# ASSESSMENT OF GESTATIONAL AGE IN IRAQI NEWBORNS

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## ABSTRACT

Gestational age was assessed in 209 newborns delivered in Basrah Maternity and child hospital using the method of external physical characteristics. Nipple formation, ear form, ear firmness, and genitalia were found to be the best. Planter creases were found to be of no value.

## INTRODUCTION

The assessment of gestational age has become a veritable growth industry in recent years. Complex charts, graphs and tables have been produced, some of which purport to fix the maturity to within a week. This is especially important for preterm infants, or others who seem inappropriately grown according to their obstetric data[1]. The criteria used for estimating gestational age after birth may be divided into those which are based on physical maturation and those that are dependent on development of the nervous system[1]. External physical characteristics have been shown to be of value in assessing gestational age in babies in Sudan[2], U.K[3[, Nigeria[4] and Greece[5]. This paper describes 9 external physical characteristics in determining gestational age in Iraqi babies.

## MATERIALS & METHODS

The assessment was done in Basrah maternity and child hospital during the period from October to

December 1994. All babies less than 48 hours of age were assessed by the method of external physical characteristics as proposed by Dubowitz et al. (1970). These are skin color, skin texture, laungo, ear firmness, ear form, breast size, nipple formation, planter creases and genitalia. The date of the last menstrual cycle was not known to the observer at the time of assessment. All babies whose mothers were not sure of the last date of their cycles were excluded leaving 209 newborns in the study.

## RESULTS AND DISCUSSION

The study included 209 newborns, 105 females and 104 males, the gestational age ranged from 27 to 43 weeks, the distribution of cases over various gestational ages is shown in table 1. The correlation coefficients of the various characteristics with gestational age are shown in table 2. Nipple formation, ear form, ear firmness, and genitalia had the highest predictive value. Table 2 also includes the correlation coefficients in Sudanese, British, and Nigerian babies.

The best characteristics in each include:

1. A measure of breast development-breast size in all studies, nipple formation in Iraqi, Sudanese and Nigerian studies,

2. A measure of ear development-ear firmness in Iraqi, Sudanese and British studies, ear form in Iraqi, Sudanese and Nigerian studies,

3. A measure in skin development-skin texture in all studies, skin color in Iraqi and British studies,

4. Genitalia in Iraqi and British studies.

5. Laungo in Iraqi and British studies.

Planter creases were not found to be of value in our study.

Table 1: Distribution of cases over various gestational ages.

| Gestational age (weeks) | No. of cases |
|---|---|
| < 28 | 2 |
| 28-30 | 3 |
| 31-32 | 8 |
| 33-34 | 8 |
| 35-36 | 10 |
| 37-38 | 31 |
| 39-40 | 83 |
| 41-42 | 55 |
| > 42 | 9 |

Table 2: Comparison between the four studies.

| Characteristic | Correlation Coefficients | | | |
|---|---|---|---|---|
| | Iraqi | Sudanese | British | Nigerian |
| Nipple formation | 0.8096 | 0.473 | - | 0.6975 |
| Ear form | 0.7965 | 0.381 | - | 0.4225 |
| Ear firmness | 0.7655 | 0.452 | 0.78 | 0.3569 |
| Genitalia | 0.7617 | 0.365 | 0.66 | 0.0617 |
| Laungo | 0.7067 | 0.251 | 0.62 | 0.3739 |
| Skin texture | 0.6590 | 0.392 | 0.72 | 0.4221 |
| Skin color | 0.6307 | 0.294 | 0.78 | 0.3664 |
| Breast size | 0.4908 | 0.606 | 0.75 | 0.4517 |
| Planter creases | 0.3003 | 0.317 | 0.76 | 0.3992 |

This study showed that external physical criteria described above may be directly applied to Iraqi newborns and there is no major difference between our study and other studies especially the British study.

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## تقييم عمر الحمل للاطفال حديثي الولادة في جمهورية العراق


أ.د. عماد عودة السعدون ، أ.م.د. ميعاد كاظم حسن


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تم تقييم العمر الحملي الى ٢٠٩ أطفال حديثي الولادة ولدوا في مستشفى البصرة للولادة والطفل، باستعمال طريقة الخواص الظاهرية للطفل وكانت تكون الحلمة، شكل الاذن مع مطاطيتها، شكل الاعضاء التناسلية من الخواص المهمة لتحديد عمر الحمل اما خطوط اخمص القدم كانت غير ذات اهمية.