This study examined the effect of the young child-carrying practices of Nigerian women on gross motor and language development in young children. The data collected were designed to help ascertain if and how these practices affect the child's later development. The data documented a variety of factors, including: general medical background, delivery history, statistical Apgar (measures for infant's well being), birth weight, and physical abnormalities; also documented were feeding method and position, sleeping location and position, chronology of adult-assisted infant carrying related to the child's gross motor development during floor time, carrying practices, and language acquisition. The study found that carrying practices in Nigeria are a cultural and logistical necessity for mothers for purposes of transportation, field and farm work, and child safety. It was also found that through observation, the Nigerian adult teaches the next milestone to the infant, for example, propping the infant to teach sitting or holding the infants' hands above his or her head while teaching walking. Recommendations were made to revise the study questionnaire to provide sufficient space and a clear definition to the population of what was meant by "floor time." The study concluded that more observational study is needed and the demonstration of developmentally appropriate practices will aid in the competency and well being of Nigerian infants. (A copy of the questionnaire is included.) (Author)

********************************************************************
********************************************************************
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. ***************************************
ABSTRACT

The Effect of the Young Child-Carrying Practices of Nigerian Women: on Gross Motor and Language Development in Young Children

by

Diana Suskind Ed.D,
Tony Onon Iseghohimhen M.B, B.S (lb) M.S.I, MNM A,R,N, D, C,
and
Hon. Mrs. Patricia Ashi Aondo-Akaa

This study examined the effect of the young child-carrying practices of Nigerian Women: on gross motor and language development in young children. The data collected will help ascertain if and how these practices effect the child's later development. The data documented general medical background, delivery history, method of delivery, statistical Apgar, birth weight and physical abnormalities, feeding method, position during feeding, sleeping location, sleeping position, chronological time frame of adult assisted infant on their own gross motor development during floor time, carrying practices, and language acquisition.

Additional African customs will be addressed in relation to the family bed, numerical number of wives and position of mother an other wives helping hands.
The Effect of the Young Child-Carrying Practices of Nigerian Women: on Gross Motor and Language Development in Young Children
by
Diana Suskind Ed.D, Tony Onon Iseghohimhen M.B, B.S (1b) M.S.I, MNM A,R,N, D, C, and Hon. Mrs. Patricia Ashi Aondo-Akaa

Abstract

This study examined the effect of the young child-carrying practices of Nigerian Women: on gross motor and language development in young children. The data collected helped ascertain if and how these practices effect the child's later development. The data documented general medical background, delivery history, method of delivery, statistical Apgar, birth weight and physical abnormalities, feeding method, position during feeding, sleeping location, sleeping position, chronological time frame of adult assisted infant on their own gross motor development during floor time; carrying practices, and language acquisition. Additional African customs were addressed in relation to the family bed, numerical number of wives and position of mother and other wives helping hands.

Introduction

A pilot study consisting of approximately twenty-five Nigerian mothers and their infants, who were out-patients at the privately owned Harmony Clinics and Maternity located in Vandeikya, Benue State, Nigeria, were sitting on benches waiting for their infants to be weighed in and to receive their shots of diphtheria vaccine (Photo #1). Dr. Suskind, the primary investigator, set up an area, covering the cement floor with two mats, and placed objects for the infants to observe and touch while they moved freely. Parents were asked to sit near their infants and observe how competent their infants were. Dr. Suskind had three goals:

1. Provide an environment in an institutional setting that allows infants and small children to develop physically and mentally in a healthy way. (The principles and methods were developed based on her training under the guidance of Anna Tardos and Gabriella Puspoky at the Emmi Pikler National Methodological Institute of Residential Nurseries in Budapest, Hungary and extensive study with Magda Gerber, founder and director of Resources for Infant Educarers in Los Angeles, California.)

2. Model this non-intrusive respectful approach for medical support staff and parents which allowed infants to simply be, to explore their environment on their own terms by doing what they were competent to do while waiting for medical attention. If a child was not ready to sit on his own, then the child would be placed on...
his back and not be propped up by pillows or placed in any kind of restrictive equipment.

3. **Model verbal communication** such as telling the infant what you are going to do before doing it and then waiting for a signal. Mother to infant: “Daniel, I am going to pick you up.” Nurse assistant to the infant: “See the needle. I am going to give you a shot. Here is the cotton ball with disinfectant to sterilize (clean) the area. Here comes the shot. It may hurt you for a few minutes. This shot will protect you from disease.” (photo # 2)

The researcher created the terminology “Tarry Time” which is defined as the time in speech between one end point and the next beginning point. It is the length of time that we are willing to wait for a reply. An infant requires many seconds to respond to the external stimulus. Waiting several seconds gives the infant time to make sense out of the adults’ interaction. This is an indication of our respect to an infant.

