TOP TIPS FOR HEALTHY LIVING
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E-PARTOGRAPH APP TO MONITOR WOMEN IN LABOUR LAUNCHED

A group of scientists from Makerere University School of Public Health have developed an app called partograph, which health workers in rural areas will use to monitor the progress of a pregnancy. **Agnes Kyotalengerire** brings you details

A health official explaining how the e-partograph App works. The electronic partograph is better than the paper form since the graph showing the progress of labour is drawn automatically as soon as the midwife feeds in the figures, making monitoring of data entry easier and faster

Victoria Nabuukera, a midwife at Pagirinya Health Centre III in Adjumani district, is all praises for a new application that was recently developed by a team of scientists from Makerere School of Public Health to monitor pregnant women in labour.

The e-partograph is an innovative version of the usual paper-based partograph.

A partograph is a graphic record of vital observations used to assess progress during labour. The electronic partograph is very helpful in monitoring a pregnant woman during labour. It alerts you when it is time to review the mother.

"If you are meant to monitor the contractions every 30 minutes, it will alert you even when you are so busy and have probably forgotten. So you cannot miss reviewing the mother," notes Nabuukera.

She further explains that the electronic partograph (E-partograph) is far much better compared to the paper form.

"Since I work in a remote facility without a medical doctor, whenever labour got complicated, the e-partograph would alert me to call a doctor," the midwife explains.

It is at that point that Nabuukera would have to refer the mother to Adjumani Hospital. This definitely prevented further complications that would otherwise become fatal.

Dr Richard Mwangi, the principal investigator, says the application is similar in a way that all aspects of the paper partograph are replicated.

The only difference is that with the e-partograph, the midwife has to feed in the figures and the graph is drawn automatically, hence improving data entry.

This makes the labour monitoring process of maternal and fatal parameters during labour easy for the midwife, he notes.

Additionally, one cannot progress to the next stage unless they have plotted the current stage. Previously, midwives could do away with the paper partograph and plot it retrospectively. This means the midwife could fill in the partograph after delivery.

"Plotting the partograph after delivery is useless because the tool is meant to help the midwife understand how labour is progressing.

"In case of a problem; when either the mother or baby is not doing well, they should be able to see and then call for help or take a drastic decision to save lives," he notes, adding that the e-partograph helps because if the plotting is going in a wrong direction, it gives a warning.

"Questions such as 'do you want to consult a doctor', show up on the screen. It shows that danger is looming and gives the health worker time to react, which prompts real-time decision-making," Mwangi notes.

In addition, the app is effective in the prevention and management of prolonged or obstructed labour. Not to mention other serious complications, such as a ruptured uterus, obstetric fistula and stillbirth, Mwangi explains.

INSTALLATION AND USAGE

The e-partograph is installed on electronic devices, such as smartphones with a larger screen for easy plotting and reading of the graph.

Alternatively, the app can be installed on a tablet, because it has a larger screen or on computers and is also fitted with an alarm system.

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E-PARTOGRAPH GOOD FOR MAKING TIMELY DECISIONS

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2 FACILITIES

The trial of the intervention study of the electronic partograph was conducted by a team of scientists from Makerere University School of Public Health, led by Dr Justine Bukenya.

The trial study that ran from February to November last year was conducted at Pagirinya Health Centre III and Ayilo Health Centre III in Adjumani district. During the trial, each health facility was given a tablet.

also fitted with an alarm system.

With the new app, the plot should be synchronised with another screen at the referral facility, in this case a hospital, so that when the midwife is plotting the e-partograph at the lower health facility in a remote area, probably about 10km to 20km away based on internet connection, a senior midwife or gynaecologist can review this plot on the screen remotely. The two can then discuss the patient's situation and make a decision.

In a nutshell, the e-partograph gives opportunity to the health worker based in the remote place to discuss the patient's health condition and make a decision, which is not possible with the paper partograph.

It enhances referral because of the discussions held between the health worker at the lower health facility (rural setting) and one who is senior and based at the hospital.

WHY THE INTERVENTION STUDY

Having worked with the district for many years, Dr Mwangi observed that some midwives were not using the partograph as they should, yet it is a powerful tool in monitoring the progress of labour.

He notes that the method gives very good outcome whenever used and health workers are able to make decisions at the right time.

