What is the Gold-Standard Model of Care for Pregnant Adolescents?

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Introduction

Where optimal antenatal care is achieved, pregnancy outcomes improve.[1,2] However, there lacks consensus for a model of care to support adolescents in their transition to parenthood. Interventions have been designed to provide comprehensive support and education to adolescents in addition to traditional pregnancy care. Control groups received traditional pregnancy care only. This systematic review aims to 1) examine the literature on effective perinatal care strategies for adolescents and 2) identify models of care that have contributed to positive medical and psychosocial outcomes in mother and child. To our knowledge this is the first systematic review to include only randomized controlled trials (RCTs).

Results

- 4515 citations were identified. 2511 non-duplicated titles and abstracts were assessed. Twelve RCTs were included. The average mean age of participants was 17.2 years (range 14.8-19.6 years).
- Outcomes reported were low birth weight (LBW) (3/12), infant hospitalizations (IH) (3/12), exclusive breastfeeding (EBF) (2/12), and post-partum depression (PPD) (4/12).
- Models involved group-based care, peer-to-peer support, family support , and nursing interventions. The programs took place over telephone, at the community clinic, in the participant's home, or both clinic and home.

Author	Location	Group Sessions	Individual Sessions	Home Visits	Staffing Models	Tailored to Community	Continuity of Care
Cohen, 2011	Wales, UK	✓		✓	✓	✓	✓
Dias, 2014	Brazil	✓		✓		✓	
Ford, 2002	Michigan, USA	✓			✓	✓	
Koniak-Griffin, 2000-2003	San Bernardino, USA		✓	✓	✓	✓	✓
Meglio, 2010	Rochester, USA		✓		✓		✓
Mersal, 2011	Egypt		✓				

Study	n		Results		
	Int*	Ctrl**	Int	Ctrl	p-value
Low Birth Weight (<2500 g)					
Cohen	65	64	8 (12.3%)	4 (6.25%)	-
Ford	165	117	6.6%	12.5%	<.08
Mersal	43	43	4 (9.3%)	14 (32.6%)	<.008
Infant Hospitalizations					
Koniak-Griffin	62	59	91 days	110 days	.07
Koniak-Griffin	55	47	74 days	154 days	<.001
Koniak-Griffin	56	45	143 days	211 days	<.001
Exclusive Breastfeeding					
Dias	163	160	99 days *(83.4-114.6)****	41 days *(30.5-51.5)****	-
Meglio	38	40	35 days	10 days	.004

Table 1 (above). Overview of Studies and their Intervention Arrangements
Table 2 (right). Clinical Outcomes Measured
*Intervention group, **Control group, ***Confidence interval of 95% in days

Methods

PUBMED, CINAHL and Embase databases were used to search for citations published in the last ten years between 2006 and 2016. The following search terms were utilized as MeSH and non-MeSH keywords: "teenagers", "adolescents", "young adult", "pregnant", "antenatal", "prenatal", "postnatal", "interventions" and "programs." Two independent reviewers (ST and HT) screened the citations based on title and abstract and defined eligibility criteria. The remaining papers were reviewed by full text.

Discussion

- **Prenatal education is key**. One study demonstrated 3-times increased risk of LBW in adolescents who did not receive prenatal education (OR 3.52 95% CI 0.99-12.55).[3] In a village, introduction of antenatal education in the clinic reduced LBW. In urban settings, group-based care was successful.
- **Maintaining continuity of care beyond the routine 6w postpartum period reduced IH.** The impact from home visits (up to 1y) was measured through the first 6w, 12m, and 24m of life.
- **Family involvement was superior to peer telephone support at increasing EBF days.** Previous trends favoring formula feeding and a lack of lactation support services are barriers to EBF amongst new mothers.[4] Involving grandmothers reduced breastfeeding abandonment. The telephone intervention results may have been due to lack of an agenda of topics to discuss at each call and drop outs.
- **Existing evidence on PPD is inconclusive.** Behavior-based therapy for PPD was studied in only one study (HR 0.44, 95% CI 0.17-1.15)[5]. Other studies that did not exclusively address PPD showed no impact.

Conclusion

- While no "gold-standard" exists, the use of comprehensive pregnancy care plans for adolescents have resulted in reduced rates of LBW, IH and increased EBF days.
- Targeted, long-term care for pregnant adolescents requires a multifaceted comprehensive intervention.
- Non-clinical support that is useful includes budgetary services, family planning education, mental health counseling, violence prevention, counseling about substance use and tobacco cessation, breastfeeding support, and education on parenting skills and well-baby care.

References:

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