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## Mothers' knowledge and practice of infant sleep position

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**Abstract** *Background:* Prone sleeping by infants has been associated with increased risk of sudden infant death syndrome (SIDS). Many child caregivers continue to be unaware of the association of SIDS and infant sleep position and/or are misinformed as to the risks and benefits of the various sleep positions.

*Objectives:* To explore mothers' knowledge and practice of infant sleep position and SIDS.

*Methods:* The study was conducted in April – August 2012 amongst mothers of infants attending the Paediatric Outpatient Clinics of the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria. A structured questionnaire was used to obtain information on biodata and knowledge and practice of infant sleep position and SIDS. Data were analyzed using SPSS version 16.0.

*Results:* A total of 282 mothers participated in the study; 167 (59.2%) of them had tertiary

education while 265 (94.0%) were married. The commonest sleep position was prone position (44.3%). Baby's comfort was the commonest reason for choice of position. There was no significant relationship between mother's age and education and choice of infant sleep position ( $p > 0.05$ ). A total of 229 (81.2%) respondents were unaware of any medically recommended sleep position. Of those who were aware, the commonest source of knowledge was grandmothers. A total of 99 (35.1%) respondents had heard of SIDS but over 80% of them did not know the cause.

*Conclusion:* Mothers in Port Harcourt have poor knowledge of infant sleep position. Doctors should take more active part in educating mothers on safe child care practices.

**Key words:** Infant sleep position, mothers, sudden infant death syndrome, Nigeria

### Introduction

Sleeping in the prone position by infants has been associated with increased risk of sudden infant death syndrome (SIDS)<sup>1</sup>. SIDS is defined as the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted, including a complete autopsy, examination of the death scene, and review of the clinical history<sup>2</sup>. It is the leading cause of postneonatal death in the United States, accounting for approximately 2200 infant deaths each year<sup>3,4</sup>. Although the aetiology of SIDS is unknown, placing the infant to sleep in the supine position has been found to be significantly associated with a decrease in the rate of SIDS<sup>5</sup>.

Reducing the risk of SIDS is an important public health priority in the United States of America (USA)<sup>3</sup>. This has led to the recommendation by the American Academy of Pediatrics (AAP) that infants be placed to sleep in the supine position in order to reduce the incidence of

SIDS.<sup>6</sup> In many developed countries including the United States of America that implemented the 'Back to Sleep' public education campaign, there has been remarkable reduction in the incidence of SIDS<sup>7,8,9,10</sup>. However, many child caregivers continue to be unaware of the association of SIDS and infant sleep position and/or are misinformed as to the risks and benefits of the various sleep positions<sup>11</sup>.

The choice of infants sleep position by caregivers is influenced by many factors. These include maternal age, race, parity, education, income, parental needs and beliefs, prematurity, infant's age and recommendations received from specific sources<sup>12,13</sup>. Young maternal age, high parity, black race, preterm birth, maternal smoking and substance abuse during pregnancy and postnatal exposure to environmental cigarette smoke are some of the identified risk factors for SIDS<sup>12,13,14</sup>. Recent data from the National Infant Sleep Position Survey in the USA suggests that African American infants born to mothers in all educational and income categories are

consistently and increasingly placed in the prone sleep position and remain twice as likely to die from SIDS as Caucasian infants<sup>15,16,17</sup>. In Africa, there is paucity of data on the relationship between infant sleep position and SIDS. The present study was conducted to explore mothers' knowledge and practices concerning infant sleep position and SIDS in Port Harcourt, Nigeria.

## Materials and Methods

A cross-sectional survey carried out over a period of four months from April to August, 2012 among mothers of infants attending the Paediatric Outpatient and Well-baby clinics of the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt, Nigeria. The study group comprised of mothers who presented with their children to the hospital on each clinic day. The participants were selected by random sampling of these mothers using the numbers assigned to them by the nurses and only those mothers with infants were recruited for the study. A total of 282 mothers were recruited into the study.

