

DURATION AND FREQUENCY OF SUCKLING BY FOALS DURING THE FIRST 3 MONTHS OF AGE

Kaić A., Boštic T., Potočnik K.



*University of Zagreb
Faculty of Agriculture*



*University
of Ljubljana*

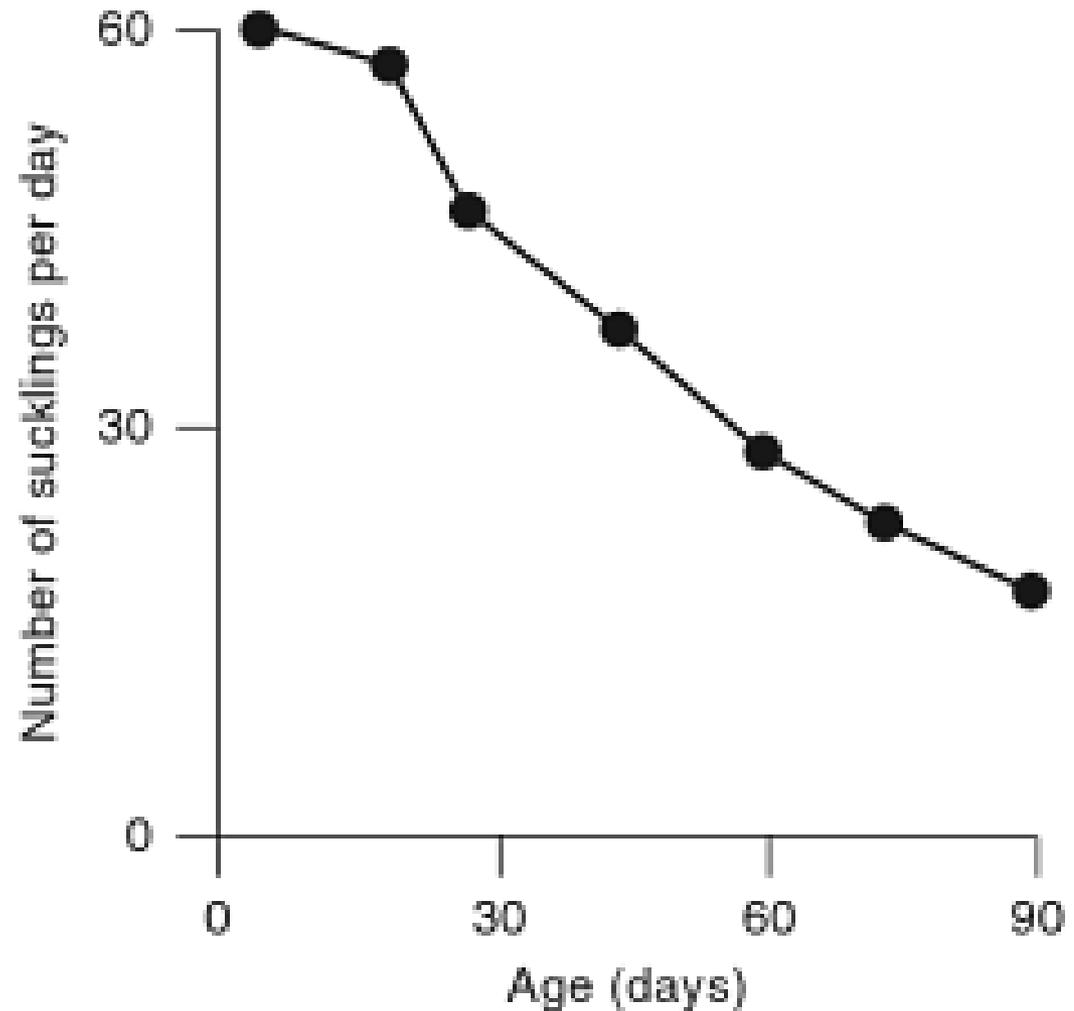
*Biotechnical
Faculty*

Introduction

- Frequency and duration of suckling - different data
 - Strange data published in literature
 - Lack of published data

