The Journey of Global Expansion of the Perinatal Management System and Mobile fetal cardiotocogram (CTG) Developed in Kagawa Prefecture, JAPAN

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Objective
Now, the perinatal mortality rate in Kagawa Prefecture is lowest both in Japan and the World. However, it used to be among the worst 5 in Japan in the 1970s. Since 1980, obstetricians at Kagawa Medical School made an effort into the continuous use of the CTG throughout the pregnancy period. By doing so, a significant drop in the perinatal mortality rate was accomplished. As for the maternal mortality rate, it in developing nations such as Congo and Laos was more than 100 times higher than that of Japan. This indicates the importance of perinatal medical support from Japan. The Japan Society of Obstetrics and Gynecology has worked to develop and diffuse mobile CTG for the purpose of pregnancy management over the past 15 years.

Method
1. The introduction of mobile CTG in Thailand, which has many regions without obstetricians
2. Confirmation of usefulness of mobile CTG in these countries
3. Improvement of mobile CTG in response to the demands

Result
Chiang Mai University and medical facilities without obstetricians were connected through a mobile network. Over 1,500 of fetal heart rate were transmitted by Mobile CTG. This data could confirm that the Mobile CTG was beneficial for expectant mothers in regions without obstetricians. Through this trial, requests for cordless version were received. Therefore, a Super Small-size Mobile CTG (Petit CTG) was developed. The electric circuit for fetal HR measurement is mounted within the ultrasound vibrator in Petit CTG. Fetal HR data is transmitted wirelessly through Bluetooth to the tablet. From the tablet, the data is accessible through the Internet.

Conclusion
If Mobile CTG is introduced in developing nations and remote areas without sufficient obstetricians, its immense capability can be further demonstrated.