A structured, anonymous questionnaire was used to obtain information on biodata, knowledge and practice of infant sleep position and locations as well as knowledge on SIDS. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 16.0 (SPSS Inc., Chicago, Illinois, USA). The differences among groups were assessed using Pearson's Chi-square ( $\chi^2$ ) test. Probability (p) values of less than 0.05 were considered statistically significant.

## Results

Two hundred and eighty two mother-infant pairs participated in the study. Majority of the mothers were in the age range 25 - 34 years. Two hundred and sixty five (94.0%) of them were married while the others were single mothers. One hundred and sixty seven (59.2%) had tertiary education while 250 (88.7%) had between one and three children (Table 1). The mean age of the babies was  $5.9 \pm 3.8$  months. One hundred and three (36.5%) were reported to sleep on a cot/crib while 179 (63.5%) did not. Of these, 114 (63.7%) slept with their mothers on the bed, 60 (33.5%) slept with both parents on the same bed whilst 5 (2.8%) shared a bed with one or more siblings.

Table 2 shows reasons for not putting babies to sleep on a cot or crib. The commonest reason given was that it was easier to reach the babies when they needed help.

**Table 1:** General characteristics of the mothers

Age range (years)	Frequency	Percent (%)
20 – 24	27	9.6
25 – 29	99	35.1
30 – 34	115	40.8
≥ 35	41	14.5
<i>Marital status</i>		
Married	265	94.0
Single	17	6.0
<i>Educational status</i>		
Primary	18	6.4
Secondary	97	34.4
Tertiary	167	59.2
<i>Number of children</i>		
1 – 3	250	88.7
4-6	30	10.6
≥ 6	2	0.7

**Table 2:** Reasons for non use of cots/cribs by the mothers (n=179)

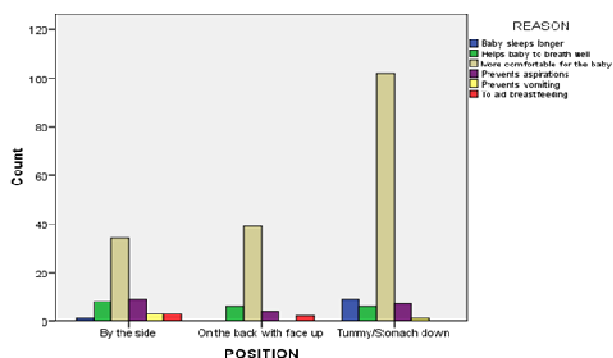
Reason	No	(%)
Baby refuses to sleep on cot/crib	10	5.6
Easy to reach baby when he/she needs help	87	48.6
Father wants to get used to baby	10	5.6
No cot/crib	23	12.8
None stated	39	21.8

Table 3 shows sleep position and reasons for choice of position. Two hundred and thirty four (83.0%) of the babies had a particular sleep position. Of these, 125 (44.3%) usually slept in the tummy down/ prone position. The commonest reason for choice of sleep position, irrespective of whether it was side, supine or prone was that it was more comfortable for the baby (Fig 1). Perceived comfort of the baby was significantly associated with the choice of sleep position ( $p < 0.001$ ). There was no significant relationship between mothers' age and choice of infant sleep position ( $p = 0.291$ ), or between mothers educational status and choice of infant sleep position ( $p = 0.608$ ).

Fifty three (18.8%) respondents were aware of a recommended sleep position for infants. Sources of knowledge on infant sleep position are shown in Table 3. Grandmothers were the highest source (33%) of knowledge, followed by nurses. Ninety nine (35.1%) respondents had heard of SIDS. Reported causes of SIDS amongst the mothers included suffocation (5.3%), aspiration (7.4%) and spiritual attack (1.1%). The rest of the mothers either did not know or had never heard of SIDS.

