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Mother's Knowledge and Perceptions of Newborn Sleep: Survey Analysis

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Abstract

Introduction: The arrival of a young baby whose biological needs are very special (night-time wakefulness, need for strong interactions with its environment) inevitably disturbs the lives of parents, especially their own sleep. It is important that they prepare for these needs and know what to expect in order to be less disturbed to understand their child's behaviour and to judge it as normal.

Objectives: To evaluate the knowledge of mothers on the sleep of new-borns (duration of sleep, number of naps, sleep functions ...); to determine the characteristics of this population; and to know the possible difficulties they encounter with regard to the sleep of their infant

Population and Methods: An anonymous survey has been conducted with 80 women, who had given birth at the maternity, University Hospital, Mohamed VI, Marrakesh.

Results: 80 questionnaires were returned of women who gave birth, 35 were prim parous (43.7%). The mean duration of sleep in the new-born (16 to 20 hours) but was only recognized by 30% of the women interviewed. For the sleeping position: 54 mothers (67.5%) responded by lateral position, while 23.75% responded with the expected response (position on the back). The majority of mothers (77.5%) knew that sleep contributes to child development and 58.7% of women knew that it was better to respect the child's sleep. All women interviewed had expressed their needs for information about their children's sleep.

Conclusion: Following the analysis of our survey, we found that mothers had insufficient information about the sleep of the child. Hence the need for an education of mothers during pregnancy or during their stay in maternity.

Keywords: Young baby; Child; Maternity

Introduction

Sleep is experienced as a moment of well-being and is an extremely positive element for health, particularly crucial for the development of the newborn. Newborns generally sleep between 12 to 18 hours per day, although their sleep is fragmented into short sessions of one to two hours, as they do not yet have an established sleep-wake rhythm and frequently wake for feeding, changing, or comfort. This fragmented sleep pattern is normal and essential for their growth and development.

Objectives

Mothers' knowledge of newborn sleep

Many mothers understand that newborns sleep a lot but may not fully grasp the importance of sleep patterns, such as the lack of day-night differentiation in the first three months and the need for consistent routines to help babies learn to self-settle. Mothers may have varying awareness of positive sleep associations and the importance of putting babies to bed while still awake to promote self-settling, which can prevent negative sleep associations like needing to be held to fall asleep. Educational tools like "Sleep, Baby & You" have shown promise in helping parents adjust expectations and cope better with infant sleep needs, improving parental mental well-being and infant safety.

Characteristics of the Population

Mothers of newborns often experience disrupted sleep themselves due to the baby's frequent waking, which can affect their mood and ability to function. Maternal mental and physical health during pregnancy significantly influences infant sleep patterns; poor maternal health is linked to severe and persistent infant sleep problems. Sleep deprivation in new mothers is common and can lead to serious consequences such as low mood, anxiety, and impaired concentration.

Difficulties Encountered Regarding Newborn Sleep

- Common challenges include frequent night waking, difficulty establishing safe sleep practices (such as avoiding bed-sharing), and managing infant comfort and health issues like reflux or congestion.
- Mothers may struggle with postpartum insomnia influenced by hormonal changes, pain, and mental health struggles, which can exacerbate sleep difficulties for both mother and child.

Patients and Methods

Investigation

This study was conducted as a descriptive and analytic cross-sectional survey aimed at investigating maternal morbidity and related factors in Marrakech, Morocco. The investigation focused on women of reproductive age who delivered in the region, with data collected from both public health centres and a tertiary university hospital.

Patients

The study included 80 women who delivered at the University Hospital in Marrakech, Morocco. These women were part of a larger sample drawn from the population of women aged 15–49 years who gave birth during the year preceding the study. Participants were selected using cluster random sampling from health centers in Marrakech, with a high participation rate of 93% among eligible women. The hospital serves as a tertiary referral centre for complicated deliveries in the region, reflecting a diverse patient population in terms of socioeconomic status and obstetric risk68.

