

**ENGLISH TEST**

**CANDIDATE:** \_\_\_\_\_

Read carefully the following scientific citation of a published article:

Mattos Sda S, Hazin SM, Regis CT, Soares de Araújo JS, Albuquerque FC, Moser LR, Hatem Tde P, Gomes de Freitas CP, Mourato FA, Tavares TR, Gomes RG, Severi R, Santos CR, Ferreira da Silva J, Rezende JL, Vieira PC, de Lima Filho JL. A telemedicine network for remote paediatric cardiology services in northeast Brazil. Bull World Health Organ. 2015 Dec 1;93(12):881-7. doi: 10.2471/BLT.14.148874.

**PROBLEM:** Providing health care for children with congenital heart diseases remains a major challenge in low- and middle-income countries.

**APPROACH:** In October 2011, the Government of Paraíba, Brazil, established a paediatric cardiology network in partnership with the nongovernmental organization Círculo do Coração. A cardiology team supervised all network activities, using the Internet to keep in contact with remote health facilities. The network developed protocols for screening heart defects. Echocardiograms were performed by physicians under direct online supervision of a cardiologist; alternatively, a video recording of the examination was subsequently reviewed by a cardiologist. Cardiovascular surgeons came to a paediatric hospital in the state capital once a week to perform heart surgeries.

**LOCAL SETTING:** Until 2011, the State of Paraíba had no structured programme to care for children with heart disease. This often resulted in missed or late diagnosis, with adverse health consequences for the children.

**RELEVANT CHANGES:** From 2012 to 2014, 73,751 babies were screened for heart defects and 857 abnormalities were identified. Detection of congenital heart diseases increased from 4.09 to 11.62 per 1000 live births ( $P < 0.001$ ). Over 6000 consultations and echocardiograms were supervised via the Internet. Time to diagnosis, transfers and hospital stays were greatly reduced. A total of 330 operations were carried out with 6.7% (22/330) mortality.

**LESSONS LEARNT:** Access to an echocardiography machine with remote supervision by a cardiologist improves the detection of congenital heart disease by neonatologists; virtual outpatient clinics facilitate clinical management; the use of Internet technology with simple screening techniques allows resources to be allocated more efficiently.

Use the letters **T** and **F**, respectively, for **true** or **false** if the following statements correctly can be said from the scientific article above.

Statements	T or F
1. Experts in physics performed the echocardiograms.	<b>F</b>
2. Echocardiograms analyses were performed both online and offline	<b>T</b>
3. During three years less than a hundred babies were screened.	<b>F</b>
4. Seven babies died during the operations realized during 2012-2014	<b>F</b>
5. Echocardiography machine with remote supervision by a cardiologist enhances the identification of congenital heart disease by neonatologists.	<b>T</b>

Read carefully the following scientific citation of a published article:

Kurosaki Y, Martins DBG, Kimura M, Catena ADS, Borba MACSM, Mattos SDS, Abe H, Yoshikawa R, de Lima Filho JL, Yasuda J. Development and evaluation of a rapid molecular diagnostic test for Zika virus infection by reverse transcription loop-mediated isothermal amplification. *Sci Rep.* 2017 Oct 18; 7(1): 13503. doi: 10.1038/s41598-017-13836-9.

The recent outbreak of Zika virus (ZIKV) disease caused an enormous number of infections in Central and South America, and the unusual increase in the number of infants born with microcephaly associated with ZIKV infection aroused global concern. Here, we developed a reverse transcription loop-mediated isothermal amplification (RT-LAMP) assay using a portable device for the detection of ZIKV. The assay specifically detected ZIKV strains of both Asian and African genotypes without cross-reactivity with other arboviruses, including Dengue and Chikungunya viruses. The assay detected viral RNA at 14.5 TCID<sub>50</sub>/mL in virus-spiked serum or urine samples within 15 min, although it was slightly less sensitive than reference real time RT-PCR assay. We then evaluated the utility of this assay as a molecular diagnostic test using 90 plasma or serum samples and 99 urine samples collected from 120 suspected cases of arbovirus infection in the states of Paraíba and Pernambuco, Brazil in 2016. The results of this assay were consistent with those of the reference RT-PCR test. This portable RT-LAMP assay was highly specific for ZIKV, and enable rapid diagnosis of the virus infection. Our results provide new insights into ZIKV molecular diagnostics and may improve preparedness for future outbreaks.

Use the letters **T** and **F**, respectively, for **true** or **false** if the following statements correctly can be said from the scientific article above.

Statements	T or F
6. Unexpected association between Zika virus disease and microcephaly was observed in Central and South America.	T
7. The results of RT-LAMP assay were compared with RT-PCR test.	T
8. A portable RT-LAMP assay highly specific for ZIKV was proposed in this work.	T
9. This reported method does not distinguish ZIKV from Dengue and Chikungunya viruses.	F
10. Samples of plasma, serum and urine were employed in this work.	T

Please, use the letters **T** and **F**, respectively, for **true** or **false** if the English idiomatic expressions and their meaning listed below are correctly linked.

<b>Idiomatic expressions</b>	<b>Meaning</b>	<b>T or F</b>
11. A penny for your thoughts	A way of asking what someone is thinking	<b>T</b>
12. Actions speak louder than words	People's intentions can be judged better by what they do than what they say.	<b>T</b>
13. Be glad to see the back of	Be happy when you see a naked person.	<b>F</b>
14. Cry over spilt milk	When a child vomits milk.	<b>F</b>
15. Devil's Advocate	To act as a lawyer	<b>F</b>
16. Don't put all your eggs in one basket	Running a risk.	<b>F</b>
17. Kill two birds with one stone	To accomplish two different things at the same time.	<b>T</b>
18. Picture paints a thousand words	A visual presentation is far more descriptive than words.	<b>T</b>
19. Piece of cake	Something sweet as a cake.	<b>F</b>
20. Speak of the devil!	This expression is used when the person you have just been talking about arrives.	<b>T</b>