MILKING PROCEDURE AND FREQUENCY: WHAT INFLUENCE ON MARES AND FOALS BEHAVIOUR?

JULIETTE AUCLAIR-RONZAUD, MELLIE BOUCHET, LAURENCE WIMEL, SÉVERINE HENRY

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1. Context

Behavioural studies around mare milking

- Few studies on how mares and foals are coping with milking procedures

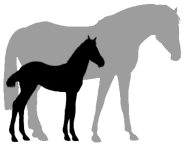
- During milking
  - Few stress-related behaviour were recorded *(Caroprese et al., 2007)*
  - Less vigilance-related behaviours with machine milking compared to hand milking *(Caroprese et al., 2007)*
  - A group of dairy mares shown went wilingly to the parlour *(Florya et al., 2013)*

What are the impacts of milking on mares and foals behaviours outside milking procedures?

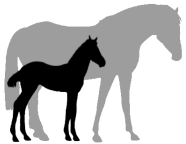
2. Material and methods

Population studied

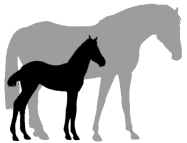
30 mares (foalings from 12th April to 24th May)



13 mares milked once (1M)



10 mares milked twice (2M)

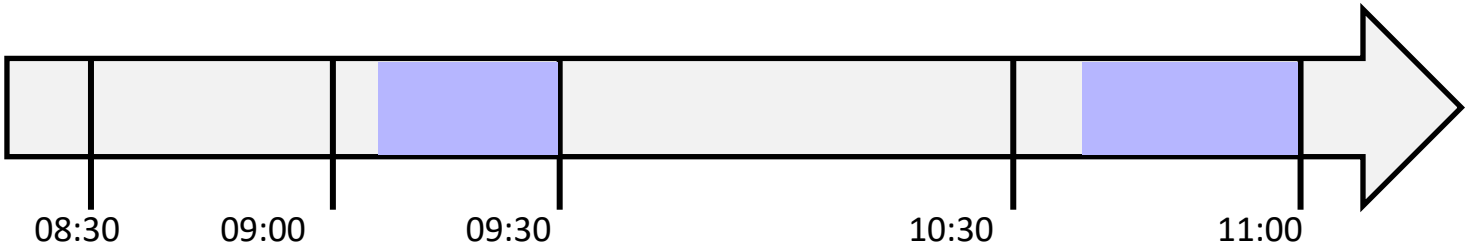


7 non-milked mares (C)

Milking protocol

Once per month (at weeks 5; 9 and 13 of lactation) for 5 following days from the 23rd of May to the 19th of August.

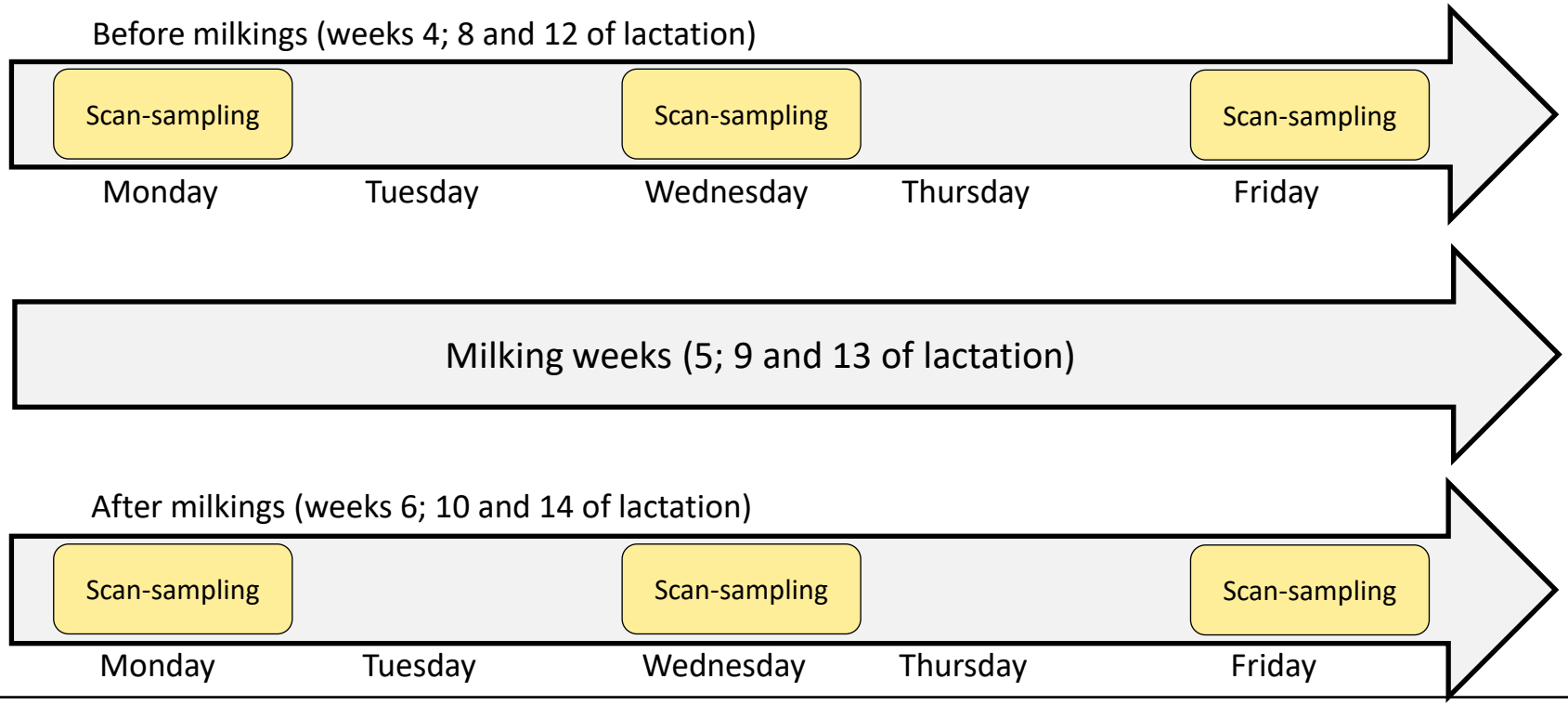
On each milking day:



