



NCPNN Newsletter

NATIONAL COLLABORATIVE PERINATAL NEONATAL NETWORK
RESEAU NATIONAL POUR LA COLLABORATION PERINATALE NEONATALE

NCPNN History:

The National Collaborative Perinatal Neonatal Network (NCPNN) is a voluntary collaboration of physicians, statisticians, and health care professionals, who have joined together to establish a database on the pregnant mother and her newborn infant. The goals of the Network are for outcome research, quality improvement and multicentered clinical trials. It was first initiated, in 1997 and currently involves 10 medical centers.

Follow-up study first year of life Preliminary Results

Introduction:

The first year of life carries a significant risk of morbidity and mortality. In 1998, the global infant mortality rate (IMR) was 58.2 per 1,000 live births, with considerably higher rates among the less developed (63.6 per 1,000) versus the more developed (9.5 per 1,000) countries. About two-thirds of infant deaths occur during the first 27 days of life – neonatal period – and one-third during the post-neonatal period.

Current trends in research have emphasized the role of continuity of care and the issue of early hospital discharge (Hospital stay < 48 hours), and very early discharge (Discharge within 24 hours of life, as described by the American Academy of Pediatrics AAP).

During recent years, insurance companies or third party payers have been refusing payment for hospitalizations of newborns that extend beyond 24 hours following a normal vaginal delivery and 48 hours after a cesarean delivery. This factor contributed tremendously to the increasing numbers and predominance of early discharge. A second reason for the increasing number of early discharges was the inability to pay hospital fees by non-insured parents, rendering them unable to stay beyond the minimum period. Although early hospital discharge of mothers and their newborn infants reduces health care costs substantially, the consequences it may produce remain somewhat indeterminate. In developing countries, early discharge may result in overlooking quite a number of serious illnesses, such as neonatal jaundice, congenital anomalies, neonatal infections, feeding intolerance, etc. that possibly require re-hospitalization, rendering a non-cost effective system. The lack of an adequate health care infrastructure in Lebanon combined with a lack of a well-structured follow-up program, as well as a greater load of patients, with poor follow-up, increases the likelihood of re-hospitalization for many preventable diseases and disorders; moreover, patterns of morbidity in this age group, their causes and consequences remain unknown.

Objectives:

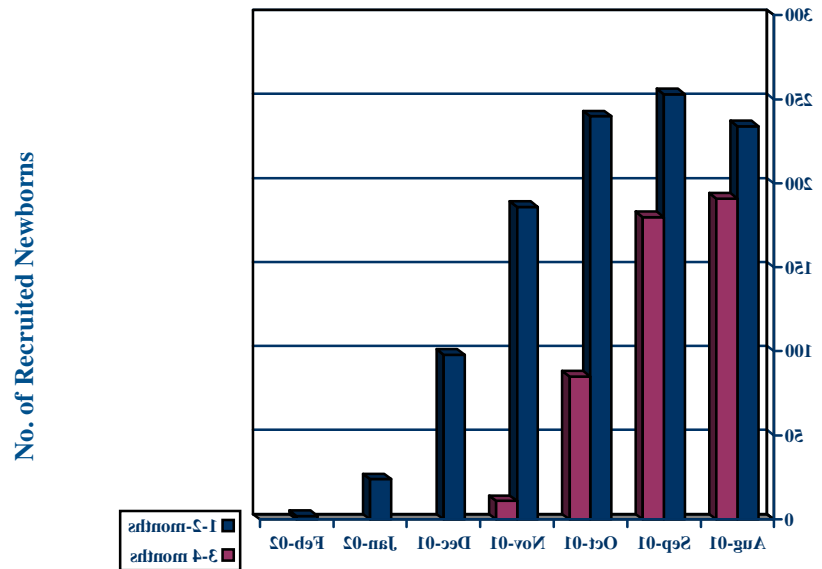
The main objectives of the follow-up study first year of life are to:

- Assess the impact of early discharge on morbidity patterns of infants during the neonatal period of life.
- Identify the causes of morbidity and mortality during the first year of life.

Methodology:

With the collaboration of 114 pediatricians data on 1,205 infants recruited over a period of 6 months, from August 1st, 2001 till February 28th, 2002 have been collected. Pediatricians then continue to follow up the newborns they have recruited by filling 5 questionnaires, one per routine visit throughout the first year of life. Moreover, research assistants are collecting information at six months follow-up.

Fig.1 Pattern of recruitment by month of birth



Bettering the attribute of medical care in virtue of healthy mothers and newborn infants through a coordinated program of research, and scholarship.