Literature

Common suckling frequency in foals up to three months of age
(Fraser A.F. 2010 - The behaviour and welfare of the horse)



Aim of study

- To determine:

- Duration
- Frequency

of suckling in foals during first months after birth - lactation

- Compare the results with literature

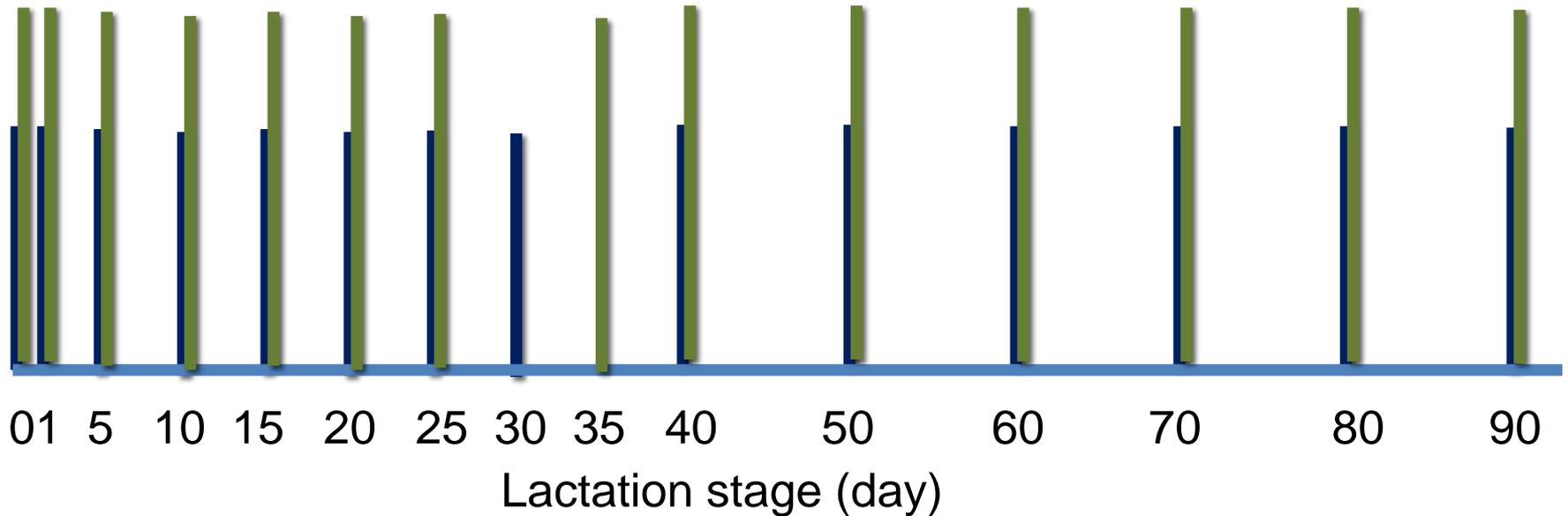
Materials and methods

- Animals:
 - Standard bred trotters
 - Two male foals with their mares
 - Foaling 13.3.2009
- Observation:
 - Boxes 3 × 3 m
 - Cameras attached above boxes
 - From birth to 90th day of age
- Measurements:
 - Review of recorded material
 - If the foal had muzzle under mare's udder more than 5 s

Observation - recording

Experiment plan

Realized observations



How can look suckling?

<https://dl.dropbox.com/u/39617454/video2.avi>



How can look suckling?

