Fetal tele-echography using a robotic arm and a satellite link

Outline

◆ Introduction
◆ Materials and methods
◆ Results
◆ Discussion
Introduction (1/2)

- Tele-echography

- Objective to design a method for conducting fetal ultrasound examinations in isolated hospitals.
- Developing countries or areas
- Reduced medical facilities
- Non-sonographer
Introduction (2/2)

◆ Solve medical problems

◆ Fetal examination is valuable information (fetal growth, intrauterine environment)

◆ Communication
  - VSAT
  - ISDN
Materials and methods (1/7)
Materials and methods (2/7)
Materials and methods (3/7)

The robotic arm being held by the future father, and a view of the expert is shown in the bottom right corner.
Materials and methods (4/7)

- Very Small Aperture Terminals (VSAT)
  - Small antenna ground station satellite communication system
  - Small
  - Cheap
  - Easy to install
  - Less demanding environment
  - Unrestricted terrestrial networks
Materials and methods (5/7)

◆ Integrated Services Digital Network (ISDN)

➢ A typical circuit-switched network system (circuit-switching network).

➢ Is popular in Europe in the form of a telephone network.
Materials and methods (6/7)

◆ Robotic arm
  ➢ The system was designed for optimal use with sector scan probes.
  ➢ The weight of the probe holder (2.5 kg) and with a ring of 7 cm in diameter.
  ➢ Applies a pressure (15N) and maximum displacement is 1.5 cm.
Thanks for Your Attention