**Table 3:** Infant sleep position and reasons for choice of position

Sleep position	Frequency	%
On the side	58	20.6
On the back (supine)	51	18.1
Tummy down (prone)	125	44.3
No particular position	48	17.0
<i>Reasons for choice of sleep position</i>		
Baby sleeps longer	10	3.5
Helps baby breathe well	20	7.1
More comfortable for baby	175	62.1
Prevents aspirations/choking	20	7.1
Prevents vomiting	4	1.4
Aids breast feeding	5	1.8
None	48	17.0

**Fig 1:** Reasons for choice of infant sleep position**Table 4:** Sources of knowledge on infant sleep position

Source	Frequency	Percentage
Books	5	1.8
Doctors	13	4.6
Friends	18	6.4
Grandmother	93	33.0
Neighbours	10	3.5
Nurses	40	14.2
Other relatives	23	8.2
Self	25	8.9
None /unaware	55	19.5
Total	282	100.0

## Discussion

The present study showed that close to half of the babies sleep in the prone position. This is very worrisome as this position has been recognised as a risk factor for SIDS in several reported studies<sup>1,7,8,9</sup>. The commonest reason given for choice of sleep position irrespective of whether supine, prone or otherwise was comfort. Different authors had reported that the position perceived by mothers as most comfortable for their babies was very influential in choosing the sleep position for their infants<sup>19,20,21</sup>. Mothers who thought that their infants were more comfortable sleeping in the prone position were more likely to choose this position for their infants and those who thought that their babies were more comfortable in the supine position were more likely to place their infants in the supine position<sup>19,20</sup>. This is in consonance with the findings in this study. Another important factor affecting mother's choice of infant sleep position is the risk of choking and ability of the baby to breathe well and this has also been reported in a previous study<sup>22</sup>. Mothers who believe that their infants will choke in the supine position are also less likely to lie their infants on their back to sleep<sup>22</sup>.

There was no significant relationship between mothers' age or educational status and choice of infant sleep position. This emphasizes the fact that mothers need to be given specific information about safe infant sleep position. This may be inculcated into the school curriculum as part of health education or information given routinely to mothers during the antenatal period.

Bed sharing either with parents or siblings was a common phenomenon noted in the present study. Although only a small proportion of mothers reported not having cots/cribs, most still preferred to share a bed with their infants. Sharing a bed with an infant is common practice in our environment and many other countries and there have been controversies over its contribution to SIDS<sup>23,24</sup>. However, in recent times there seems to be growing evidence linking the practice and SIDS. To prevent sleep-related infant deaths, the recommendation is that infants share a room with their parents, but not a bed for sleeping<sup>25</sup>.

Very few respondents in the present study were aware of a recommended sleep position for infants. This may be because unlike in many developed countries, SIDS does not feature as one of the major causes of infant mortality in Nigeria and so rarely features as a topic for health education even among healthcare providers. Many of the respondents had also not heard of SIDS. This may imply as earlier stated that healthcare providers in this environment do not educate parents about the condition. This is further supported by the finding that doctors were a very small source of knowledge on infant sleep position. Grandmothers and nurses were high contributors as sources of knowledge on infant sleep position. The study did not go on to explore what knowledge was passed on by these individuals to mothers but it has been reported that advice from doctors and nurses tended to affect mothers' choice of infant sleep position.<sup>20</sup> Oden et al<sup>19</sup> in a study conducted in Washington DC in the United States of America (USA), found that infants with a grandmother living in the home were more likely to be placed in the prone position for sleep. Grandmothers play an important role in maternal and child care in Nigeria and Africa at large; they are therefore an important target group for education on improved child care practices including safe sleep position for infants.

## Conclusion

In conclusion, mothers in Port Harcourt have very poor knowledge of safe sleep position for infants irrespective of their age or educational status. The prone position was the preferred infant sleep position and infants' comfort was the greatest reason for choice of any sleep position. Health care providers are not providing needed information to mothers on safe sleep practices for infants. It is thus recommended that health workers, especially doctors should play a key role in disseminating information on safe sleep practices for infants in the clinics, through the media and in any contact with mothers of young infants.

### Authors' contributions

Both authors conceived the study, designed the study instrument, prepared and approved the final version of the manuscript.

**Conflict of Interest:** None

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