Weighings Muzzling of 2M foals	Weighings Muzzling of 1M foals	First milking of 2M mares	Second milking of 2M mares	Milking of 1M mares

Observations of the mares behaviour

Behavioural observations



Statistical analyses

- **During the milking**: number of threats (biting, kicking or hiarchy-related behaviour) and on the number of aggressions (biting or kicking)

- **After muzzle removal:** time spent suckling (in %) during the first minute after the removal

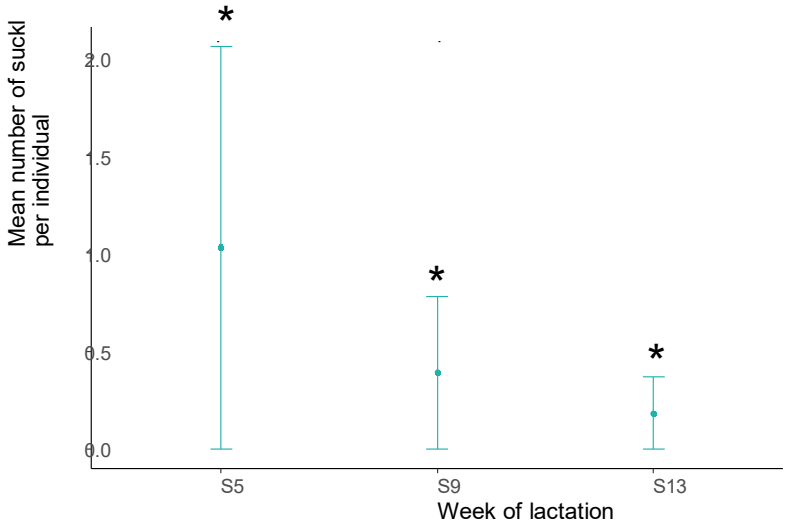
- **In the pasture:**
  - Mare-foal distances: Six categories (0 to 5 with 0 being the foal in contact with the mare and 5 a distance >15m from each other)
  - Closest neighbour: Three categories (other member of the dyad « young » or « mother », other mare or other foal)

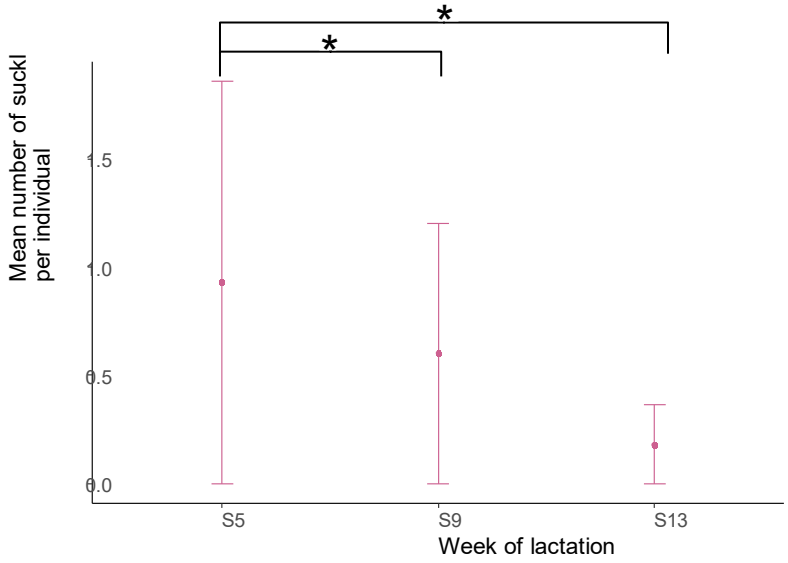
In all cases we studied independantly the effect of **week of lactation** and **group** using Kruskal-Wallis test

