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The effect of milk feeding method on calves' behavioural sleep

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Our aim was to study how calves' sleep could be affected by the milk feeding and housing methods. Forty-one calves were housed for four days p.p. either with their dam (DAM), or individually fed through a teat-bucket (TEAT) or an open bucket (BUCKET). DAM calves suckled their dam freely and BUCKET and TEAT calves received colostrum 4 * 2 litres per day.

Calves' resting behaviour and behavioural sleep were video recorded continuously during 2-3 days of age. Total time spent resting in different postures as well as behavioural sleep (BS) was recorded. Total BS was scored when calves had been at least 30 s resting head lifted still (quiet sleep, QS) or resting head against body or ground (active sleep, AS). In addition, mean daily latencies from the end of milk feeding to the start of BS were counted. The differences between TEAT and BUCKET or DAM were analysed with mixed models.

No effect was found on total BS between treatments: The calves slept daily (mean \pm se) 12hr 59 min \pm 1hr 38min. However, BUCKET calves had less QS than TEAT calves (378 \pm 45min vs. 468 \pm 45 min, $p < 0.05$), and also longer latencies from milk ingestion to BS compared to TEAT calves (22.9 \pm 1.9 min vs. 16.2 \pm 0.8 min, $p < 0.05$). No statistical differences were found between TEAT and DAM calves.

We concluded that possibility to suck milk increased the amount of calves' behavioural quiet sleep and sleepiness after feeding, possibly due to suck-induced hormonal effects.