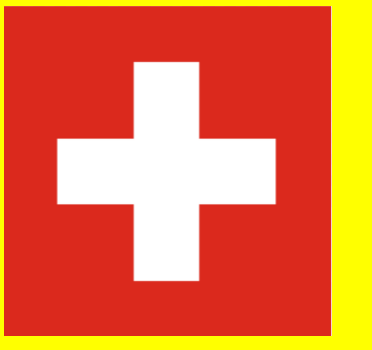


Teaching of Neonatal Resuscitation and its Impact on Early Neonatal Mortality in the Outskirts of greater Conakry, Guinea, Western Africa



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Background:

High neonatal mortality is still a major health problem in low- and middle-income countries. The Republic of Guinea indicates a nationwide neonatal mortality rate of 32/1'000 lives births, corresponding to **>14'000 neonatal deaths annually**, without any improvement over the last 10 years.

Objectif:

To evaluate the **impact on early neonatal mortality rate (within 6h post-natally)** and need for neonatal transfers of a 2-day-training course in neonatal resuscitation for health care professionals working in peri-urban health facilities in an underprivileged, well defined area of the outskirts of Conakry (Fig. 1)

Method:

Intervention:

- Two-days theoretical and practical (hands-on) training course in newborn resuscitation for health care professionals working in this area
- To equip all centers with basic resuscitation devices (bag, mask, aspiration tool)

Outcome measures:

- Comparison of obstetrical and neonatal activity over a period of 6 months before and after the intervention
- Analysis of theoretical knowledge by a 17-items questionnaire, directly before and after the training and 6 months later

Results:

- Eighteen health care facilities were represented by 27 nurses, midwives, or physicians (1-3 /facility).
- The audited health care centers performed together **1'431 deliveries** in the two observed periods.
- **Stillbirth rate was high in both periods (> 33‰)** (Fig. 2)
- **Early neonatal mortality rate decreased** from 27.4 (before) to 4.3 /1000 life births (after intervention), corresponding **to a reduction by 84% !** (Fig. 2)
- Need for **neonatal transfer** was **reduced by a factor of 6.5** (11.2 to 1.7%).
- **Theoretical knowledge** of health professionals could be raised significantly and stayed elevated over the 6-months observation period, with a mean of correct answers of 57.1%, 81.2% and 86.5%, respectively (Fig.3).

Conclusions:

- ✓ A 2-day training session with transfer of neonatal resuscitation skills and a minimum of required equipment to health care professionals working in underprivileged suburbs of Conakry was shown to be highly effective:
 - ❖ **early neonatal mortality rate could be dropped by 84%**
 - ❖ **the need for neonatal transfer was reduced by a factor of 6.5x**
 - ❖ **improved theoretical knowledge and increased quality of skills was sustainable over the 6 months follow-up**
- ✓ Similar low-cost training programs should be performed in the whole country to decrease the high early neonatal mortality.