3. Results and discussion

Before milking: in the waiting area

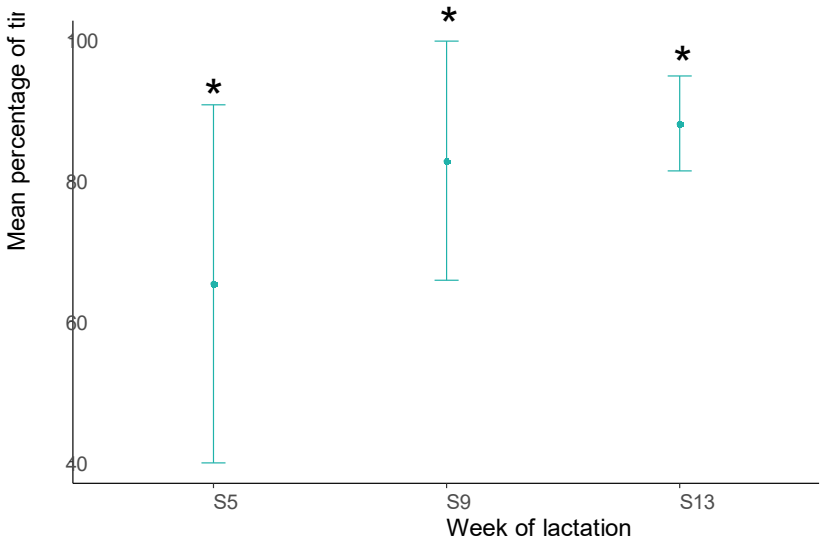
- No difference between groups whatever the week of lactation studied
- For both groups:
  - **Decrease** of the hiarchy related behaviours
  - **Decrease** of the number of suckling attempts

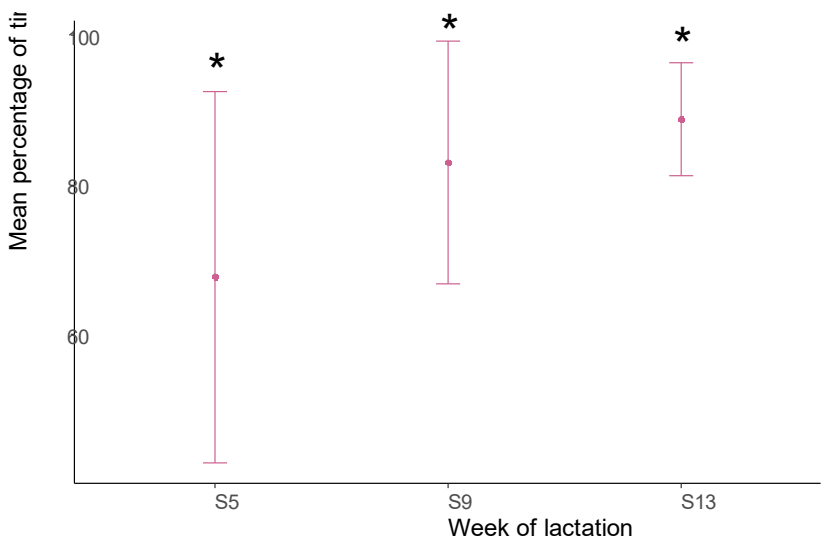




After milkings: after muzzle removal

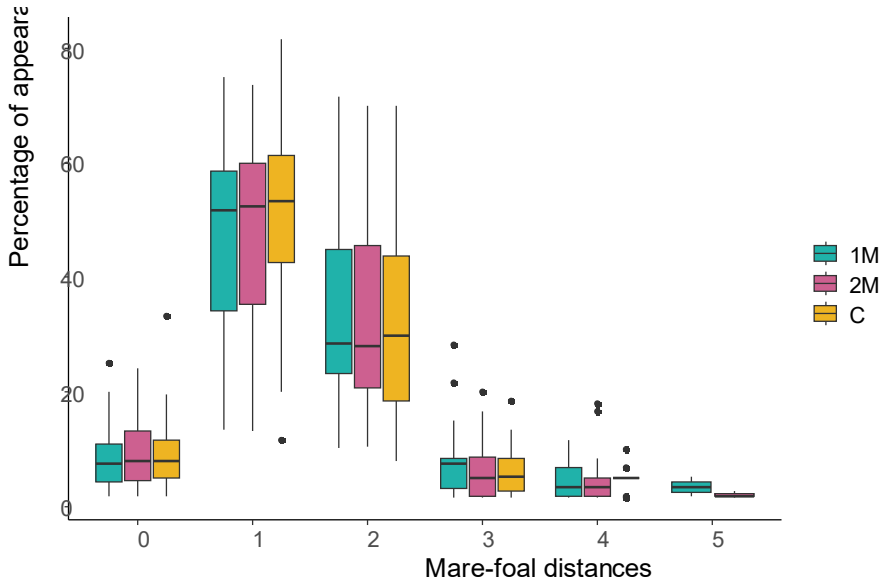
- No difference between groups whatever the week of lactation studied
- For both groups: **increase** of the percentage of suckling time