**Theoretical Framework**

The overall theoretical framework of the pilot study is based on allowing an infant to progress naturally with his gross motor development. The underlying assumption proposes that infants do not need to be taught sensory-motor skills before they would learn them on their own.

1. Through gross motor development, the infants can learn actions by self-initiation. Three categories of gross motor abilities include:
   a) basic static and transitory positions lying on the back or side or stomach, half-way sitting, sitting, kneeling, being on all fours, squatting, standing;
   b) changes in body positions: different ways to move: from back to stomach (supine to prone), from stomach to back, to sit up, to rise to knees, to get up on all fours or on feet, to get down; and
   c) locomotion-ways of changing location, tumbling, rolling, crawling, creeping, walking, running.

2. fine motor abilities: eye-hand movements such as touching, grasping, holding, manipulation, letting go-- forerunners of play

3. sensory abilities: sight, hearing, touch, smell, taste

**Procedures**

**Part I:** July 23rd, 1977 Hon. Mrs. Patricia Ashi Aondo Akaa and two assistants interviewed the mothers. They used the questionnaire developed by the three principal investigators inquiring about their babies. Mothers and babies were waiting for the infant to be weighed and immunized.

**Part II:** Simultaneously Dr. Suskind arranged for two mats to be placed on the concrete floor surrounded by a couple of objects (simple toys). Upon completing the questionnaire, Dr. Suskind invited mothers to join her on the floor with their babies.
She then asked to place their infant on their backs, kneel or sit next to the baby and simply observe the competence of their infants. By placing newborn infants, who naturally assume fetal positions, on their backs allows free, spontaneous movement of all the joints, relaxed breathing and developing “body wisdom” (Gerber). This term used by Gerber refers the developing infants judgment for choice of movement.(photo#3)

Findings from the Questionnaire

Social Background Data

All families came from the TIV Tribe. The infants ages range from one week to one year of age. The mothers ages range from eighteen to twenty seven years of age. Two mothers are housewives and the rest state their occupation as farmers. The occupation of their husbands is stated as farmer as well. All participants state there is only one wife in each family. Several state that their mothers and younger siblings assist in caring for their infants. The number of children in each family range from one to four.

General Medical Background Data

All women in this study received regular prenatal care at HCM Vandekeya. Delivery took place at HCM Vlikya. Immunization histories range from receiving none to receiving BCG, T.T, measles, DPT, oral polio, ONU, OPU, and tetanus. Method of Delivery predominately was natural with one episitomy documented. Statistical measures for infant’s well being score (Apgar) ranged from 7 to 9. Birth weight ranges were 2.3 kg to 3.2 kg. Physical abnormalities were reported as normal, no abnormalities.

Feeding Method

The vast majority fed their infant by breast alone. Several supplemented with infant formula. The Position During Feeding was: 1. the infant is lying on the mother’s lap, 2. the mother is lying down, with the infant by the mother’s side(broad belt) shawl and 3. the infant is sitting on the mother’s lap. The child’s most frequent sleeping location was unanimously the family bed. The baby’s sleeping position started with the mother placing the infant in a supine position (on her back). As the infants grew the position of the infant would sometimes be prone and side.
Carrying Practices

The practices of carrying an infant range from "sometimes at back;" "at back and shoulder;" "mostly in my hands;" "two hands in the armpit and supporting the neck;" "back, hand, and chest;" "sometimes at back or side". All participants stated that the infant is carried when feeding and when the baby cries; also, one indicated, "when the mother walks to work." Participants carry their babies the above ways because "the infant feels comfortable and the mother does to;" "she is not so strong;" "to ensure protection from injury;" and "so then the baby will not get tired." The stated advantages are "it is comfortable and stable for the infant." The disadvantages are "heat;" "if not properly carried" and "the baby can fall off unless stable." The sample population all believe during carrying practices the infant is safe. Any concerns about the baby are toilet ability/communication and baby's comfort. Folded neck and legs were not a concern. Duration of time in one day with a child on mother's back: time ranges from one hour and twenty minutes to two hours and ten minutes. It occurs when walking and working. Number of times child is placed on the mother's back ranges from two to four times in a day. Amount of floor time during three month sequence was left blank. No data was gathered.