Methods

- **Sampling**: Cluster random sampling was used to select six health centers in Marrakech.
- **Data Collection**: Data were collected through medical interviews during health center visits. The study also incorporated clinical records from the University Hospital for women who delivered there.
- **Ethical Considerations**: The study protocol was approved by relevant ethics committees, and written informed consent was obtained from all participants.
- **Analysis**: Both descriptive statistics and analytic methods included assessing sociodemographic factors, reproductive history, and delays in care.

Results

Thirty five prim parous woman (Figure 1); Age ranged between 18 and 42 years.

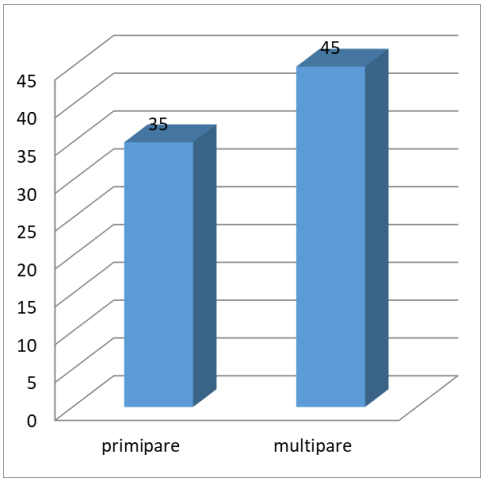

Figure 1: *Parity.*

Educational Background

The participants' levels of education varied, as illustrated in (Figure 2), reflecting a diverse range of academic backgrounds among the mothers.

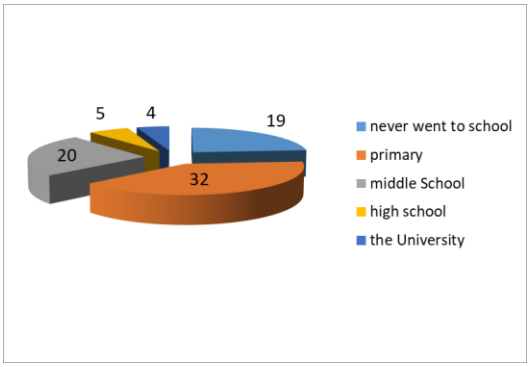

Figure 2: *Level of study of mothers.*

Awareness of Newborn Sleep Patterns

Only 30% of the women recognized the average sleep duration typical for newborns. Regarding sleeping positions, 54 mothers reported placing their babies in the lateral position, while 23.75% preferred the dorsal position.

Understanding of Newborn Sleep Development

A majority of the mothers were unaware of the appropriate age at which a newborn can sleep independently, as shown in (Figure 3). However, 61.25% understood the importance of respecting the child's sleep patterns.

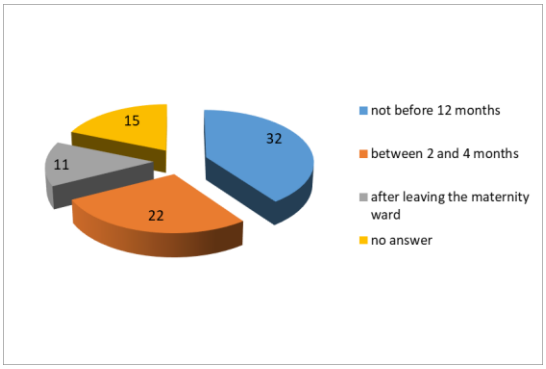

Figure 3: *At what age can a child sleep at night?*

Sleep Rituals and Shared Sleeping Practices

Awareness of the importance of a sleep ritual was noted in only 40% of the women surveyed. Interestingly, a significant 95% planned to practice shared sleeping in the same bed with their newborns.

Perceived Benefits of Sleep

Most mothers (77.5%) acknowledged that sleep contributes to the child's development. All participants expressed a desire for more information regarding their child's sleep, highlighting a clear need for educational support.

Discussion

Newborn Sleep Characteristics and Differences from Adults

Newborn sleep markedly differs from adult sleep in duration, cycle length, sleep phase distribution, rhythm, and sleep onset. Newborns require approximately 16 to 20 hours of sleep daily [1], distributed across multiple short sleep cycles lasting about 50-60 minutes [1,2]. Unlike adults, newborns' sleep cycles consist mainly of two stages: active sleep (analogous to REM) and quiet sleep (NREM). They enter REM sleep almost immediately after sleep onset, whereas adults typically enter REM after a longer period of NREM sleep [3,4].

