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Review Article

INFANT SLEEP PROBLEMS AND MANAGERMENTS: A REVIEW OF THE LITERATURE

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Abstract:

Infant sleep problems have been the focus of a growing literature over the last few years. The current review is based on literature searches of Pubmed and PsycInfo for studies published over the last few years including randomized controlled trials, systematic reviews and meta-analyses on infant sleep problems and resulting developmental effected, risk factors and managements. A number of interventions have been tried to ameliorate infant sleep problems including consultations, teaching sessions on extinction and bedtime fading, internet-based interventions and nighttime massages by parents.

Keywords: *Infant, Sleep, Problems, Managements, Review.*

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INTRODUCTION:

Infant sleep problems have been the focus of a growing literature over the last few years. This narrative review is based on literature searches of Pubmed and PsycInfo for studies published over the last few years including randomized controlled trials, systematic reviews and meta-analyses on infant sleep problems and their resulting developmental effects, risk factors and interventions.

Infant sleep problems have been noted to affect a significant per cent of infants and have been major management problems for both parents and pediatricians [1]. Stability within individuals has been reported for sleep patterns, suggesting that the problems may continue and affect later development. Several risk/protective factors for sleep problems have been identified including health literacy, TV in the room, close contact, feeding and arousing activities at bedtime, intolerance for infant crying, co-sleeping, maternal depression and infant temperament [2-10]. Cross-cultural differences have been noted both for infant sleep problems and parents' perceived distress by those problems. A number of interventions have been tried to ameliorate infant sleep problems including consultations, teaching sessions on extinction and bedtime fading, internet-based interventions and bedtime massages by parents [11-22]. Some of these studies have shown improvements and others have suggested only short-term or negligible effects. Significant methodological problems exist with this literature including the almost sole use of parent report as well as the mixed age samples and the potential confounding variables [23-27].

METHODOLOGY:**Sample**

We performed comprehensive search using biomedical databases; Medline, PsycInfo and

Pubmed, for studies concerned with placenta previa published between 2013- 2019 in in English language. Keywords used in our search through the databases were as {Infants, Sleep, Management, and risk factors}. More relevant articles were recruited from references lists scanning of each included study.

Analysis

No software was used, the data were extracted based on specific form that contain (Title of the study, name of the author, Objective, Summary, Results, and Outcomes). Double revision of each author outcomes was applied to ensure the validity and minimize the errors.

RESULTS and DISCUSSION:**Risk and protective factors for infant sleep problems**

Several risk and protective factors for infant sleep problems have been researched over the last few years including health literacy, television in the same room, bedtime feedings, close contact at bedtime, arousing activities at bedtime, emotional availability, bedtime routine, parent regulation, intervention delays, co-sleeping (bed-sharing), maternal depression and infant temperament (see Table 1 for a list of risk and protective factors for infant sleep problems). Although most of these risk factors involve parental management of bedtime activities/routines, more general parental lifestyle problems include health literacy and sleeping environment. Most of the recent studies have noted multiple risk factors, and cross-cultural differences have been reported for virtually all of the risk factors. Further, maternal depression and infant temperament have been noted to mediate these risk factors for infant sleep problems [1-27].

Table 1. Risk/protective factors for infant sleep problem

| Risk/protective factors | Sleep outcome | Authors |
|---|-----------------------------------|--------------------------|
| TV in bedroom | <nighttime sleep | Bathory et al |
| >maternal emotional availability <close contact, <nursing, <arousing bedtime activities | > sleep | Philbrook & Teti (2016a) |
| >maternal emotional availability <co-sleeping | < cortisol levels | Philbrook & Teti (2016b) |
| >father caregiving | >sleep mothers & infants | Tikotsky et al |
| >intolerance infant crying | > sleep problems | Sadeh et al |
| >finger sucking | <nightwakings | Butler et al |
| > co-sleeping | >nightwakings | Volkovich et al |
| >co-sleeping Asian countries | <sleep | Mindell et al. (2010) |
| >feeding at bedtime & evening TV | >nightwakings | Ahn et al |
| >bedtime routines | <nightwakings > sleep | Mindell and Lee (2015) |
| >prenatal depression | <deep sleep > indeterminate sleep | Field et al |
| >depression and anxiety | <sleep | Petzoldt et al |
| >hypersensitivity and >hyposensitivity | <sleep quality | DeMarcus et al |

Interventions for infant sleep problems

Most of the recent intervention studies for infant sleep problems have involved educational/behavioral interventions including consultation on sleep physiology and strategies to improve infant sleep, group teaching along with support calls, graduated extinction and bedtime fading (see Table 2 for a list

of interventions for infant sleep problems). Included here are randomized controlled trials, systematic reviews and a meta-analysis that are briefly reviewed along with an internet-based intervention for infant and toddler sleep disturbances and studies on massage therapy by mothers [28-33].

Table 2. Interventions for infant sleep problems

| Interventions | Results | Authors |
|--|-------------------------------------|-----------------------|
| Self-settling skills | <nightwakings | Symon & Crichton |
| No physical contact during crying | <maternal depression and stress | |
| Bedtime routines, minimal stimulation, controlled comforting, no co-sleeping | <sleep problems | Hall et al |
| Graduated extinction | <cortisol, <sleep onset | Gradisar et al |
| Bedtime routine (bath/massage/cuddling) | <nightwakings, <sleep onset | Mindell et al. (2009) |
| Internet-based and internet-based plus bedtime routine (bath/massage/cuddling) | <nightwakings, <sleep onset,> sleep | Mindell et al. (2011) |
| Behavioral techniques review | >sleep | Chrichton & Symon |
| Massage by mothers | >night sleep, >melatonin | Ferber et al |
| Lotion massage by Mothers | >sleep Ms & Is | Field et al. (2016) |

Systematic reviews and meta-analyses on sleep managements

Very few studies have addressed the effects of behavioral interventions during the first six months which is surprising. If there is notable stability of sleep patterns across the first six months [34], it would seem that those interventions would be most effective the earlier they were applied. In a literature search on the use of behavioral techniques for infant sleep during the first six months, 11 studies were identified of which eight demonstrated improvements in infant sleep outcomes [29]. Although the 8 of 11 studies showing improvement speaks to the efficacy of early intervention, it is surprising that only 11 studies could be found on behavioral interventions

for sleep during the first six months. Parents may expect their infants to have sleep problems over the first six months and possibly do not seek consultation as frequently as parents of older infants. Also, the behavioral techniques that have been developed may require the greater sophistication of older infants and toddlers. Infant researchers focusing on the first six months have successfully modified other behaviors of very young infants, suggesting the possibility and the need for further development of behavioral intervention strategies for sleep behaviors of younger infants. Several randomized controlled trials have demonstrated positive effects of behavioral interventions on infant sleep measures. However, authors of systematic reviews and meta-analyses have

questioned the effectiveness of behavioral sleep interventions. In a systematic review, for example, by British authors using the PubMed and Cochrane Databases to identify systematic reviews, meta-analyses, clinical trials and cohort studies on behavioral sleep interventions for infants younger than six months, the authors concluded that behavioral interventions had decreased infant crying, prevented sleep or behavioral problems or postpartum depression [35].

DISCLOSURE:

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