Language Acquisition

This section was not addressed with the exception to the question "How often do you scoot the child up while on your back?" Responses vary from "very often," "as soon as the position is disturbed," "not regularly," "not quite often," and "very frequently."

Observational Findings

Compared to being held on their mothers' laps, infants on the floor became more actively involved and less passive. They experienced equilibrium (one infant peacefully fell asleep) and some disequilibrium (the infants changed their position) so that self-initiative (able to begin, to bring into practice or the use, the characteristic of originating new ideas or methods) was begun. Infants had an opportunity to develop self-initiation, their intrinsic (inner, deep-rooted) motivation to learn was encouraged. A crawling baby had an opportunity to touch and look closely at a younger infant (photo #4, #5) and demonstrated interest in the baby. Another infant observed intently for the first time the face of the researcher, who is Caucasian, and repeatedly looked back and forth between the face of the researcher and the face of her mother, who is black, both looking at her smiling. Noticing the similarities and differences, could she have been comparing the unfamiliar Caucasian face of the researcher with the familiar black face of her mother? (Photo #6)

Medical Staff and mothers were also shown the Pikler method of picking up a baby. Dr. Suskind demonstrated emphasizing using language informing the infant the five steps in the procedure. "I am going to pick you up" (photo #7). Medical staff and parents practiced this procedure. This allowed for slow, respectful interactions.
between the adult and child. The infant was less likely to be startled. In the course of the session the professionals and mothers learn to speak more and the amount of the communication increased. The infants were placed to be weighed in the basket (photo#8) and given a shot for the immunization against diphtheria.

**Discussion**

The study evolved from focusing on the effect of the young child-carrying practices of Nigerian woman on gross motor and language development in young children to a broader theme of what parents do when the child can move more freely. Do they teach the next milestone, such as prop a non-mobile baby into a sitting position? Upon reflection the carrying practices in Nigeria are a cultural and logistical necessity for mothers. They carry their infants on their backs for transportation, when the parent is in the field doing farm work, and so that at home the child won’t get hurt by the open fire. While the infant is on the mother’s back they become like one, taking cues from each other; the mother knows when to unwrap to let the infant release urine and feces.

Amount of floor time during three month sequence was left blank. No data was gathered. The questionnaire did not leave sufficient space to respond and the research assistants may not have understood the term “floor time.” Further research is needed to ascertain the level and kind of language that occurs between infant and mother. The questionnaire did not sufficiently record any data and needs to be adjusted.

**Conclusion**

Through observation, the Nigerian adult “teaches” the next milestone to their infants. They prop the baby to teach them how to sit and hold their hands high to teach them to walk. (Photo#9) before (photo #10 after.

Through this pilot study, the Nigerian women demonstrated an understanding that it is not bad to allow an infant to move freely on his back.

1. This study taught behavior by modeling behavior- reducing adult intrusiveness.
2. The mothers know how to pay attention and can honestly be there or not be there.
3. The adults were able to appreciate and understand feelings of joy when watching a child by valuing the inner-directiveness and self-initiated play.
4. Sees this as an opportunity for an infant to work out conflicts with objects, other children, and adults.
5. Meets the infant’s need for activity and produces an outlet for his curiosity and anxieties.
6. Trusts the child to handle conflicts with the least amount of adult intervention.
7. Infant enjoys and learns from the struggle involved which is necessary in human life in order to solve problems and make choices.
8. The infant’s need for mastery via repetition.
Future Research

No one responded to the amount of floor time during the three month sequence. The questionnaire did not leave sufficient space for investigators to respond and participants may not have understood the term “floor time.” Recommendation to revise the questionnaire to provide sufficient space to record findings and to provide a clear definition to the population of what is meant by “floor time” and/or change the terminology to clear up any misconceptions.

More observational study is needed and the demonstration of developmental appropriate practices will aid in the competency and well-being of their infants. Providing opportunities in the day for the infant to move more freely and value that movement and verbal exchange is advantageous to the infant and adult.
1. At Harmony Clinics and Maternity, Vandeikya, Benue State, Nigeria where mothers with infants are sitting on benches waiting for their infants to be weighed and vaccinated. The adult standing is one of the medical assistants obtaining personal history from the mothers for the questionnaire.

2. An infant receiving the vaccination shot.

3. Non-mobile infants placed on a mat gently are shown moving their arms and hands freely.

4. A mobile child had an opportunity to observe a baby moving his arms freely.
5. The same child gently touched another infant's foot.

6. Infant was observing differences and similarities in adults.

7. "I'm going to pick you up."

