



Jaundice, Health Literacy and Breastfeeding

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Disclosures

I have no relevant financial relationship (s) with ineligible companies to disclose for this presentation.



Learning Outcomes

Counsel parents on jaundice & prevention of hyperbilirubinemia

Implement strategies to minimize unnecessary formula supplementation

Protect milk supply during temporary medical supplementation

Incorporate continuity of care strategies upon discharge



Concept of Contraindication



- Confusion between proven and presumed acceptable medical reasons for formula supplementation
- List true contraindications to breastfeeding is short, clearly stated & available authoritative scientific sources
- Health professionals continue to give contradictory advice

Davanzo, 2018

Jaundice

- Occurs 60% full term infants & 80% preterm infants
- Visual signs can be benign
- Evidence may indicate serious problem

The Yellow color of the sclerae and skin due to the accumulation of bilirubin.



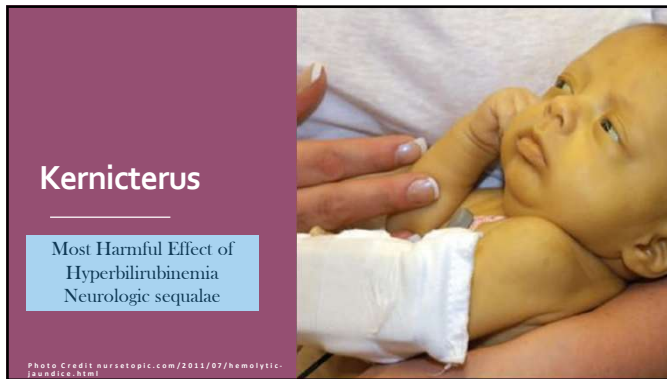
Hyperbilirubinemia

Total serum bilirubin (TSB) levels within the high-risk zone, or greater than the 95th percentile for age within the first six days of life.

Elevation of bilirubin in the blood which results in yellowish staining of the skin and eyes.



Photo credit: iStock.com



Types of Jaundice	Physiologic Jaundice	Pathologic Jaundice
Unconjugated Hyperbilirubinemia	<ul style="list-style-type: none"> ➤ Most common estimated 60% in full term infants ➤ Common in most newborns ➤ Appears after 24 hours ➤ Not usually visible until 2nd to 5th day of life ➤ Can be exaggerated by multiple factors ➤ American Academy of Pediatrics recommends universal pre-discharge screening 	<ul style="list-style-type: none"> ➤ ABO incompatibility ➤ Infection ➤ G6PD deficiency ➤ Rh incompatibility ➤ Cephalohematoma ➤ Rubella ➤ Inborn errors of metabolism ➤ Congenital thyroid deficiency ➤ Intestinal obstruction or defect
Indirect Hyperbilirubinemia		

Maisels 2015
Hasan et al. 2017
Boskabadi et al. 2020
Anisong-Akoku et al. 2022

Predisposing Risk Factors for Pathologic Jaundice

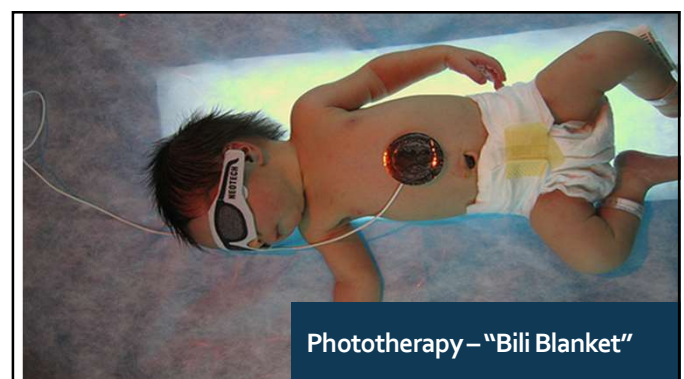
- Low birth weight
- Hyperbilirubinemia in siblings
- Prematurity
- Male
- Cephalhematoma
- ABO/RH incompatibility
- Infant of diabetic birthing person
- Congenital hypothyroidism
- Certain medications
- Intestinal obstruction
- Pyloric stenosis

Boskabadi et al. 2020
Maisels 2015

Suboptimal Intake Jaundice
<ul style="list-style-type: none"> ➤ Exaggerated physiologic jaundice ➤ More likely and prolonged in breastfed infants ➤ Not clear if ineffective feedings cause – dehydration from decreased intake or reduced intake of calories – or both ➤ Breast & chest feeding should continue even if phototherapy is require

Flaherman et al. 2017

"Breast Milk Jaundice"
<ul style="list-style-type: none"> ➤ Unconjugated hyperbilirubinemia that persist beyond the 3rd week of life ➤ Can persist for 8 to 12 weeks ➤ Higher serum bilirubin peaks and slower decline – longer resolution time ➤ Pathological causes should be ruled out before this diagnosis can be made



Phototherapy

No Long Term Side Effects

Short Term Effects

- Loose stools
- Body temp fluctuations
- Skin pigmentation changes
- Disrupted Breastfeeding
- Separation
- Increased water loss



Photo Credit: http://i2.gstatic.com/images?q=tbn:ANd9Gc770i0WuLz_4-sSaaG8jvUpe1r7n4QNatuSVgUQFu1NpS2WDA

Treatment & Prevention

1st LINE is PREVENTION

Primary MODE of Prevention:

Supporting the Nursing Family by assisting the baby to adequately feed 8 to 12 times a day



Photo Credit: shutterstock



INSTEAD OF THIS

Common Practice

Families Get This



He & Pan 2017
Urashima et al. 2019

Important Question

Why is formula the first intervention (for many settings)?



