagining a brighter future: The effect of positive imagery training on mood, prospective mental imagery and emotional bias in older adults. Psychiatry Res. 2015;230(1):36–43. doi:10.1016/j.psychres.2015.07.059 [PubMed: 26235478]
29. Yu DL, Seligman MEP. Preventing depressive symptoms in Chinese children. Prev Treat. 2002;5(1). doi:10.1037/1522-3736.5.1.59a
30. Gillham JE, Reivich KJ, Jaycox LH, Seligman MEP. Prevention of Depressive Symptoms in Schoolchildren: Two-Year Follow-Up. Psychol Sci. 1995;6(6):343–351. doi:10.1111/j.1467-9280.1995.tb00524.x
31. Kiken LG, Shook NJ. Looking Up: Mindfulness Increases Positive Judgments and Reduces Negativity Bias. Soc Psychol Personal Sci. 2011;2(4):425–431. doi:10.1177/1948550610396585
32. Malinowski P, Lim HJ. Mindfulness at Work: Positive Affect, Hope, and Optimism Mediate the Relationship Between Dispositional Mindfulness, Work Engagement, and Well-Being. Mindfulness. 2015;6(6):1250–1262. doi:10.1007/s12671-015-0388-5
33. Weinstein N, Brown KW, Ryan RM. A multi-method examination of the effects of mindfulness on stress attribution, coping, and emotional well-being. J Res Personal. 2009;43(3):374–385. doi:10.1016/j.jrp.2008.12.008

34. Reivich KJ, Seligman MEP, McBride S. Master resilience training in the U.S. Army. Am Psychol. 2011;66(1):25–34. doi:10.1037/a0021897 [PubMed: 21219045]
35. Griffith J, West C. Master Resilience Training and Its Relationship to Individual Well-Being and Stress Buffering Among Army National Guard Soldiers. J Behav Health Serv Res. 2013;40(2):140–155. doi:10.1007/s11414-013-9320-8 [PubMed: 23494766]
36. Bastounis A, Callaghan P, Banerjee A, Michail M. The effectiveness of the Penn Resiliency Programme (PRP) and its adapted versions in reducing depression and anxiety and improving explanatory style: A systematic review and meta-analysis. J Adolesc. 2016;52(1):37–48. doi:10.1016/j.adolescence.2016.07.004 [PubMed: 27494740]
37. Scheier MF, Carver CS, Bridges MW. Distinguishing Optimism From Neuroticism (and Trait Anxiety, Self-Mastery, and Self-Esteem): A Reevaluation of the Life Orientation Test. :16.
38. Hodnett ED, Simmons-Tropea DA. The labour agentry scale: Psychometric properties of an instrument measuring control during childbirth. Res Nurs Health. 1987;10(5):301–310. doi:10.1002/nur.4770100503 [PubMed: 3671777]
39. R Core Team (2021). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computting https://www.R-project.org/
40. Cheung W, Ip WY, Chan D. Maternal anxiety and feelings of control during labour: A study of Chinese first-time pregnant women. Midwifery. 2007;23(2):123–130. doi:10.1016/j.midw.2006.05.001 [PubMed: 17055624]
41. Hodnett ED, Osborn RW. Effects of continuous intrapartum professional support on childbirth outcomes. Res Nurs Health. 1989;12(5):289–297. doi:10.1002/nur.4770120504 [PubMed: 2798949]
42. Grobman WA, Rice MM, Reddy UM, et al. Labor Induction versus Expectant Management in Low-Risk Nulliparous Women. N Engl J Med. 2018;379(6):513–523. doi:10.1056/NEJMoa1800566 [PubMed: 30089070]
43. Fernandes S, Galacho J, Borrego A, Pereira D, Lança F, Ormonde L. Impact of Labor Epidural Analgesia on Maternal Satisfaction and Childbirth Expectations in a Tertiary Care Center in Portugal: A Prospective Study. Acta Médica Port. 2021;34(4):272. doi:10.20344/amp.13599
44. Thieme M, Einenkel J, Zenger M, Hinz A. Optimism, pessimism and self-efficacy in female cancer patients. Jpn J Clin Oncol. 2017;47(9):849–855. doi:10.1093/jjco/hyx079 [PubMed: 28591864]
45. Huffman JC, Legler S, Millstein RA, et al. Does timeframe adjustment of the Life Orientation Test-Revised assess optimism as a state? J Posit Psychol. 2019;14(6):799–806. doi:10.1080/17439760.2019.1579355 [PubMed: 32983245]

Key Points:

- Dispositional optimism (DO) is associated with various health conditions.
- It is unknown if there is an association between DO and perceived labor control.
- People with low DO had higher rates of cesarean delivery and lower perceived labor control.
- Altering DO may be a novel mechanism for improving birth experience.