Follow-Up study first year of life preliminary analysis and results

Fig 2. Weight at 1-2 months and 3-4 months FUP

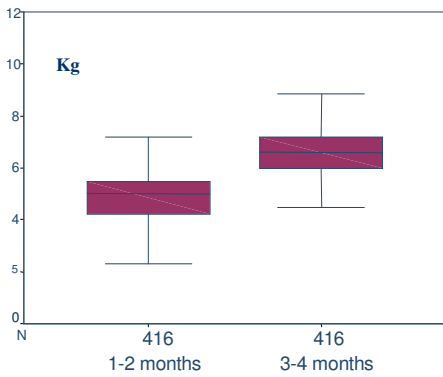


Fig 3. Height at 1-2 months and 3-4 months FUP

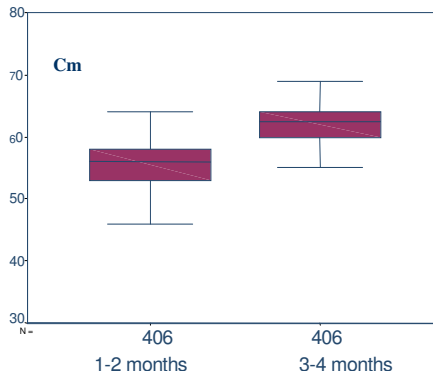


Fig 4. Head circumference at 1-2 months and 3-4 months FUP

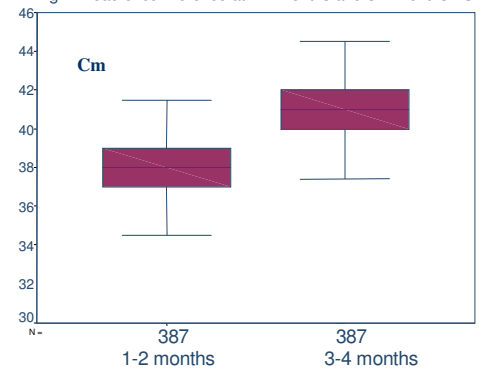


Fig 5. Readmission patterns at 1-2 months and 3-4 months of age

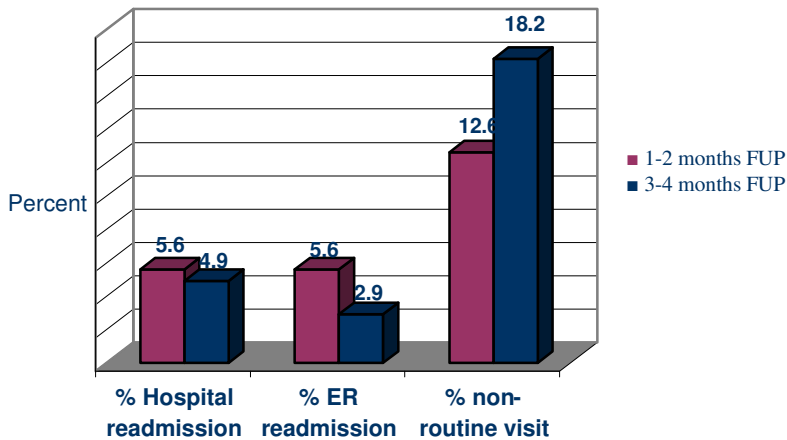
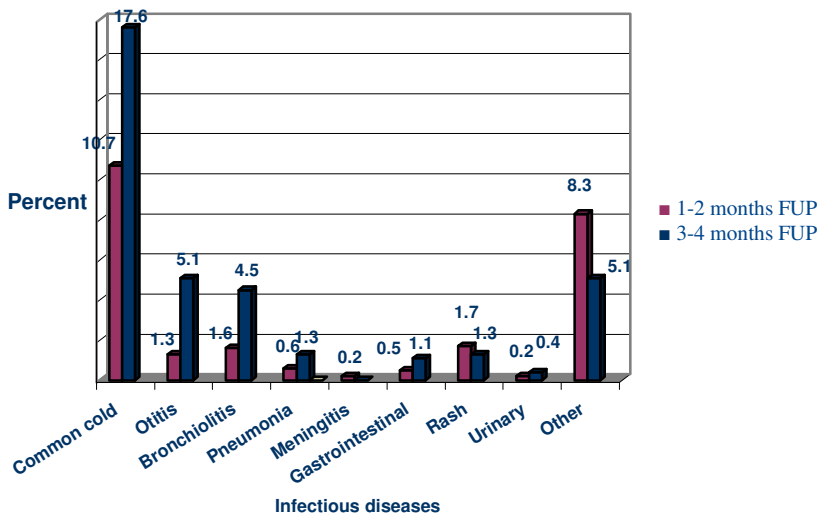


