

Neonatal Transport: The Long Drive has Not Even Begun

Sir,

Transporting a sick newborn to an equipped health facility is a challenge in India due to scarce and inequitably distributed health facilities and underdeveloped transport network. Though *in utero* transport of the newborn and delivery at an adequately equipped center are ideal, a preterm delivery and all the subsequent perinatal problems cannot always be anticipated. This results in a burgeoning need to transfer such babies after birth.^[1-3] Stabilization of newborn during and before transportation has been shown to improve the condition of newborn in terms of temperature, blood glucose, oxygenation, and blood pressure, thereby improving the outcome of such critically sick neonate.^[4-7]

We conducted a prospective descriptive study enrolling 220 consecutive neonates who were transferred to extramural level III neonatal Intensive Care Unit (NICU) of our hospital with the objective of analyzing the characteristics of transport and identifying the various indications of referral and complications present at the time of admission.

Data were collected regarding the indication of referral, gestational age, place and mode of delivery, means of transport used, type of vehicle, distance traveled, time taken in transportation, accompanying personnel, facilities such as oxygen, intravenous fluids, and medications, pulse oximeter, transport ventilators, and warming and monitoring methods available during transport.

A total of 170 (77.3%) neonates arrived at the emergency department by private vehicles such as auto/cycle rickshaw (40%), car (23.5%), two-wheeler (22.3%), and bus/train (14%). About 61 (36%) came directly from home without any accompanying doctor/paramedic and the remaining 109 (64%) were referred from some hospital/nursing home. Only fifty (22.7%) neonates were transported by ambulance. However, warming and oxygen facility were available in only 23 (46%) and 24 (48%) of the ambulances, respectively. Only twenty (40%) of these neonates were accompanied by medical personnel. Pretransport stabilization and monitoring sheet were not available for any patient, and the record of evaluation and management done outside was present in only 12 (24%) neonates.

Distance traveled was <3 km in 25 (11.36%), 3–30 km in 163 (74.09%), and more than 30 km in 32 (14.54%) neonates. Time taken for transportation was <30 min in 86 (39.09%), 30 min to 2 h in 110 (50%), and more than 2 h in 24 (10.90%) of the neonates.

The sociodemographic profile of the neonates revealed that almost all (92%) belonged to lower/upper socioeconomic

class (modified Kuppuswamy scale). The average monthly income of the family ranged from Rs. 1300–9400. Sixty-four (29%) were home deliveries. The mean day of life and weight at admission were 5.0 days and 2167 g, respectively. The mean gestational age was 34.28 weeks. Male-to-female ratio was 1.2:1.

The various indications for referral of the neonates were respiratory distress syndrome (35.9%), meconium aspiration syndrome (8.18%), perinatal asphyxia (18.6%), neonatal jaundice (32.2%), neonatal sepsis (49.5%), and surgical conditions (6.36%). Evaluation of the neonates at admission in NICU revealed the presence of hypothermia in 51 (23.18%), hypoxia in 41 (18.6%), and hypoglycemia in 16 (7.27%) cases. Mean duration of hospital stay was 7.18 days. During hospital stay, 58 (26.3%) required assisted ventilation and 23 (10.45%) neonates expired.

Findings in the present study indicate that transport conditions of neonates are still the same as two decades before as observed by Singh *et al.*^[8] The overall mortality of referred neonates is high, and a significant number of these deaths can be avoided by promotion of institutional deliveries, early identification and appropriate prereferral stabilization, communication regarding care of newborns during transport, and provision of adequate equipment, skilled workforce, and monitoring facilities during transport of neonates.

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Conflicts of interest

There are no conflicts of interest.

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Association Updates

News

IAPSM WB Chapter organized an Intra-State Inter-College quiz competition at College of Medicine and Sagore Dutta Hospital (CMSDH) on 22nd September 2017. Thirteen colleges sent their participating teams after college level selection. Twelve of them participated in the final competition of which five teams qualified for the round-wise competition. CMSDH team won the competition and Burdwan Medical College team were the runner up. All the participating teams were felicitated by certificates, mementos, prize money and books. The attendees included the Principal, Dean of student affairs of CMSDH, President, ex-secretaries and most of the executive members of West Bengal Chapter along with students and faculties from various colleges.

Announcements

45th National Indian Association of Preventive and Social Medicine (IAPSM) & 19th Maharashtra State Joint Conference of IAPSM & IPHA – 2018 is being held at Smt. Kashibai Navale Medical College, Pune, Maharashtra from 09th to 11th March 2018 with a pre-conference CME on 08th March 2018. Theme of the conference is - '*National Health Policy 2017: Decisive steps towards Health Assurance*'. Conference will not only have scientific program promoting a healthy debate but also assure an academic feast with eminent faculties in the field and great hospitality. Important dates in this regard are (1) Last date for abstract submission – 31 December 2017, (2) Last date to avail late bird registration or cancellation of registration - 31 Jan 2018. For further details, please visit <http://www.mhiapsmcon2018.com> or e-mail: iapsmcon2018@gmail.com

62nd National conference of Indian Public Health association is being held at the Scientific Convention center, KG medical University, Lucknow between 9 - 11 February 2018. Theme of this conference is "*Innovations in health care – reaching the unreached*". Conference will be preceded by two pre conference workshops on 8th Feb 2018 on "*Writing a good research grant proposal*" and "*Design and conduct of large scale surveys*". Important dates in this regard are (1) Last date for abstract submission/ early bird registration – 15 Dec 2017, (2) Last date to avail late bird registration 15 Jan 2018 and (3) Last date for cancellation of registration 31st Jan 2018. For further details, visit the website www.iphacon2018.com or email at iaphacon2018@gmail.com

Joint Annual Conference of Indian Association of Preventive and Social Medicine- Gujarat Chapter (XXV) and Indian Public Health Association - Gujarat Chapter (VII), is being organized by Department of Community Medicine, Government Medical College, Surat and IPHA Gujarat Chapter on 7th & 8th December, 2017. The main theme for the conference is "*SDG: Opportunities and Challenges in Gujarat*" with a subtheme on "*Innovative practices to minimize gaps in immunization*". Conference will be preceded by two pre-conference workshops on 6th December, 2017 on (1) Role of GIS in Maternal & Child Health and (2) Grant Writing (only for faculty members). For further details visit <http://iapsmgccon2017.com> or e-mail at iapsmgccon2017surat@gmail.com