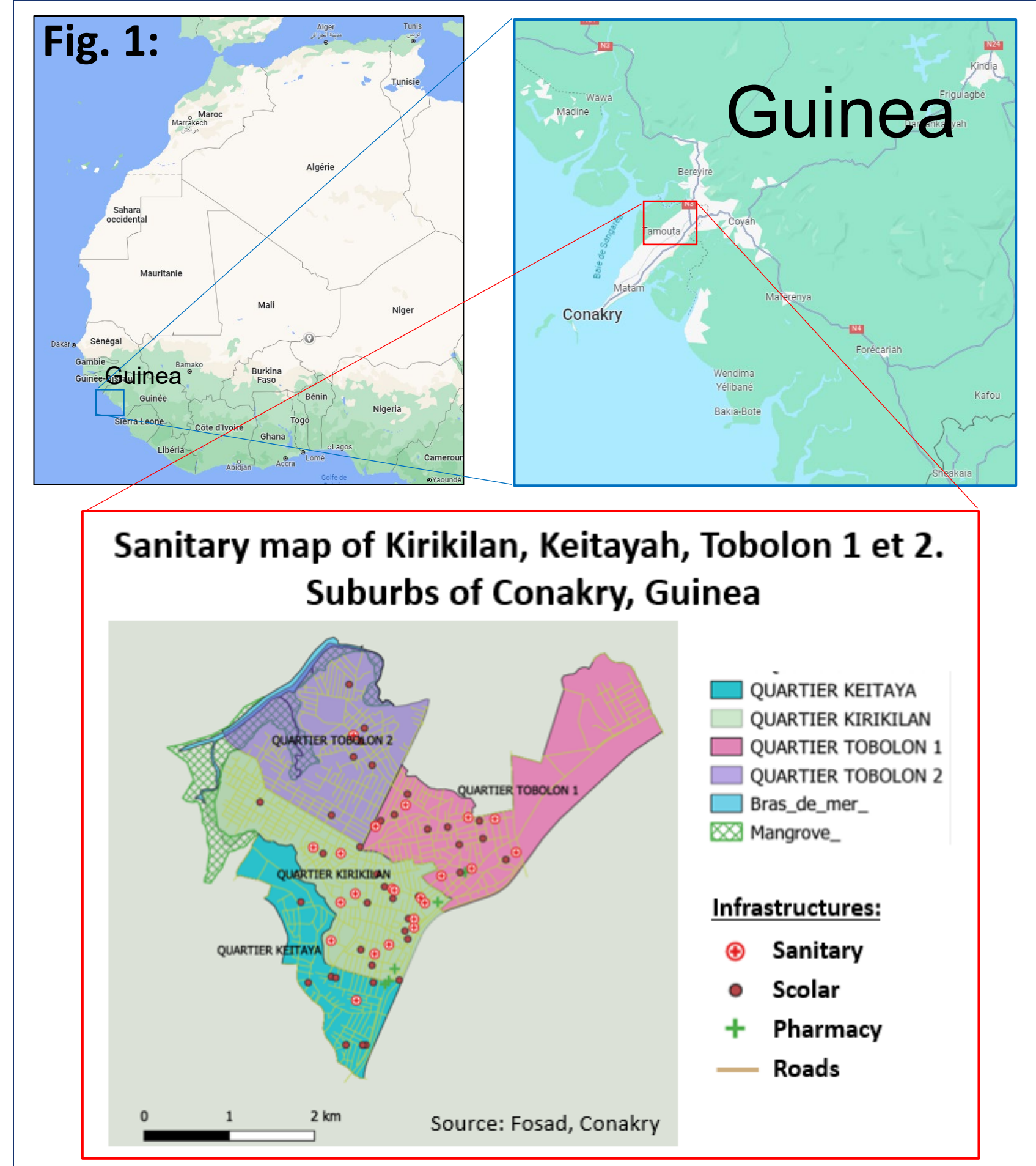


Fig. 1: Localisation of the study area comprising Kirikilan, Keitayah and Tobolon I and II, close to Conakry, the capital of the Republic of Guinea