Average Sleep Duration and Sleep Cycles

The newborn's extensive sleep duration supports rapid brain growth and development [5]. Sleep cycles are shorter and simpler, with approximately equal time spent in active and quiet sleep, contrasting with adults' longer cycles and more complex NREM stages [6]. By around 3 months, infants begin transitioning to a more adult-like sleep architecture with longer cycles and a circadian rhythm [7].

Safe Sleep Position: Supine Recommended

The supine sleep position is the safest for infants and is strongly recommended to reduce the risk of sudden infant death syndrome (SIDS) [8]. The prone (ventral) position has been consistently linked to increased SIDS risk [9]. Side sleeping is discouraged because it is unstable, and infants can easily roll onto their stomachs, increasing SIDS risk [10]. The American Academy of Pediatrics (AAP) recommends placing infants on their backs for every sleep [8].

Development of Sleep-Wake Rhythms: From Ultradian to Circadian

Newborns initially exhibit an ultradian rhythm with sleep-wake cycles repeating every 3 to 4 hours [11]. By about 3 months, a circadian rhythm emerges, aligning sleep patterns with the 24-hour day-night cycle [7]. This transition is influenced by environmental cues such as light exposure and parental behavior [12,13].

Role of Environment and Parental Intervention

Parents play a crucial role in establishing the infant's biological rhythms. To promote nighttime sleep, parents should emphasize day-night differences: stimulating the infant during the day with bright light and interaction, and minimizing stimulation at night with dim lighting and quiet voices [12,13]. Consistent bedtime routines and sleep-friendly environments facilitate circadian rhythm development [13].

Breastfeeding and Shared Sleep as Natural Behaviors

Breastfeeding and shared sleep are considered natural biological behaviors that support infant development and bonding [2]. These practices require learning and adaptation, often referred to as a "sensitive period" in the first weeks of life [14]. However, safe sleep guidelines must be followed to minimize risks associated with bed-sharing [14].

Risks of Side Sleeping: Instability and Physical Effects

Side sleeping is not recommended due to its instability and the risk of rolling onto the prone position [10]. Additionally, prolonged side sleeping can contribute to positional plagiocephaly (flat head syndrome) and torticollis (neck muscle tightness), which may affect infant comfort and development [15,16]. Newborn sleep is characterized by longer total sleep time, shorter and simpler sleep cycles, immediate REM onset, and an initially ultradian rhythm that matures into a circadian rhythm by about three months. Safe sleep practices emphasize the supine position, avoidance of prone and side sleeping, and parental strategies to

support biological rhythm development. Breastfeeding and shared sleep are natural behaviors but require safe implementation.

Conclusion

Following the analysis of our survey, it became evident that many mothers possess insufficient knowledge regarding their child's sleep patterns, needs, and safe sleep practices. This gap in understanding can have significant implications for both infant health and parental well-being. Sleep is a critical component of infant development, influencing cognitive growth, emotional regulation, and physical health. Without adequate information, mothers may struggle to establish healthy sleep routines, recognize normal sleep behaviors, or implement safe sleep environments. Similarly, the maternity ward stay immediately following birth represents a critical window for reinforcing and personalizing sleep education. Healthcare professionals can provide hands-on guidance, address specific concerns, and support mothers in establishing effective sleep routines from the outset. This approach also facilitates early identification of sleep-related issues and encourages parental confidence. Implementing structured educational programs during these periods can improve mothers' understanding and management of infant sleep, ultimately promoting healthier outcomes for both infants and families. Such programs might include informational brochures, interactive workshops, one-on-one counseling, and the use of multimedia resources tailored to diverse learning preferences. In conclusion, addressing the identified knowledge gap through targeted education during pregnancy and postpartum care is essential. By equipping mothers with accurate, evidence-based information about infant sleep, healthcare providers can foster safer sleep environments, reduce parental stress, and support optimal infant development.

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