

Aim

The aim of the study was to evaluate the effect of holding time (HT) on the behavior of cows during milking, somatic cell counts (SCC), and bacteria counts (BC) in milk.

Methods

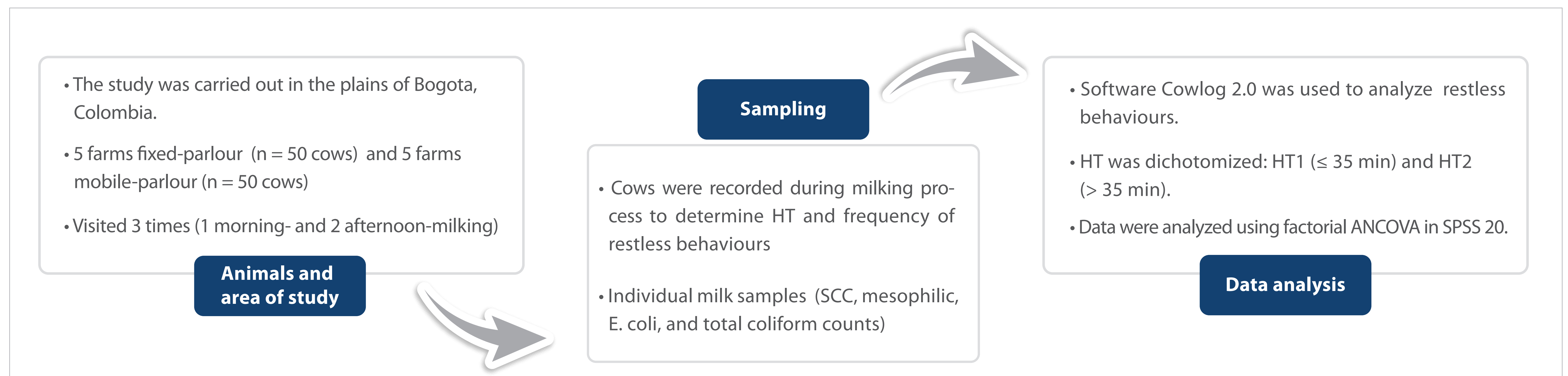


Figure 1. Scheme of methodology



Figure 2. Cows waiting for the milking routine in unsuitable conditions

Results

Holding time

HT (mean \pm SD) was significantly ($p < 0.05$) shorter for cows milked in fixed-parlour (28 min \pm 25.4) compared to mobile-parlour (42 min \pm 28); and HT was significantly longer during afternoon-milking (44 min \pm 33) compared to morning-milking (30 min \pm 23). See figure 3.

