TTTS and Technology: Breaking Down Educational Barriers

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BACKGROUND

Twin-to-Twin Transfusion Syndrome (TTTS):
- Occurs in 15% of monochorionic, diamniotic twin pregnancies (shared placenta, separate amniotic sacs) 1
- Causes uneven blood flow between babies due to their blood vessels fusing together (anastomosis)

TTTS Diagnoses are Stressful:
- Without treatment, risk of dual fetal demise is > 80% 2
- Causes uneven blood flow between babies due to their blood vessels fusing together (anastomosis)
- Both parents and physicians perceive a fetal anomaly as very stressful, and are usually not prepared for it
- Women with fetal anomalies tend to report higher psychological distress, depression, and anxiety 3

Selective Fetoscopic Laser Photocoagulation:
- Considered the preferred treatment for TTTS (fetal survival: 76-87%) 2
- Laser energy is used to seal the anastomoses

Characteristic SFLP procedure on a set of TTTS-affected twins

METHODS

Eligibility Criteria:
- English-speaking pregnant women (18 y/o) and parenting partner (if present)
- Multi-fetal pregnancy
- Confirmed Diagnosis of TTTS

Randomization and Enrollment of Participants

- No de of TTTS (3)
- Confirmed de of TTTS (3)
- Pilot approached MD recommendation (1)
- Enrolled (1)
- Standard Model of Care (20)

Table 1. Study Demographics

<table>
<thead>
<tr>
<th>Eligibility Criteria</th>
<th>English-speaking pregnant woman (18 y/o) and parenting partner (if present)</th>
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<td>Multi-fetal pregnancy</td>
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<td>Confirmed Diagnosis of TTTS</td>
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<td>Referral and treatment at Colorado Fetal Care Center</td>
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MATERIALS

- The “Short Assessment of Health Literacy” (SAHL) test
  - Contains 18 questions that test the ability to understand common medical terms
  - A “knowledge quiz” with 3 questions aimed at testing parents’ knowledge of TTTS:
    1. What is TTTS?
    2. Why is TTTS bad for both twins?
    3. What does laser treatment do?
    - The quiz was given before AND after the parents’ consultation with their doctor to test their retention of information.

PROCEDURE

- Pre and post quizzes will be graded against an answer key by two independent scorers.
- Inter-rater reliability of the quiz will be assessed using Cohen’s kappa
- Unfortunately, there is insufficient data at this point to analyze the pre-post differences and the inter-rater reliability

ANALYSES

- The information presented to families during consultations is complex and often hard to understand.
- Physicians commonly struggle communicating scientific information to patients in a way that makes sense.
- Understanding medical information and terminology is very important for making decisions regarding pregnancy and overall health.

RATIONAL

Research Question:
Does educating parents about TTTS with a physician-approved 3-D model increase their retention of information?
- The information presented to families during consultations is complex and often hard to understand.
- Physicians commonly struggle communicating scientific information to patients in a way that makes sense.
- Understanding medical information and terminology is very important for making decisions regarding pregnancy and overall health.

REFERENCES


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