THE EFFECTS OF PACIFIER ON THE TYPE OF FEEDING IN INFANTS YOUNGER THAN 24 MONTHS

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Introduction

Families often offer pacifiers to their children based on the common belief passed down through generations that pacifiers can calm down children \(^{(1,2)}\).

Pacifiers usually are included in the baby layette and are bought even before the child’s birth. Studies have shown that the prevalence of pacifier use is high in the first month of live even among those babies who are born at Child-Friendly Hospitals \(^{(3,4)}\).
• Step nine of the United Nations Children’s Fund/World Health Organization “Baby Friendly Hospital Initiative which consist of ten Steps to successful breastfeeding” states “give no artificial teats or pacifiers (to breastfeeding infants) (5).

• However, a growing body of researches now indicates an association between pacifier use and a reduced risk of sudden infant death syndrome (SIDS), (8-12) leading to the revised American Academy of Pediatrics statement:
  ➢ “Consider offering a pacifier at nap time and bedtime.
  ➢ For breastfed infants, delay the introduction of a pacifier until the infant is 1 month old, to ensure the breast-feeding is firmly established (12).
The aims of the study are:

1. To evaluate the effect of pacifier on type of infant feeding
2. To evaluate sleeping hours duration differences between cases and control.
Patients and methods:

- Convenient case control study of 473 infants who are below 24 months of age were enrolled in this study. Those using a pacifier were 224 while 249 were not.
- The study was conducted during 6 weeks period between 6th of January to 17th of February 2013.
- The cases and control samples were collected from Ibn Al-Atheer, Al-Salaam, Al-Khansa'a and Ibn Sina teaching hospitals in Mosul city.
Patients and methods:

- After taking the **verbal consent** from the mothers of infants included, they were asked to answer questions included in the questioner form regarding usage of pacifier. The **demographic characteristics** of studied sample and **type of infants feeding** were included in the Inquiry.
- Data entry and analysis was done using the statistical package for the social sciences (**SPSS**) 17th edition software.
RESULTS
Those using a pacifier were **224 (47.06%)** while 249 (52.94%) were not.
The first week of life is the age mode of pacifier introduction among studied sample.
Infants who are breast fed are significantly less frequent pacifier users than bottle or mixed pattern feeders (P value < 0.001) (Figure 1).

Figure (1): Types of milk feeding in relation to pacifier use among studied sample.
Breast fed pacifier using infants significantly shifted to bottle feeding earlier than non pacifier using breast fed infants (p=0.014).

<table>
<thead>
<tr>
<th>Time of change to bottle feeding (in months)</th>
<th>PACIFIER</th>
</tr>
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<tbody>
<tr>
<td>Percentage (%)</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time of change to bottle feeding(months)</th>
<th>BREAST FEEDING PACIFIER USER</th>
<th>BREAST FEEDING NON PACIFIER USER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ±STD error of mean</td>
<td>5.00±3.51</td>
<td>7.78±0.36</td>
</tr>
</tbody>
</table>
Breast feeding duration is not significantly **shorter** in those who use pacifier compared to non pacifier users (P value= 0.118)

<table>
<thead>
<tr>
<th>Duration of breast feeding in months Mean ±STD error of mean</th>
<th>BREAST FEEDING PACIFIER USER</th>
<th>BREAST FEEDING NON PACIFIER USER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of breast feeding in months Mean ±STD error of mean</td>
<td>6.68±0.59</td>
<td>8.98±0.43</td>
</tr>
</tbody>
</table>
Mothers were the main decider of initiation of pacifier using.
There is no significant relation between maternal age and decision of pacifier use ($p=0.354$)
Although there is **reverse relationship** between the use of pacifier and education level of mothers after primary school stage, **among pacifier using group.**
There is no significant association between maternal education and pacifier use among the compared cases and control groups (p=0.137).
Housewives were the main users of pacifier compared to employed mothers.

<table>
<thead>
<tr>
<th>Odds Ratio</th>
<th>Value</th>
<th>95% Confidence Interval</th>
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<tbody>
<tr>
<td></td>
<td>0.265</td>
<td>Lower: 0.098</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper: 0.718</td>
</tr>
</tbody>
</table>
There is no significant difference in number of diarrheal attacks \((p=0.287)\) and number of admissions due to gastroenteritis \((p=0.648)\) among breast feeding infants in relation to pacifier use.
Sleeping hours at day time are significantly longer among pacifier users ($p=0.003$) whereas no significant difference is found regarding nocturnal sleeping hours ($p=0.525$).
Discussion

• The study revealed that infants who are breast fed are significant less frequent pacifier users than other types of feeding. This is supported by the study of oral health and preventive dentistry (OHPD) in Brazil which stated that breastfeeding for a duration of > 6 months was an independent protective factor against persistent pacifier sucking.\(^{(13)}\)

• This is also was the case in another study carried out by São Paulo State University (UNESP) in Brazil which concluded that breast-feeding was negatively correlated with pacifier use and thumb sucking.\(^{(14)}\)
• Breast fed pacifier using infants were *shifted* to bottle feeding earlier and more frequent than non pacifier using breast fed infants.

• A possible explanation, as stated by an *American study*, is that early oral experiences that require sucking mechanics different from those required for breastfeeding are believed to contribute to the development of improper latch and subsequent breastfeeding failure—a problem described as *nipple confusion*.\(^{(15)}\)
• The effect of pacifier use on duration of breast feeding pacifier users was not significant. This result is shared with a Malaysian study which concluded that Pacifier use, started from birth or after lactation is established, did not significantly affect the prevalence or duration of exclusive and partial breastfeeding up to 4 months of age. (16)

• Pacifier use didn’t significantly increase the number of diarrheal attacks (p= 0.287) or number of admissions due to gastroenteritis (p=0.648) among breast fed infants. This also what was concluded by a case-control study in Florence-Italy during 2012 (17).
• Educational level is no statistically associated with pacifier use among the studied compared cases and control groups other investigator reached to same conclusion (14).

• This is reinforced by the yielded result from our study that housewives were the main users of pacifier compared to employed mothers, which is in turn attributed to better educational level of employed mothers.
CONCLUSION

- Infants who are breast fed are significantly less frequent pacifier users than bottle or mixed pattern feeders.
- Breast fed pacifier using infants significantly shifted to bottle feeding earlier than non pacifier using breast fed infants.

RECOMMENDATION

- These findings suggest that breast-feeding may prevent the occurrence of pacifier habit.
- Given the known facts about benefits of breastfeeding, parents should be informed about the link between pacifier use and earlier shifting to bottle feeding in order to help them make informed decisions about their children's care.
References:


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