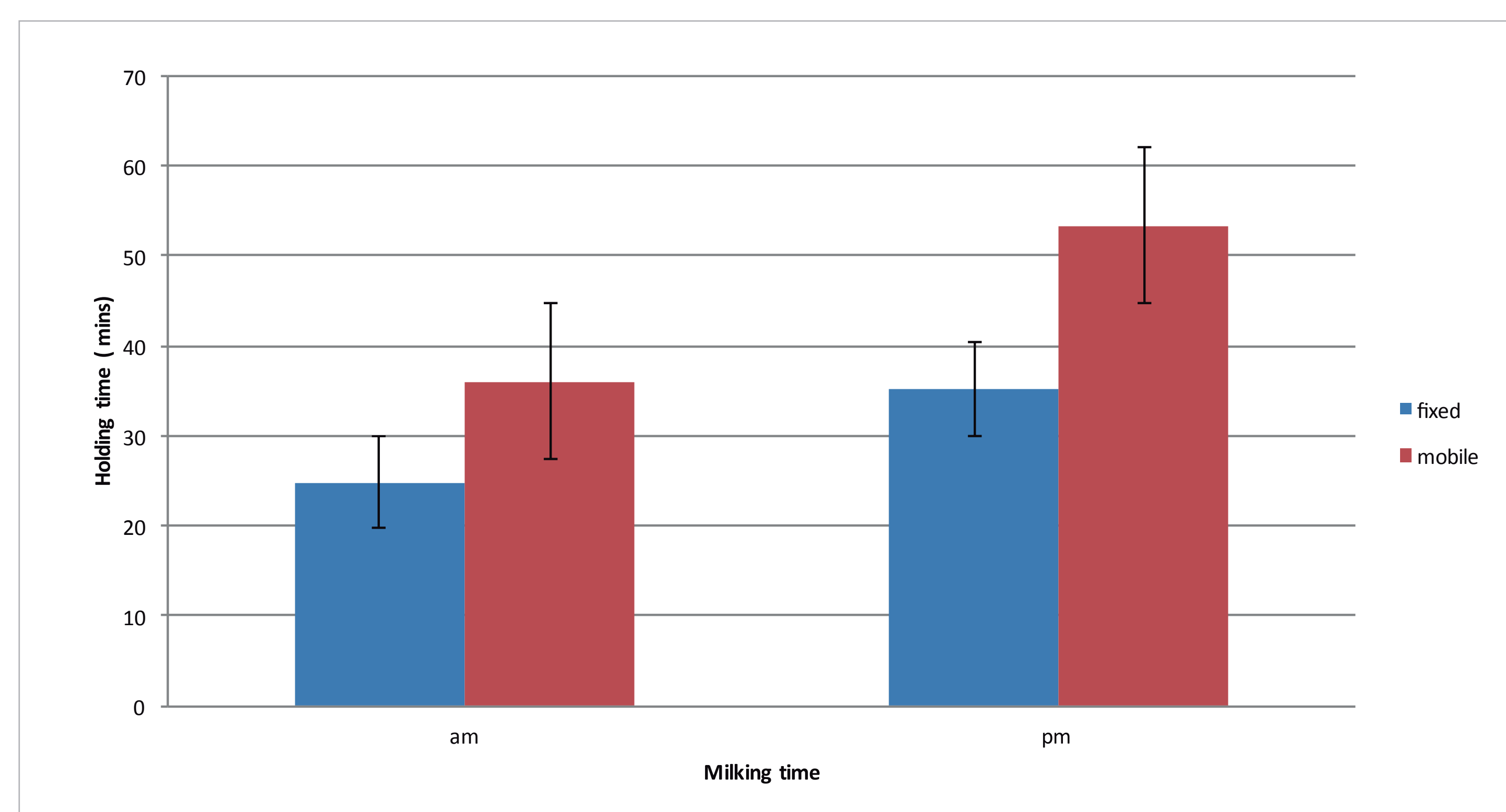


Figure 3. Mean (\pm SD) of holding time prior milking by milking time for both types of parlour.

Restless behaviours

The frequency of stepping was higher for cows in the HT1 group (0.4 steps/min \pm 0.5) compared to cows in the HT2 group (0.3 steps/min \pm 0.4) ($p < 0.05$). Lift and kick behaviours did not present significant differences.

Milk hygiene quality

SCC and E. coli counts were significantly lower in milk samples from cows in the HT1 group (SCC: 552.028 cells/mL \pm 88.985; E. coli: 4.9 cfu/mL \pm 38.5) compared to samples from cows in the HT2 group (SCC: 625.447 cells/mL \pm 105.443; E. coli: 11.2 cfu/mL \pm 82.8).

Table 1: Milk hygiene quality (mean \pm SD) in HT1 and HT2 according to the type of milking.

	SCC (cells/mL)	Mesophilic (cfu/mL)	E. coli (cfu/mL)	Total coliforms (cfu/mL)
HT1	552,028 (88,985) b	17,705.7 (67,798) a	4.9 (38.3)b	53.7 (280.6) a
Fixed	368,130 (55,624)	20,259.5 (70,770)	8.2(49.1)	87.7 (356.5)
Mobile	834,349 (117,884)	13,745.5 (62,706)	0	1.5(3.1)
HT2	625,447 (105,443)a	53,057.8 (45,3397) a	11.2 (82.8) a	59.8 (403.0)a
Fixed	404,379 (45,061)	14,651.8 (56,416)	33 (139.1)	173.6 (677.8)
Mobile	738,815 (123,518)	72,011.4 (55,168)	0	1.4 (4.6)

Means with different superscripts differ ($P < 0.05$).

Conclusions

- This study showed that holding time did not have an effect on restless behaviours during milking, while the type of parlour was associated with a higher frequency of stepping.
- Cows with shorter holding times (HT1) had lower SCC and bacteria counts.
- This study suggests that having short holding times (≤ 35 min) when mobile-parlour is using could help improve milk quality.