Based on that background, the scientists decided to invent the electronic partograph to ensure efficiency in making decisions.

Dr Mwangi warns that in its current paper form, the partograph is not user-friendly.

"It creates a lot of reluctance and some midwives fill it halfway and stop. Sometimes it is cumbersome and many times they forget," he notes

The commissioner maternal and newborn health at the health ministry, Dr. Jessica Nsungwa Sabiti, notes that a partograph is one of the oldest tools where health workers have been trained and retrained, but they do not actually comply.

PHOTO BY AGNES KYOTALENGERIRE

Winfred Mugisha, a nursing officer at Kisoro Hospital filling a partograph after examining a mother

Health officials reading data using the partograph paper method. Experts note that the e-partograph application will help health workers to make the right decisions in time

CHALLENGES

Nabuukera's only complaint was that the E-partograph does not plot the blood pressure after four hours.

"Most cases we were plotting only once," she explains. Additionally, the stringent restrictions activated in the e-partograph do not allow you to deliver a mother, especially after a red line poops. It shows the mother is in danger, so you have to refer her immediately.

Juliet Bayoa Aucuuru, a registered midwife who headed the innovation study team at Ayiloo Health Centre III, explains that the delivery process involved both normal and abnormal labour, yet the e-partograph is set to only accept plotting of normal labour progress, where the timing is followed with no deviation.

"But when there is abnormal labour, using the e-partography becomes an issue. If the first time I did vaginal examination the cervix had dilated 6cm, ideally the next plotting is supposed to be 9cm, according to the e-partograph. However, in abnormal cases, it may not have reached 9cm, so when you try to plot 6cm on the graph, it rejects it because it does not match with what is in the system," Aucuura explains.

She urges the scientists to reset the e-application so that it can also accept both the normal and abnormal findings. If it can take all the findings, then the e-partograph will take precedence over the paper partograph.

"The scientists need to understand what the bottleneck is. Why do health workers fail to use the partograph?" he notes, adding: "because most midwives know that we are going to check on it, they fill it in after the labour, which in that case is for formality."

Dr Nsungwa notes that if the e-partograph is to be efficient, it needs to be tailored to addressing the real gap.

She compares the practice of midwives not using a partograph to a driver who does not use a seat belt. It is one of those things where behavioural change has been a problem, she says

The only way to make decisions is plotting it when you must. In case there is any deviation from the normal labour, you see it instantly and you intervene to save the life of the mother and the baby.

Besides, young people are now driven by innovation and technology, so they will probably embrace this kind of technological advancement.

MATERNAL EXPERTS SPEAK OUT

Dr Richard Mwangi, the principal investigator, is optimistic that the app will go a long way in reducing preventable deaths of mothers and neonates during and immediately after delivery, hence reducing the time needed to fill in a paper-based partograph.

The president of the Association of Gynaecologists of Uganda (AOGU), Dr Imelda Namagambe, says the e-partograph is a good tool in making timely decisions during monitoring of a mother in labour.

However, she says, it is not enough. The environment should be supportive to ensure that timely decisions are made and other complications managed appropriately.

In the event that any other complication of the mother, such as excessive bleeding sets in, all the other bits must be there to complete the puzzle and prevent maternal or newborn death.

The co-ordinator Nursing Now, Catherine Odeke, welcomes the idea, but warns that electricity is likely to be a challenge, especially in rural areas.

Besides embracing the new app, the midwives will require training on how to use it.

Odeke notes that some midwives are still having challenges using the paper partograph because of inadequate training. Yet, it is a very sensitive tool in detecting complications of both the mother and the baby and can be handled quite early to save life.

NEED FOR FUNDING

Dr Nsungwa applauds the scientists for the innovation.

She says the e-application is timely, but they need to sit with scientists to discuss how they have conceptualised it.

In the same vein, Dr Mwangi says they plan to present the innovation to the health ministry soon with the hope of getting funding. They also plan to apply to other institutions for funding.

The initial development was funded by Grand Challenges Canada to a tune of 100,000 Canadian dollars (sh288m).

Later, Makerere University Research and Innovation Fund gave them about sh180m to put it out on a small scale.

"Once the funds are available, the innovation will be rolled out on a bigger scale to more districts and health facilities," he notes.