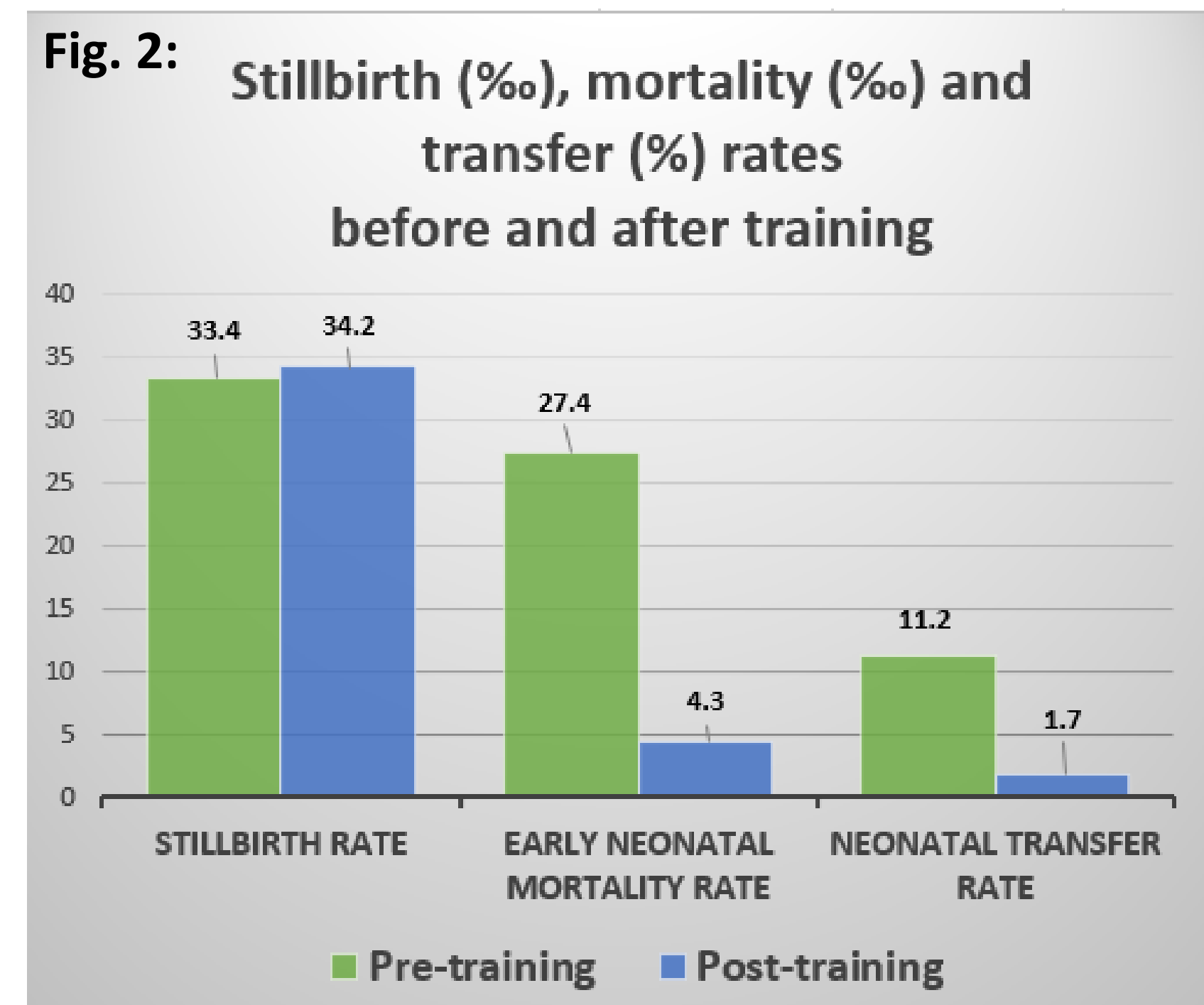


Fig. 2: Effect of a two day training course on stillbirth, mortality and transfer rates in a defined region of underprivileged suburbs of Conakry.

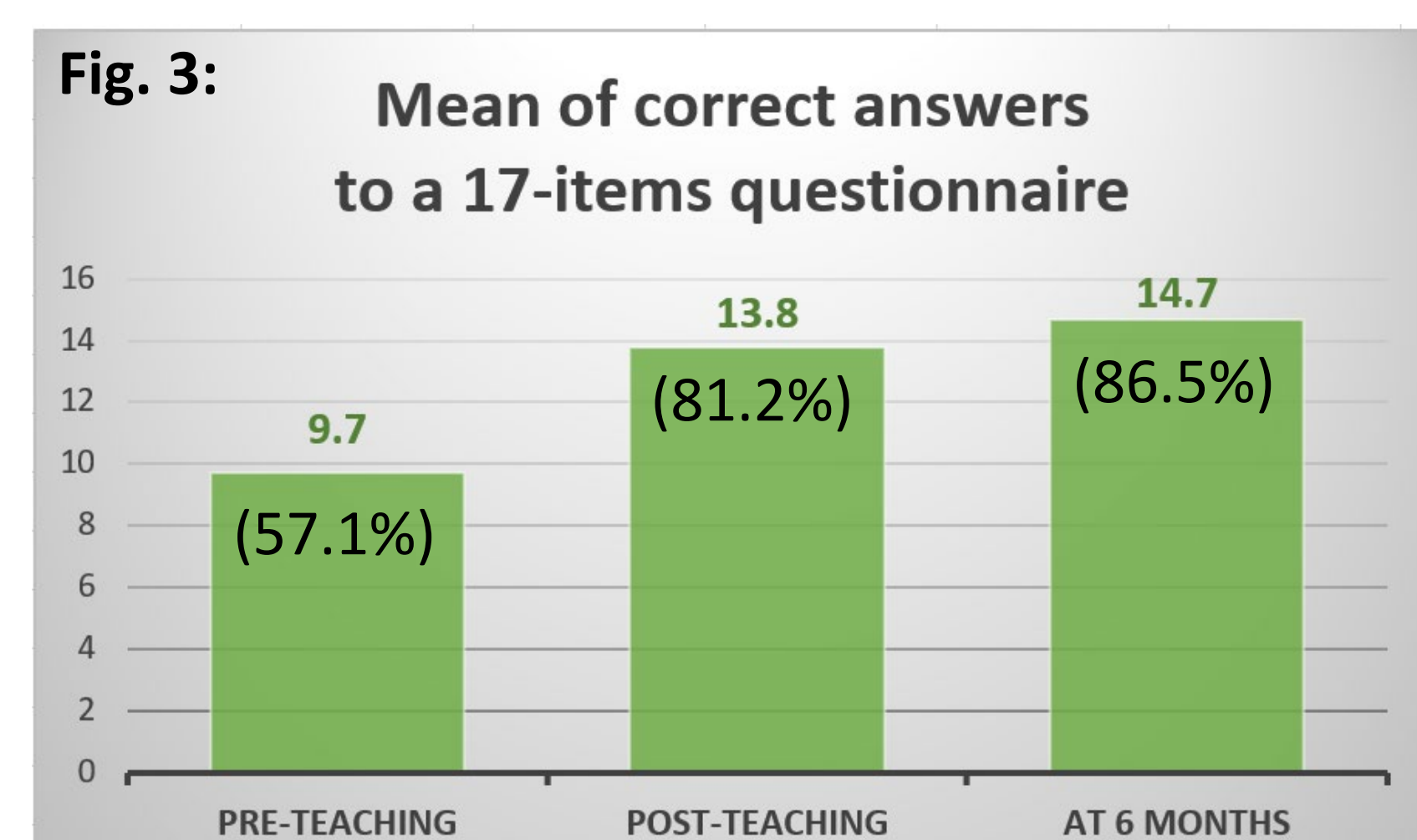


Fig. 3: Level of theoretical knowledge evaluated By a multiple choice questionnaire just before, right after the 2-days training session and 6 month later.

