Strengths And Limitations Of Apgar Score : A Critical Appraisal

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A cross sectional study was undertaken on 200 normally delivered newborns at lady aitchison hospital lahore from august to december 1998. Apgar scores were recorded using the current virginia apgar scoring system at 1 and 5 minute interval. the newborns with scores 0-5 at 5 minutes were considered at higher risk for developing respiratory or neurological complications. our study showed significant difference (p<0.05) in scores of full term average birth weight (3 kg) and preterm low birth weight newborns (< 2 kg). the 5 minutes scores were improved AS compared To 1 minute in 97% cases. More studies are recommended by increasing the apgar scoring time to 10 minutes in order to enhance the predictive value of this score for respiratory or neurological disabilities.
Key words: apgar score. Predictive value .

The apgar score, although somewhat subjective is an imporant delivery room tool. since its introduction in 1952 by virginia apgar, this system has proven valuable in identifying the neonate with compromised health. (1) It comprises of five components Heart rate, respiratory effort, muscle tone, reflex irritibility and colour, each of which is accorded a score range of 0 to 2 evaluated at 1 minue and again at 5 minutes, after birth.(2) the difference between 1 and 5 minutes scores is useful as an indicator of the effectiveness of resuscitative efforts and the newborns adaptation to extrauterine life.(3)

According to 1998 report by unicef in pakistan; the infant mortality rate (imr) is 95/1000 live births and under five mortality rate (u5 mr) is 136/100 live births as compared to united states where imr and u5mr both is only 8/1000 live birth.(4)

the objective of our study was to quickly asses the clinical status of the newborn for carrying out immediate, resuscitative measure and to compare scores of full term and preterm newborns.

Subjects and methods

This cross sectional study was conducted on 200 normally delivered newborns from august to december 1998 at lady aitchison hospital lahore. The apgar scores were recorded using the current apgar scoring system at 1 minute and again at 5 minutes. (5) the components of the score were heart rate, respiratory effort, muscletone reflex irritibility and colour; with a score range of 0 to 2 for each component. A proforma was filled which included expected date of delivery (edd), parity,gravidity and gestational age. Individual scores were added up using the risk score. The new borns with scores 0-5 after 5 minutes were considered at higher risk of developing neurological and respiratory complications.table 1 shows five components of current apgar score and score definition.

Results
Table ii represents % distribution of new borns according to risk score and birth weight. The new borns (12%) with birth weights , 2 kg had low scores as compared to those with 3 kg or slightly more weight (88%).

Table:1: percentage distribution of newborns according to risk score and birth weight.

Risk	Score 1 minute	score 5 minute	birth weight kg.	n=	%
Low	76	76	3 kg or slightly more	177	88
High	0-5	0-5	2	23	12

Table 2:- Percentage distribution of risk score in full term and pre-term new born.

Risk	New born full- term	New born pre-term
Low	81%*	7.5%
High	1.5%	10%*

the preterm newborns (10%) were at high risk having scores between 0-3 at 5 minutes. The results are statistically significant (p<0.05) as compared with full term newborns. The same results are shown in pie diagram (table 111, fig.1).
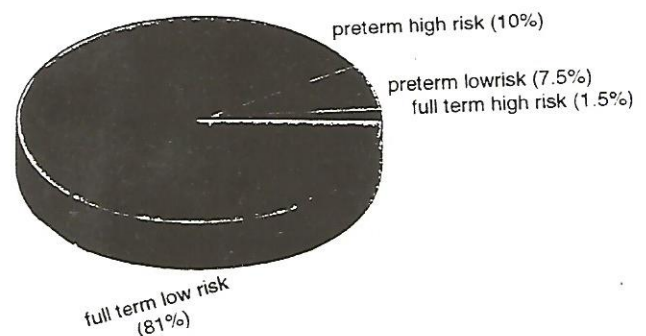

preterm high risk (10%)
preterm lowrisk (7.5%)
full term high risk (1.5%)
full term low risk (81%)

Fig-1:

Discussion:
apgar score, a quantitative assessment is a method of rapidly assessing the general state of the new born and it

was intended to highlight the need for more care of the weaker new born infant.(6) our findings are in accordance with the studies carried by other workers.(7) in our study the newborns presenting with apgar scores 7 to 10 at 5 minutes required no aid other than simple nasopharyngeal suction where as the newborns with scores less than 5 at 5 minutes had to be rescussitated because of respiratory distress.

we suggest that further studies should be undertaken on a larger group of new borns at 1, 5 and 10 minutes in order to enhance the predictive value of apgar score for respiratory and neurological disabilities.

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