Table 1:

Maternal demographics of recently-delivered women with low versus moderate/high dispositional optimism

Characteristic	Low dispositional optimism (N=41)	Moderate/high dispositional optimism (N=123)	P-Value
Age, mean (SD)	28.5 (5.4)	28.2 (4.9)	0.5
Race/ethnicity			
Non-Hispanic White	29 (71)	83 (67)	0.7
Non- Hispanic Black	5 (12)	10 (8.1)	0.5
Hispanic	8 (20)	29 (24)	0.6
Other	2 (4.9)	10 (8.1)	0.7
Insurance			0.9
State/federal	13 (33)	41 (33)	
Private	27 (66)	80 (65)	
Education			0.06
<Highschool	0 (0)	4 (3.3)	
Highschool/GED	15 (37)	38 (31)	
Associates	4 (9.8)	7 (5.7)	
College	6 (15)	44 (36)	
Graduate school	15 (37)	30 (24)	
BMI at delivery, mean (SD)	34.02 (8.2)	32.7 (6.6)	0.6

Columns are n (%) unless otherwise noted

Low DO was defined as LOT-R score of ≤14, moderate/high DO was >14

Table 2:

Pregnancy and labor characteristics of recently-delivered women with low versus moderate/high dispositional optimism

Characteristic	Low dispositional optimism (N=41)	Moderate/high dispositional optimism (N=123)	P-Value
Gestational age at delivery, mean (SD)	39.6 (1.3)	39.6 (1.4)	0.9
Hypertensive disorder			
Pre-gestational	2 (4.9)	3 (2.4)	0.6
Gestational *	6 (14.6)	21 (17)	0.7
Diabetes mellitus			
Pre-gestational	0	2 (1.6)	>0.9
Gestational	2 (4.9)	9 (7.3)	0.7
Psychiatric morbidity ‡‡			
Anxiety disorder	48 (39)	22 (54)	0.1
Depressive disorder	36 (29)	16 (39)	0.2
Induction of labor	33 (80)	88 (72)	0.7
Anesthesia ƒ			
Epidural/spinal	40 (98)	112 (91)	0.3
Nitrous oxide	1 (2.4)	4 (3.3)	>0.9
Intravenous medications	2 (4.9)	3 (2.4)	0.6
None	0 (0)	11 (8.9)	0.07
Mode of delivery			
Vaginal (spontaneous and operative)	23 (56.1)	93 (75.6)	<0.01
Cesarean	18 (43.9)	30 (24.4)	0.017
Labor agentry score	139.4 (35.5)	159.4 (26.6)	<0.001

Columns are n (%) unless otherwise noted

Low DO was defined as LOT-R score of ≤14, moderate/high DO was >14

* Gestational hypertensive disorders included: gestational hypertension, pre-eclampsia, eclampsia

‡‡ Psychiatric morbidity included report of both historical and current psychiatric diagnoses

ƒ Results not additive, could have more than one

Table 3:

Neonatal characteristics of recently-delivered women with low versus moderate/high dispositional optimism

Characteristic	Low dispositional optimism (N=41)	Moderate/high dispositional optimism (N=123)	P-Value
Birthweight in grams, mean (SD)	3,305 (493)	3,376 (453)	0.4
APGAR score <7 at 5 mins	1 (2.5)	2 (1.6)	0.6
Admission to NICU	5 (13)	11 (8.9)	0.5
Neonatal complications	6 (15)	19 (16)	>0.9
Jaundice	3 (7.5)	9 (7.4)	>0.9
Respiratory support	3 (7.5)	11 (8.9)	>0.9
Antibiotics *	2 (5)	2 (1.6)	0.3

Columns are n (%) unless otherwise noted

Low DO was defined as LOT-R score of ≤14, moderate/high DO was >14

* Excluded routine ophthalmic erythromycin administration