Fig 6. Patterns of infectious diseases at 1-2 months and 3-4 months of age



Statistical analysis:

So far, 1,205 infants have been recruited, over a period of 7 months starting August 1st, 2001 till February 28th 2002, through the joint efforts of 116 pediatricians. Out of those, 1,037 – 541 males and 496 females – had data entered into the computerized database. All 1,037 cases include a 1-2 months FUP and 467 (45.0%) had 3-4 months FUP currently available for statistical analysis (**fig.1**)

The majority of our study population resided in the districts of Beirut and Mount Lebanon. In addition, nearly half were delivered at the ten NCPNN centers. It is worth noting that the inclusion criteria resulted in a sample of infants who were relatively healthy at birth. Information on birthweight, height and head circumference is presented in **figs.2 – 4**.

I. Readmissions and Non-Routine visits:

Nearly 5-6 % of infants were readmitted at least once to the hospital after discharge within the first two months of life or between the first and second routine visit. (**Fig. 5**)

One of the most prevalent reasons for readmissions is hyperbilirubinemia reported by 58 cases at 1-2 month of age and one case at 3-4 months of age.

II. Infectious Diseases:

Overall 22.5 % and 32.9 % of infants had at least one infectious disease prior to the first routine visit (1-2 months FUP) and between the first and second routine visit (3-4 months FUP), respectively. Common cold is highly prevalent at either 1-2 (10.7 %) or 3-4 (17.6 %) months FUP. The incidence of otitis (5.1 %) and bronchiolitis (4.5 %) were also high at 3-4 months of age (**Fig. 6**).

III. Injuries:

A total of eight out of 773 infants were reported injured during the first two months of life, and one infant out of 467 was injured prior to the 3-4 months FUP visit. Three of these reported injuries were the result of falls, one burn, one post partum trauma, and 4 bone fractures.

Fig 7. Patterns of chronic diseases & congenital malformations at 1-2 months and 3-4 months of age

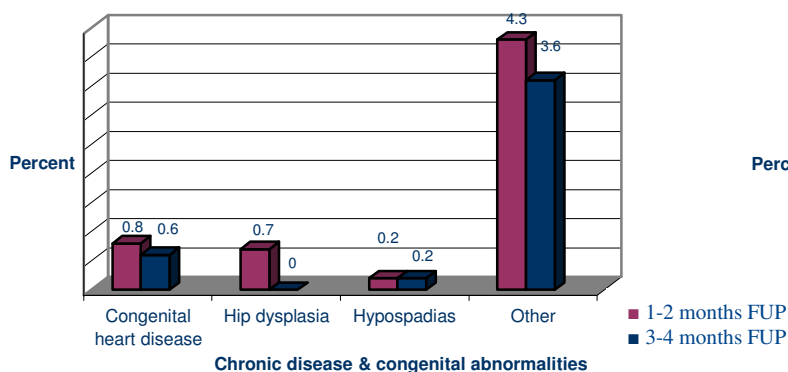
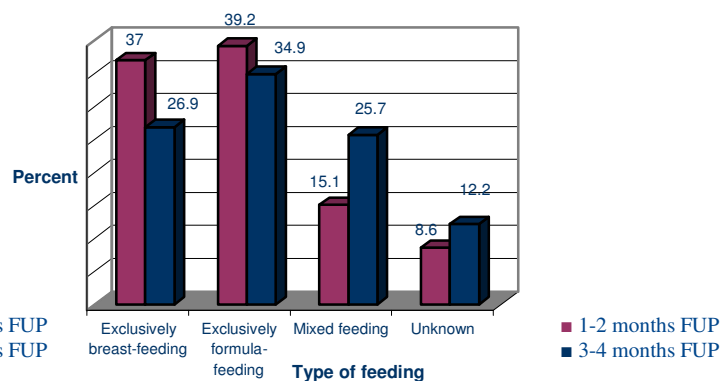


Fig 8. Breastfeeding, formula-feeding and mixed feeding at 1-2 months and 3-4 months of age



IV. Chronic Diseases and congenital abnormalities:

The pattern of chronic diseases and congenital abnormalities at 1-2 months and 3-4 months FUP is represented by congenital heart disease, hip dysplasia, hypospadias, and others including inguinal hernia, diaphragmatic hernia, malformations of the lower extremities, hydrocele, facial hamatoma, labial fusion, erbs palsy, pyloric stenosis, sacroccygeal teratoma, hirschprung syndrome, and Ichtyosis. (Fig 7).