8. Adult is shown "teaching" the next milestone.

9. Adult is shown laying on her back while manipulating objects.
References

Gerber, Magda Resources for Infant Educators, RIE Manual, 1550 Murray Circle Los Angeles, California
Pikler, Emmi. Peaceful Babies-Contented Mothers. Freiberg, Germany: Herder/Verlag, 1992 (translated from the German Friedliche Babyszufriedene Mutter, first published in Hungary in 1940 as Mit tud mar a baba)
Suskind, Diana The Importance of Tarry Time Educaring Vol. VI no.4 Fall 1985
Suskind, Diana and Kozma, Marta "A Gentle Approach for Young Infants" ERIC Document (EDRS) in microfiche and paper copy 1996
Chronology of Placement of Photos with Text

1. At Harmony Clinics and Maternity, Vandeikya, Benue State, Nigeria where mothers with infants are sitting on benches waiting for their infants to be weighed and vaccinated. The adult standing is one of the medical assistants obtaining personal history from the mothers for the questionnaire.
2. An infant receiving the vaccination shot
3. Non-mobile infants placed on a mat gently are shown moving their arms and hands freely.
4. A mobile child had an opportunity to observe a baby moving his arms freely.
5. The same child gently touched another infant’s foot.
6. Infant was observing differences and similarities in adults.
7. “I'm going to pick you up”
8. An infant is being weighed in.
9. Adult is shown “teaching” the next milestone.
10. The infant is doing what she is capable of doing, laying on her back while manipulating objects.
Sample Questionnaire  
July 23RD 1997

Title: Young Child Carrying Practices in Nigeria  
PRINCIPAL INVESTIGATORS: 1. Diana Suskind Ed. D.  
2. Dr. Tony Onon Iseghohimhen  
3. Hon. Mrs. Patricia Aondo-Akaa.

I: SOCIAL BACKGROUND  
1. CHILD’S NAME: Mesuur  
   (a) Age: 3 wks  
   (b) Sex: Female  
   (c) Mother’s Name: Nguveren  
   (d) Age: 21 years  
   (e) Occupation of Mother: Farming  
   (f) Occupation of Father: Farming  
      Age: 35 yrs Lives at home, YES or NO (Circle one)  
   (g) Number of wives: 1  
   (h) Position of mother: Short  
   (i) Name/Tribe: TIY  
   (j) Number of children by the woman in the family: 1  
   (k) Number of baby nurses (nanny): 1  
      Ages: 10 yrs. relation and family: Sister

II. GENERAL MEDICAL BACKGROUND  
1. Did you receive Prenatal care? (Regularly): Yes  
   Prenatal care (location): HCM Vandekeya  
   Delivery took place: HCM Vlikya  
   Immunization history: BCG.  
      (Tetanus and other)  
   Delivery history: Epicidotomy  
   Date of delivery as compared to EDD (Expected Date of delivery:  
   18/4/92)  
   Date of Delivery E. D. D.  
2. METHOD OF DELIVERY  
   Natural: Epicidotomy  
   Surgical: ________  
   Instrument aided: ________  
   Complication: ________

3. STATISTICS  
   Infant's well being score (Apgar): 9  
   Birth weight: 2.3 kg.  
   Physical abnormalities: Normal

III. FEEDING METHOD  
1. Breast alone: No
2. Artificial food alone: No
3. Both: Both

(A) POSITION DURING FEEDING:
1. Lying: Yes
2. By the side (broad belt) shawl: Yes
3. While infant is sitting on mother’s lap: Yes
4. Other: 

(B) CHILD’S SLEEPING LOCATION (most frequent)
1. Baby cot: 
2. Family bed: Yes
3. Other: Yes

(C) SLEEPING POSITION (Baby is placed in)
1. Suppine (back): Yes
2. Prone: Yes
3. Side: Yes

IV. CARRYING PRACTICES
1. How do you carry your baby?: Sometimes at back.
2. When do you carry your baby?: Crying or walking at work.
3. Why do you carry your baby in this way?: They feel comfortable and mother does to.
6. Do you feel your baby is safe?: Yes
7. Any concerns about the baby’s: Yes
   - Neck: Okay
   - Folded legs: Okay
   - Comfort: Yes
   - Toilet ability/communication: Yes
   - Other: 
8. Duration of time in one day with child on mother’s back: (a) approximately 1 hours 20 minutes State occasion: when walking/working: Both (b) Amount (frequency) of having child placed on mother’s back: Approximate number of times in a day: 2 State occasion: when walking, while working: Both (c) Amount of floor time during 1st 3 months 3-6, 6-9, 9-12, 12-15, 15-18, 21-24. (This is when the infant is doing what he wants to be doing when placed on his back)