Photo credit: istockphoto.com

Flaherman, Maisels, & ABM 2017

Recommendations for Medical Supplementation

Supplemental feedings

- Use expressed milk
- Donor human milk
- Human milk substitute (last option)

Flaherman et al. 2017

HEALTH NEWS JULY 19, 2016 / 2:19 PM

Hospitals more likely to formula feed children of black mothers, study says

Hospital policies, rather than family history and nondemographic factors, play an overly large role in whether a children is given formula or not.

By Stephen Feller



McKinney et al. 2016



The Role of Health Literacy

Who explains all of this to parents?



Evidence of Parental Knowledge

Maternal knowledge & awareness is low despite having babies with major risk factors.

Most parents don't know that jaundice can produce brain injury.

- Knowledge on jaundice is very important for early diagnosis and treatment.
- World Health Organization 2022 guidelines - **“written/digital education booklets, pictorials for semi-literate populations and job aids should be available”**.
- Teach parents skills to monitor jaundice, signs of neurotoxicity, importance of effective breastfeeding, avoidance of ineffective or dangerous practices, & when/where to seek help

Wennberg 2022
Abdul-Mumin et al. 2021
Khourd 2021
Wennberg, Watchko & Shapiro 2017

Content of Teaching Materials & Discussion

How to identify Jaundice

Need to seek evaluation immediately

Consequences of delayed treatment

Wennberg 2022

Screening Tools for Parents



- BiliApp Newborn Jaundice Tool (uses smart phone camera)
- Bili-Ruler (low resource countries)
 - Low cost
 - Non-Invasive
 - High diagnostic accuracy

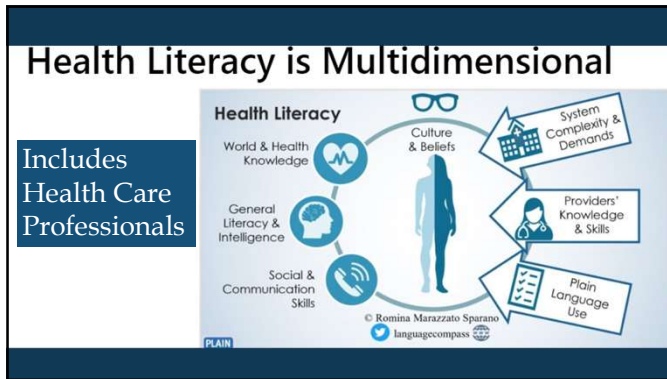


Lee et al. 2019
Slusher et al. 2017
Taylor et al. 2017

Health Literacy

“Set of world and health knowledge and beliefs, general intelligence and literacy, and communication skills that allows an individual to seek, obtain, understand, assess, and apply health information in daily life and health care contexts.”

Sparano 2020
<https://claritywithstyle.com/health-literacy-is-multidimensional/>



Health Literacy Tools

- Short Assessment of Health Literacy - Spanish & English (SAHL - S&E)
- Rapid Estimate of Adult Literacy in Medicine - Short Form (REALM - SF)
- Short Assessment of Health Literacy for Spanish Adults

Agency for Healthcare Research and Quality, 2020

A Health Literate Healthcare Organization

The Ten Attributes

1. Has leadership that makes health literacy integral to its mission, structure & operations.
2. Integrates health literacy into planning, evaluation measures, patient safety, and quality improvement.
3. Prepares the works force to be health literate and monitors progress.
4. Includes populations served in the design, implementation, and evaluation of health information & services.
5. Meets the needs of populations with range of health literacy skills while avoiding stigmatization.

Agency for Healthcare Research and Quality, 2020

A Health Literate Healthcare Organization

The Ten Attributes

6. Uses health literacy strategies in interpersonal communications and confirms understanding at all points of contact.
7. Provides easy access to health information and services and navigation assistance.
8. Designs and distributes print, audiovisual, and social media content that is easy to understand and act on.
9. Addresses health literacy in high-risk situations, including care transitions and communications about medicines.
10. Communicates clearly what health plans cover and what individuals will have to pay for services.

Agency for Healthcare Research and Quality, 2020

STEPS 6, 7, & 8

Parental counseling

Jaundice...Now What?

6. Uses health literacy strategies in interpersonal communications and confirms understanding at all points of contact.
7. Provides easy access to health information and services and navigation assistance.
8. Designs and distributes print, audiovisual, and social media content that is easy to understand and act on.

Agency for Healthcare Research and Quality, 2020

STEPS 2 & 3

Minimizing Unnecessary "Medical" Supplementation

What's on First...

2. Integrates health literacy into planning, evaluation measures, patient safety, and quality improvement.
3. Prepares the works force to be health literate and monitors progress.

Agency for Healthcare Research and Quality, 2020

STEPS 5 & 9

Medical Supplementation

Now What?

- 5. Meets the needs of populations with range of health literacy skills while avoiding stigmatization.
- 9. Addresses health literacy in high-risk situations, including care transitions and communications about medicines.

Agency for Healthcare Research and Quality, 2020

STEP 9

Discharge Planning

Continuity of Care

- 9. Addresses health literacy in high-risk situations, including care transitions and communications about medicines.

Agency for Healthcare Research and Quality, 2020

Opportunities

1. What does continuity of care look like for infants diagnosed with hyperbilirubinemia?
2. Is there a feeding plan in place and lactation support appointment upon discharge? If not, why?
3. When supplementation is advised, are parents informed of the temporary nature?
4. Parents with babies that have major risk factors, are there extra precautions in place? If not, why?
5. Does your institution meet the criteria of a Health Literate Organization?

Thank You!

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