V. Feeding strategies:

37% of infants were exclusively breastfed at 1-2 months of age versus 27% at 3-4 months of age (Fig. 8). In addition to milk feeding, 3.3% of infants were given rice cereal at 1-2 months FUP. The most common solid foods reported at 3-4 months of age were rice cereal (24.2%), fruits (22.7%) and vegetables (15.8%).

VI. Feeding problems:

In the first 4 months of life, colic is the most prevalent feeding problem at both 1-2 and 3-4 months visit, yet it decreases from 28.8% at 1-2 months of life to 9.2% at 3-4 months of life.

VII. Vaccination Patterns:

The pattern of vaccination for 1,037 newborns at 1-2 months of age and 467 newborns at 3-4 months of age is represented in table 1. The roman numerals represent the first, second, and third dose of each vaccine.

Table 1. Vaccination patterns at 1-2 months and 3-4 months of age^c

	1-2 months FUP (n=1,037)		3-4 months FUP (n=467)	
	No.	% ^a	No.	% ^b
Hepatitis				
I (0-1 mo.)	668	64.4	344	73.7
II (1-4 mo.)	438	42.2	322	68.9
Polio				
I (1-2 mo.)	317	30.6	417	89.3
II (1-4 mo.)			330	70.7
III (3-6 mo.)			32	6.9
DTP				
I (1-2 mo.)	315	30.4	419	89.7
II (2-4 mo.)			337	72.2
Hib				
I (1-2 mo.)	284	27.4	382	81.8
II (2-4 mo.)			275	58.9
III (3-6 mo.)			34	7.3
BCG	107	10.3	64	13.7

^aPercentages are out of the total number of 1-2 follow-ups (n=1,037) available

^bPercentages are out of the total number of 3-4 follow-ups (n=467) available

^cCumulative vaccinations since date of birth.

In summary, the data presented in this newsletter is preliminary. The findings however are interesting and we are confident that with the completion of recruitment and follow up the significance and the implications of the study findings will become evident. Further results and updates will be provided whenever available.

Follow-up study first year of life events:

The NCPNN One Year Follow-up Study started on the 1st of August 2001, with the support of the WHO who has partially funded this project, and 116 pediatricians who have collaborated to establish a team with all their efforts to provide the most important part of the project by recruiting babies in their private clinics, dispensaries and hospital out patient clinics.

On October 18, 2001 the NCPNN organized a presentation about the “One Year Follow Up Project”, attended by all Investigators, Pediatricians, and research assistants.

Follow-Up first year of life collaborating pediatricians and investigators by family name:

