

Saliva cortisol levels of nurse sows and ordinary sows through lactation

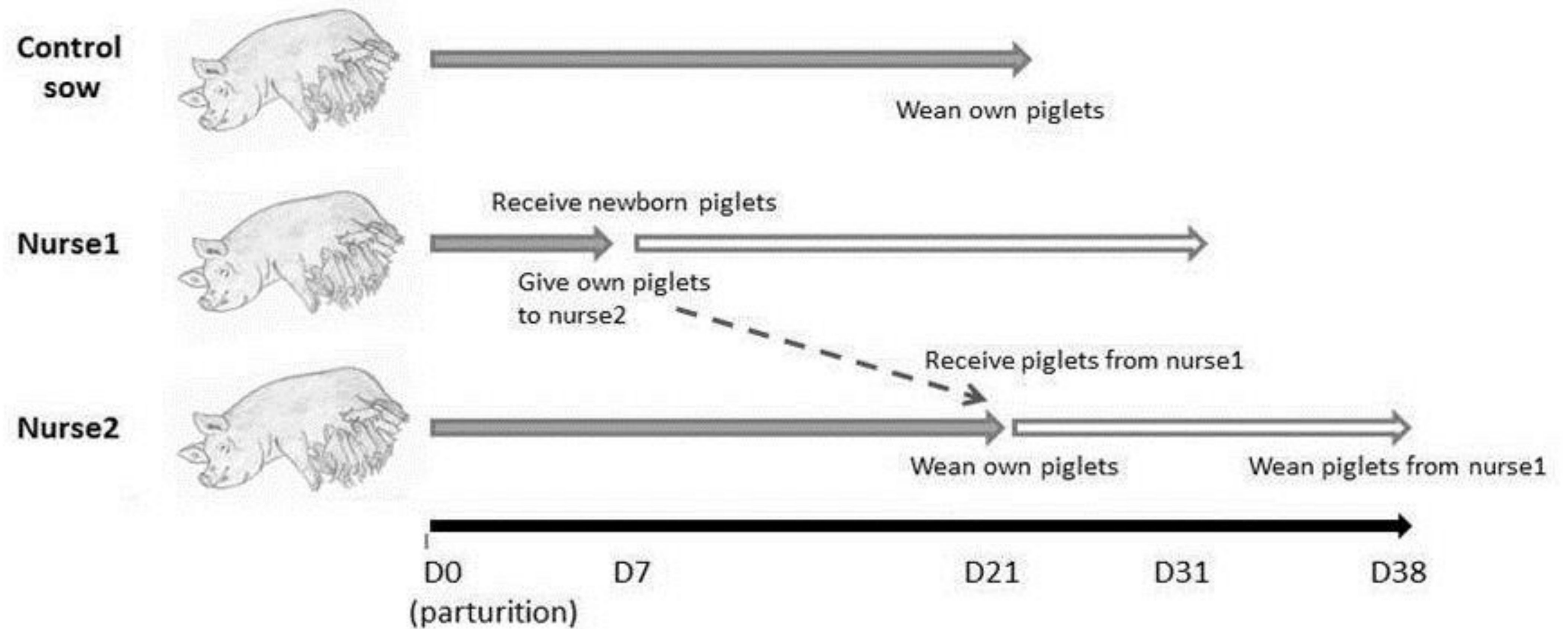
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- Nurse sows are used in piggeries with hyper-prolific sows to manage large litters.
- In Denmark, cascade fostering using two lactating sows are normally performed.
- It is, however, not known if nurse sows experience prolonged stress when housed in farrowing crates beyond the normal weaning time.