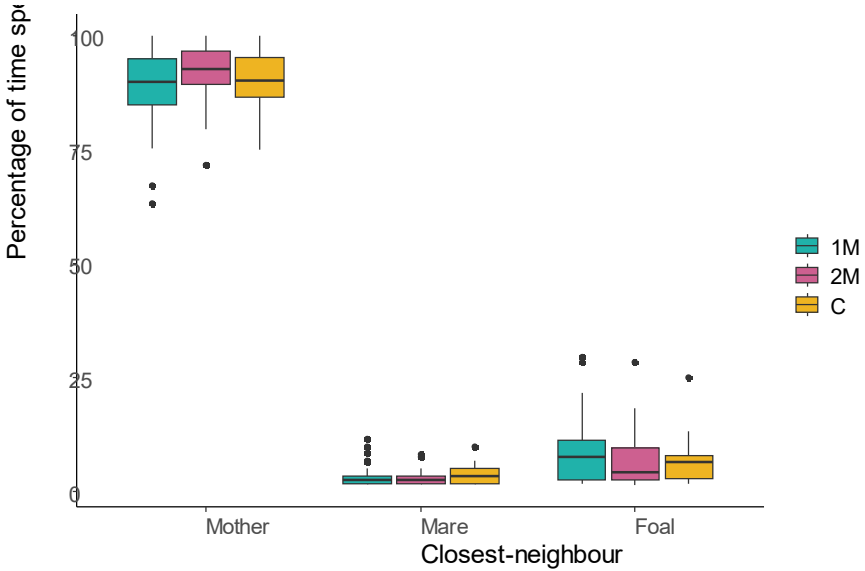
In the pasture: mare-foal distances

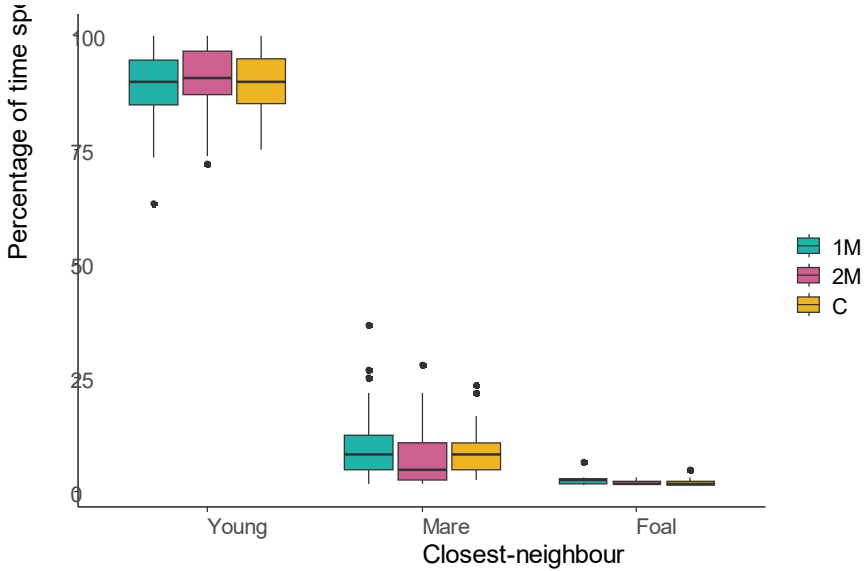
- No difference between groups whatever the week of lactation studied
- No difference between the studied week of lactation whatever the group



In the pasture: social preferences

- No difference between groups whatever the week of lactation studied
  - The **other member of the dyad** is the prefered neighbour
- No difference between the studied week of lactation whatever the group





4. Conclusion

Conclusion and perspectives

- No deleterious effect of milking (whatever the frequency) on the mare-foal bond
- Decrease of stress throughout the weeks → habituation
  - Less agression-related behaviour
  - Less suckling attempts
- More research needed in a context with physical separation of mares and foals during the waiting phase

Some questions?

We thank the staff of the experimentation center for their participation in the protocol and the care of the animals.