

Does preterm birth affect fathers? Findings from a longitudinal study.

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Introduction

There is limited data on the impact of preterm birth on fathers. This longitudinal study reports on the effects of having a preterm baby on the psychological wellbeing and life quality of fathers.

Methods

1000 men were recruited in the antenatal period via their pregnant partner, and completed the Hospital Anxiety and Depression Scale (HADS) and Satisfaction with Life Scale (SWLS) in the third trimester, 24 hours and six weeks postpartum. Birth records were audited.

Results

Data was available from 1000, 934 and 950 fathers at each time point. Overall, 7.2% of fathers had a preterm baby. Fathers of preterm infants did not differ to fathers of term infants in terms of country of birth, education, employment, smoking status and first time father status. However fathers of preterm babies were significantly older (32.10 years [6.09] versus 31.01 years [6.17]; $p=0.002$) and less likely to be married or in a de facto relationship with the mother (90% versus 96%; $p=0.043$) (Table 1).

Table 2 summarises the outcomes of newborns. There were no significant differences in gender of newborn. However, babies born preterm were significantly more likely to be induced or have an elective caesarean birth ($p=0.039$). They were significantly less likely to have a vaginal delivery ($p=0.017$). They were significantly more likely to have low birth weight ($p<0.0001$) and require admission to special care or neonatal intensive care nursery ($p<0.0001$).

HADS and SWLS data outcomes are summarized in Table 3. In the antenatal period, there were no significant differences in HADS total, anxiety or depression subscale and SWLS scores. Immediately following delivery there were also no significant differences in HADS total, anxiety or depression subscale scores or SWLS score, although there was a trend for more fathers of preterm babies to meet the case criteria for anxiety on the anxiety subscale (23.9% versus 15.0%, $p=0.051$). However, at 6 weeks postnatal, fathers of preterm babies had significantly higher rates of anxiety subscale scores compared to fathers of term babies (26.5% versus 15.8%, $p=0.02$). They also reported significantly lower SWLS scores compared to fathers of term infants (27.31 versus 27.88, $p=0.01$). However there were no differences in depression subscale or HADS total scores.

Table 1: Demographics of fathers

Variable	Fathers of term babies (N=928)	Fathers of preterm babies (N=72)	p-value
Age Mean (sd) Years	31.01 (6.17)	32.10 (6.09)	0.002
Country of birth N(%)			
Australia	658 (71%)	54 (75%)	0.46
Other	270 (29%)	18 (25%)	
Relationship status N(%)			
Married or de facto	887 (96%)	65 (90%)	0.043
Other	41 (4%)	7 (10%)	
Education N(%)			
Less than 12 years	113 (12%)	11 (15%)	0.45
12 years	251 (27%)	15 (21%)	
More than 12 years	564 (61%)	46 (64%)	
Aboriginal/ Torres strait islander N(%)			
Yes	48 (5%)	6 (8%)	0.26
No	880 (95%)	66 (92%)	
Employment status N(%)			
Unemployed	46 (5%)	6 (8%)	0.21
Employed	882 (95%)	66 (92%)	
Hours worked each week N(%)			
0 to 7 hours	47 (5%)	6 (8%)	0.13
7 to 15 hours	5 (1%)	1 (1%)	
15 to 40 hours	267 (28%)	27 (38%)	
More than 40 hours	609 (66%)	38 (53%)	
Smoker N(%)			
Yes	258 (28%)	25 (35%)	0.21
No	670 (72%)	47 (65%)	
First time father N(%)			
Yes	523 (56%)	38 (53%)	0.55
No	405 (44%)	34 (47%)	

Table 2: Newborn outcomes

Variable	Fathers of term babies (N=928)	Fathers of preterm babies (N=72)	p-value
Induction of labour N(%)	408 (44%)	21 (29%)	0.039
Spontaneous onset of labour	312 (34%)	33 (46%)	
No labour (caesarean section)	208 (22%)	18 (25%)	
Delivery mode N(%)			
Spontaneous vaginal delivery	562 (60%)	38 (53%)	0.017
Assisted vaginal delivery	69 (7%)	1 (1%)	
Elective caesarean section	208 (22%)	18 (25%)	
Non elective caesarean section	99 (11%)	15 (21%)	
Newborn gender N(%)			
Male	497 (54%)	40 (56%)	0.74
Female	431 (46%)	32 (44%)	
Birthweight N(%)			
<2500gm	60 (6%)	65 (90%)	<0.0001
≥2500gm	868 (94%)	7 (10%)	
Need for nursery admission (%)			
Yes	117 (13%)	70 (97%)	<0.0001
No	811 (87%)	2 (3%)	

Table 3: Anxiety, depression and quality of life scores in fathers with preterm babies compared to control.

HADS	Preterm N=72 N(%)	Control N=928 N(%)	P-value
Antenatal			
Total score ≥/= 14			
Case	18 (25.0%)	246 (26.5%)	0.78
Non-case	54 (75.0%)	682 (73.5%)	
Anxiety subscale score ≥/= 8			
Case	18 (25.0%)	211 (22.7%)	0.66
Non-case	54 (75.0%)	717 (77.3%)	
Depression subscale score ≥/= 8			
Case	7 (9.7%)	78 (8.4%)	0.70
Non-case	65 (90.3%)	850 (91.6%)	
SWLS			
Mean (sd)	27.15 (5.17)	27.09 (6.34)	0.73
Delivery			
Total score ≥/= 14			
Case	18 (26.9%)	191 (22.0%)	0.36
Non-case	49 (73.1%)	676 (78.0%)	
Missing data	5	61	
Anxiety subscale score ≥/= 8			
Case	16 (23.9%)	130 (15.0%)	0.05
Non-case	51 (76.1%)	637 (85.0%)	
Missing data	5	71	
Depression subscale score ≥/= 8			
Case	8 (11.9%)	88 (10.1%)	0.64
Non-case	59 (88.1%)	779 (89.9%)	
Missing data	5	61	
SWLS			
Mean (sd)	27.44 (4.86)	27.86 (5.20)	0.05
Postnatal			
Total score ≥/= 14			
Case	19 (27.9%)	192 (21.8%)	0.24
Non-case	49 (72.1%)	690 (78.2%)	
Missing data	4	46	
Anxiety subscale score ≥/= 8			
Case	18 (26.5%)	134 (15.8%)	0.02
Non-case	50 (83.8%)	573 (82.2%)	
Missing data	4	46	
Depression subscale score ≥/= 8			
Case	11 (16.2%)	109 (12.4%)	0.36
Non-case	57 (83.8%)	773 (87.6%)	
Missing data	4	46	
SWLS			
Mean (sd)	27.31 (4.82)	27.88 (5.17)	0.01

Conclusions

Following birth of a preterm baby, there is a window of opportunity to intervene to help fathers who may be vulnerable to developing an anxiety disorder and poorer quality of life.

ACTR:

The primary trial was registered at the Australasian Clinical Trials Registry with the number ACTRN12613001273774.