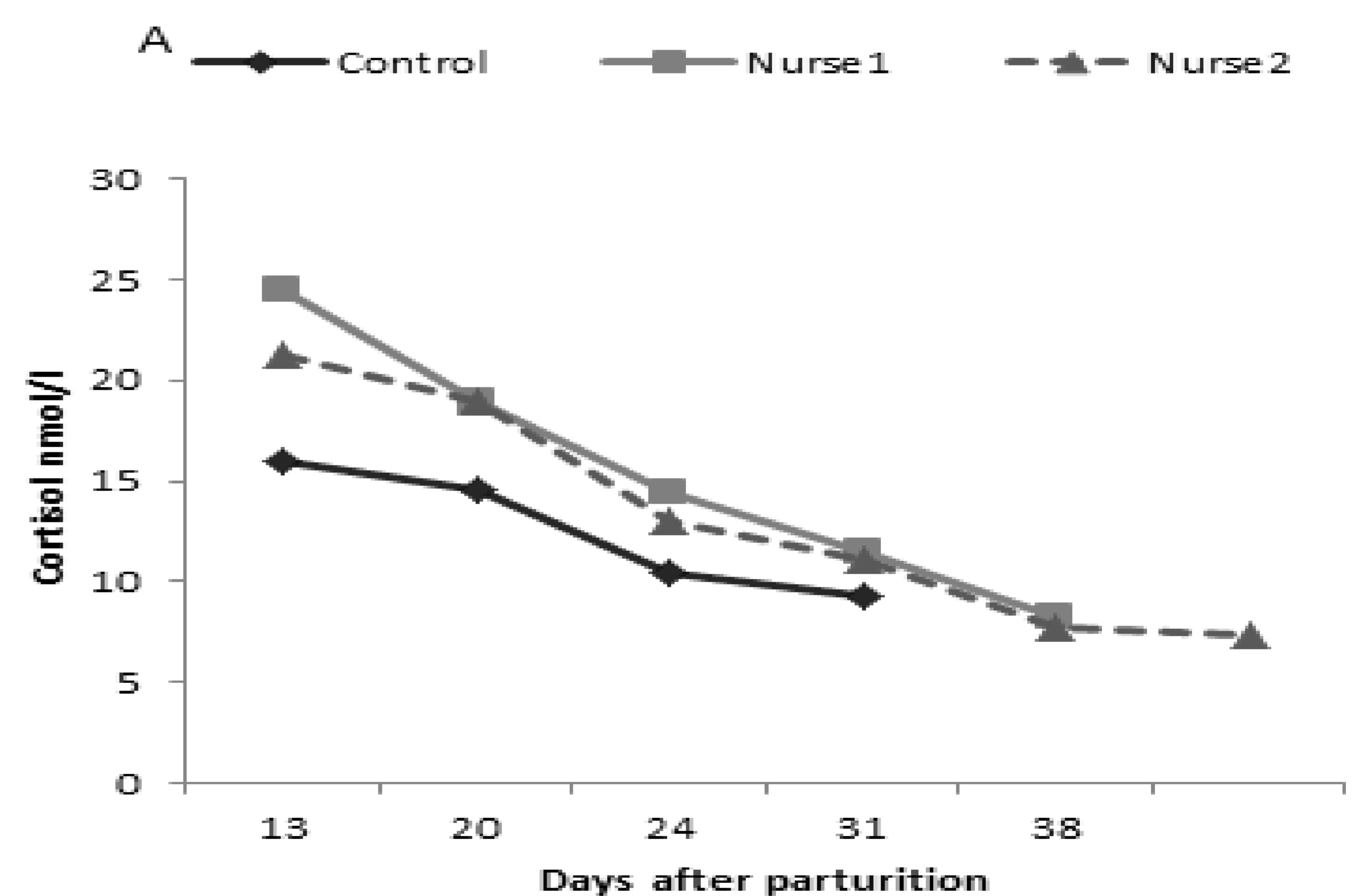
The aim of this study was to quantify the long-term saliva cortisol response as a measurement of the nurse sows stress level compared to ordinary sows (OSOW) weaning piglets at d 25.



The first nurse sow (NURSE1) had her own piglets removed after a week and received surplus newborn piglets that she fostered until weaning.

The second nurse sow (NURSE2) weaned her own litter after 21 days and received the litter from NURSE1 which she reared until weaning

Saliva sampling



- In total 60 sows (n=20) were randomly allocated to become an OSOW, NURSE1 or NURSE2.
- Saliva was collected on d 6, 13, 20 and 24 at 10h, 13h and 16h for all sows.
- Additional samples were taken on d 31 for NURSE1 and NURSE2 and d 38 for NURSE2.
- Saliva samples were analysed using a Salivary Cortisol kit (Salimetrics, UK).
- Cortisol data were log transformed and analysed univariately using proc mixed in SAS.

- No effect of treatment but an effect of day ($P < 0.001$) with saliva cortisol declining throughout lactation.
- NURSE1 tended to have lower values (8.3nmol/l) on d 31 than on d 24 (11.5nmol/l; $P = 0.08$).
- NURSE2 had lower cortisol values on d 38 (7.4nmol/l) and on d 31 (7.5nmol/l) than on d 24 (11.1nmol/l; $P < 0.05$).

In conclusion, results indicate that saliva cortisol levels decline throughout lactation and there was no difference in saliva cortisol levels between OSOWS and nurse sows.