<i>Dr. Sawsan Abdallah</i>	<i>Dr. Hiam El Eid</i>	<i>Dr. Marie Christine Khoury</i>	<i>Dr. Alain Sayyad</i>
<i>Dr. Lama Abiad</i>	<i>Dr. Hassan Fakhoury</i>	<i>Dr. Huda Kronfol</i>	<i>Dr. Rony Sayyad</i>
<i>Dr. Ramzi Abou Jawdeh</i>	<i>Dr. Antoine Farah</i>	<i>Dr. Aziz Kuleilat</i>	<i>Dr. Izzat Sbeity</i>
<i>Dr. Bassem Abou Merhi</i>	<i>Dr. Rola Farah Sayyad</i>	<i>Dr. Caroline Mahfouz</i>	<i>Dr. Haitham Serhal</i>
<i>Dr. Massoud Abou Zeid</i>	<i>Dr. Elissar Farhat</i>	<i>Dr. Shadi Malaeb</i>	<i>Dr. Zeina Sfeir</i>
<i>Dr. Mustafa Ajjour</i>	<i>Dr. Wissam Fayyad</i>	<i>Dr. Hanan Masri</i>	<i>Dr. Fadi Shamseddine</i>
<i>Dr. Carlo Akatchirian</i>	<i>Dr. Georges Ferzli</i>	<i>Dr. Imad Melki</i>	<i>Dr. Ghassan Shehab</i>
<i>Dr. Ali Al Khalil</i>	<i>Dr. Zuheir Fleifel</i>	<i>Dr. Muheiddine Moheb</i>	<i>Dr. Maha Shouman</i>
<i>Dr. Nada Al Khatib</i>	<i>Dr. Bernard Gerbaka</i>	<i>Dr. Samar Mouakat</i>	<i>Dr. Elianne Simaan</i>
<i>Dr. Manal Al sayyed</i>	<i>Dr. Hisham Ghali</i>	<i>Dr. Nabil Mounla</i>	<i>Dr. Douria Sinno</i>
<i>Dr. Abed Al kader Al Tal</i>	<i>Dr. Ali Ghoul</i>	<i>Dr. Chibil Mourani</i>	<i>Dr. Rima Sinno</i>
<i>Dr. Mona Alemeh</i>	<i>Dr. Nadra Haddad</i>	<i>Dr. Salman Mroueh</i>	<i>Dr. Sanaa Sinno</i>
<i>Dr. Alia Araj</i>	<i>Dr. Bisan Haekous</i>	<i>Dr. Imad Mufti</i>	<i>Dr. Ousama Skafi</i>
<i>Dr. Georges Aramouni</i>	<i>Dr. Christine Hakmeh</i>	<i>Dr. Salim Musallam</i>	<i>Dr. Maroun Sokhn</i>
<i>Dr. Iman Awada</i>	<i>Dr. Shawki Hammoud</i>	<i>Dr. Mona Nabulsi</i>	<i>Dr. Zeinab Tahsh</i>
<i>Dr. Charles Ayyoub</i>	<i>Dr. Ninette Hawwat</i>	<i>Dr. Samia Nabulsi</i>	<i>Dr. Haitham Taksh</i>
<i>Dr. Nathalia Baalbaki</i>	<i>Dr. Mirvat Hemadeh</i>	<i>Dr. Ziad Naja</i>	<i>Dr. Hala Tamim</i>
<i>Dr. Fadia Badran</i>	<i>Dr. Shafik Hoss</i>	<i>Dr. Georges Nasri El Hajj</i>	<i>Dr. Ikram Tannir</i>
<i>Dr. Sawsan Bahbahani</i>	<i>Dr. Jamal Hout</i>	<i>Dr. Fadlallah Nassif</i>	<i>Dr. Paul Henry Torbey</i>
<i>Dr. Nada Barakeh</i>	<i>Dr. Ahmad Issa</i>	<i>Dr. Yolla Nassif</i>	<i>Dr. Mona Uthman</i>
<i>Dr. Aida Chaib</i>	<i>Dr. Ghassan Issa</i>	<i>Dr. Mohammad Omran</i>	<i>Dr. Gerard Wakim</i>
<i>Dr. Hilda Chakar</i>	<i>Dr. Mohammad Itani</i>	<i>Dr. Isabelle Pharaon</i>	<i>Dr. Nabil Yassine</i>
<i>Dr. Imad Chami</i>	<i>Dr. Mustafa Itani</i>	<i>Dr. Randa Rahhal</i>	<i>Dr. Nadine Yazbeck</i>
<i>Dr. Ali Cheaitani</i>	<i>Dr. Najwa Jawhar</i>	<i>Dr. Mariam Rajab</i>	<i>Dr. Aida Yazigi</i>
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<i>Dr. Imad Chokr</i>	<i>Dr. Kamal Kansa</i>	<i>Dr. Khadige Sabeh</i>	<i>Dr. Sawsan Zugheib</i>
<i>Dr. Hayat Daher</i>	<i>Dr. Marie Claude Khalifeh</i>	<i>Dr. Robert Sacy</i>	<u>Research Assistants:</u>
<i>Dr. Randa Damerji</i>	<i>Dr. Elianne Khallouf</i>	<i>Dr. Samira Sahyoun</i>	<i>Dania Abi Haidar, BSc</i>
<i>Dr. Ruweida Dana</i>	<i>Dr. Claudia Khayyat</i>	<i>Dr. Georges Salem</i>	<i>Hiba Al Assaad, BSc</i>
<i>Dr. Ghassan Dbeibo</i>	<i>Dr. Imad Khayyat</i>	<i>Dr. Shadi Saleeby</i>	<i>May Al Kassar, BSc</i>
<i>Dr. Lena Eid</i>	<i>Dr. Mustafa Khogali</i>	<i>Dr. Johnny Sayegh</i>	

For any further information please contact NCPNN at:

NCPNN Network address:

P.O. Box 113 – 5814

Beirut – Lebanon

Tel: 01/ 374374, 01/350000, extensions 5518 and/or 5512.

Email: ncpnn@hotmail.com

Editor: Pascale Nakad, BSc

With the help of Hala Tamim, PhD, and Hind Beydoun MPH.

