

Phototherapy at home for the treatment of neonatal jaundice: An innovative, patient-centered pilot project during the COVID-19 pandemic

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Introduction: Approximately 60% of term babies develop jaundice. This often requires inpatient hospital treatment with phototherapy. Home phototherapy is not well-established within Italy as routine care for the management of neonatal jaundice. The 2019 outbreak of the coronavirus disease has changed hospitals' policies around perinatal care, banning fathers and extra people from entering the neonatal ward to keep mothers and babies safe. The prolonging hospital stay for phototherapy would increase by the stress of isolation, making lockdown in hospital challenging for maternal mental health and breastfeeding initiation. The purpose of this study is to report a patient-centered pilot project of phototherapy at home during the COVID-19 pandemic, to promote mother and baby bonding and experience of neonatal jaundice by reducing hospital stay.

Methods: Newborn babies were considered for home phototherapy during the COVID-19 outbreak following the guideline ('Home Phototherapy': ST-MD-01, 03.15.2018, Policlinico Abano Terme). Inclusion criteria: feeding established, bilirubin levels at >75 <90 percentile (Bhutani nomogram), weight loss $<10\%$, parents motivated, no social concerns, and lived within a pre-defined surrounding area (the Euganean Hills). The equipment used for phototherapy at home is Mira®, GINEVRI srl. Albano Laziale, Rome. The baby was visited 24 hours after hospital discharge.

Results: 21 babies were included between January and May 2021. Mean gestational age was 39.73 ± 1.13 weeks, average weight $3,355.90 \pm 419$ g, average discharged home day 2.3 ± 0.4 , and average days received phototherapy at home 1.27 ± 0.43 . No adverse events were noted. Two additional babies could be included but they did not live within the pre-defined area.

Conclusions: The pilot project of 'Home Phototherapy' was well appreciated by parents and cost-effective to improve maternal and newborn health. It has given us the basis to roll this project out to different Level 1–3 neonatal units across the country after the Covid-19 outbreak.

Biography

Laura Mezzalana is a graduate student in medicine and surgery at University of Padua (Italy) in September 2020. In November 2021, I started attending the specialization course in Pediatrics and neonatology at the University of Ferrara (Italy). My first work experience was at the Polyclinic of Abano Terme (Padua, Italy) where I was able to witness the use of home phototherapy in the treatment of Hyperbilirubinemia in full-term babies.

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