9. OTHER HELPING HANDS
   (a) Father
   (b) Other wives
   (c) Siblings
   (d) Nanny
   (e) Grand-mother

V: LANGUAGE ACQUISITION
1. How do you communicate with your child?
   (a) By sign, example: mother open arms, toilet training (conditioning)
   (b) Verbal
<table>
<thead>
<tr>
<th>Skill</th>
<th>Sketch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lying back</td>
<td><img src="image1" alt="Sketch" /></td>
</tr>
<tr>
<td>Turning to side</td>
<td><img src="image2" alt="Sketch" /></td>
</tr>
<tr>
<td>Turning over from supine to prone position</td>
<td><img src="image3" alt="Sketch" /></td>
</tr>
<tr>
<td>Turning from supine position to prone position and back to supine position</td>
<td><img src="image4" alt="Sketch" /></td>
</tr>
<tr>
<td>Scooting backwards</td>
<td><img src="image5" alt="Sketch" /></td>
</tr>
<tr>
<td>Crawling along the ground</td>
<td><img src="image6" alt="Sketch" /></td>
</tr>
<tr>
<td>Creeping above ground</td>
<td><img src="image7" alt="Sketch" /></td>
</tr>
<tr>
<td>Sitting</td>
<td><img src="image8" alt="Sketch" /></td>
</tr>
<tr>
<td>Getting up into a standing position while holding a support</td>
<td><img src="image9" alt="Sketch" /></td>
</tr>
<tr>
<td>Getting up into a standing position on their own</td>
<td><img src="image10" alt="Sketch" /></td>
</tr>
</tbody>
</table>

*Note: Images of sketches are not included in the natural text representation.*
<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
</tr>
<tr>
<td>Walking while holding a support (Child's initiate movement)</td>
</tr>
<tr>
<td>Walking on their own.</td>
</tr>
<tr>
<td>Running</td>
</tr>
<tr>
<td>Toilet training urination.</td>
</tr>
<tr>
<td>Defication &amp; others.</td>
</tr>
</tbody>
</table>
(c) Through demonstration (by adult action of doing).
(d) Tarry time (wait time-amount of silence between verbal interaction)
(e) While infant is on your back
   What do you do when the baby is crying at first
   Example: Shake, dance, breast feed
   allow the infant to comfort himself on his own, remove from the mothers back.
   Changing the baby's position, giving the baby to another person.
(f) How often do you scoot the child up while on your back?-very often

APPRECIATION
My sincere thanks to the Chief Typist, Mr. Damon Daniel Osugh of Federal
Government College, Vandeikya, Benue State-Nigeria who helped in typing out the
manuscript in beautiful style and making necessary corrections, and Vincent Dankwah
is a JSS 2 student of Federal Government College, Vandeikya, a 13 years old boy
who put on the arts work.

Diana Suskind, Ed. D
Dr. Tony Isegohimhen
Hon. Pat. Aondo-Akaa (Mrs.)
I. DOCUMENT IDENTIFICATION:

Title: The Effect of the Young Child-carrying Practices of Nigerian Women on Gross Motor and Language Development in Young Children

Author(s): Diana Suskind, Ed.D., Tony Eseghahumhen, M.B., B.S., M.S., Ed.D.

Corporate Source: Hon. Mrs. Patricia Aish Aondo Akaa

Publication Date: Feb 1998

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) and paper copy.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Signature: Diana Suskind, Ed.D

Printed Name/Position/Title: Diana Suskind, Ed.D

Organization/Address: 160 Pearl Street, Fitchburg, Mass.

Date: March 23, 1998
III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

<table>
<thead>
<tr>
<th>Publisher/Distributor:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>Price:</td>
<td></td>
</tr>
</tbody>
</table>

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
</tr>
</tbody>
</table>

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse: KAREN SMITH
ACQUISITIONS COORDINATOR
ERIC/EECE
CHILDREN’S RESEARCH CENTER
51 GERTY DRIVE
CHAMPAIGN, ILLINOIS 61820-7469

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
1100 West Street, 2nd Floor
Laurel, Maryland 20707-3598

Telephone: 301-497-4080
Toll Free: 800-799-3742
FAX: 301-953-0263
e-mail: ericfac@inet.ed.gov
WWW: http://ericfac.piccard.csc.com

PREVIOUS VERSIONS OF THIS FORM ARE OBSOLETE.