<https://dl.dropbox.com/u/39617454/video1.avi>



Materials and methods

- Data – all together 1969 individual suckling's observed
- Statistical model:

$$y_{ij} = \mu + b_I (x_{ij} - \bar{x}) + k_i + e_{ij}$$

$$y_{ij} = \mu + b_I (x_{ij} - \bar{x}) + b_{II} (x_{ij} - \bar{x})^2 + k_i + e_{ij}$$

y_{ij} – dependent variable

μ – overall mean

b_I – linear regression coefficient for the stage of lactation

k_i – *random* effect of mare - foal

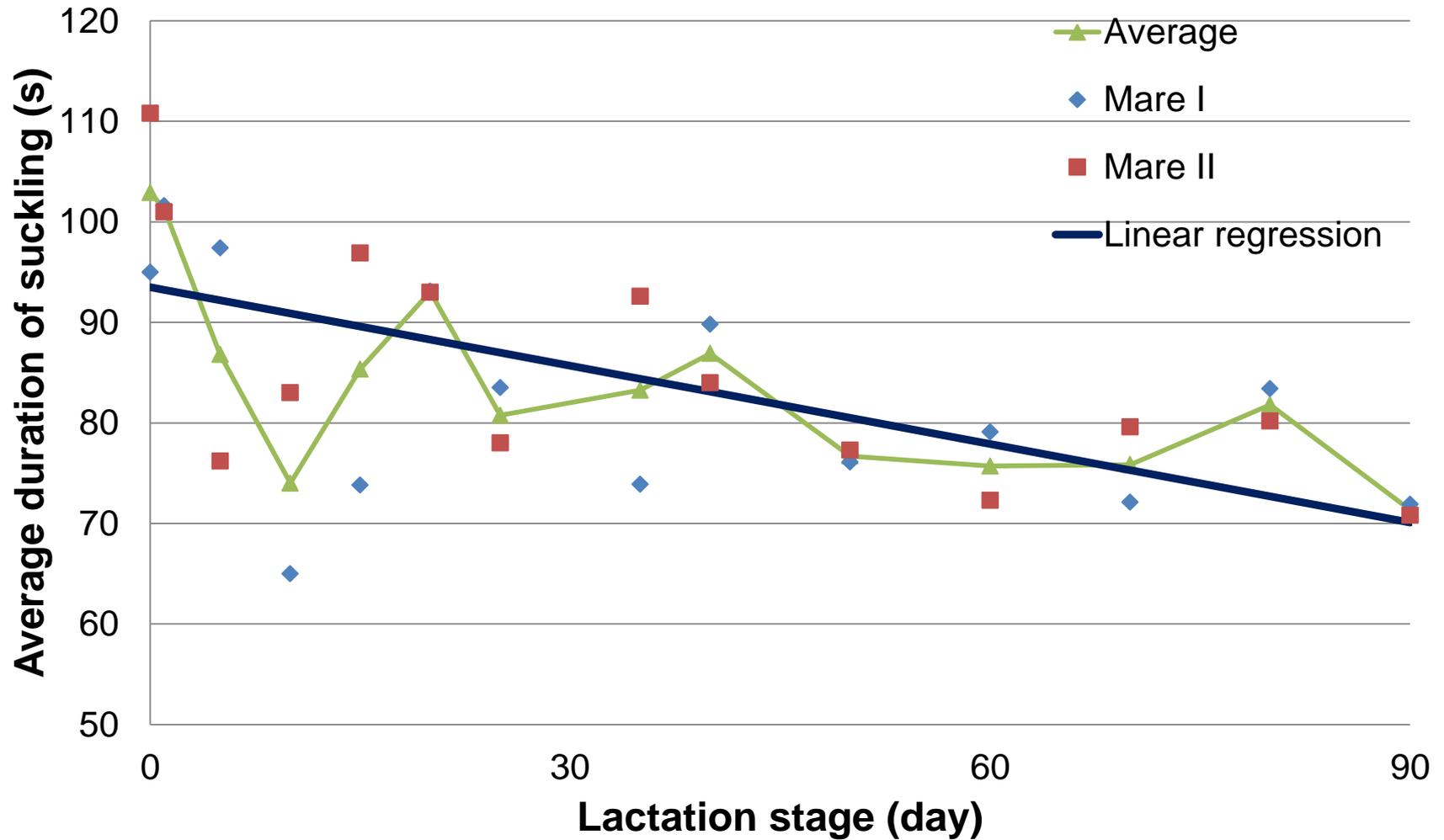
e_{ij} – residual error

b_{II} - quadratic regression coefficient for the stage of lactation

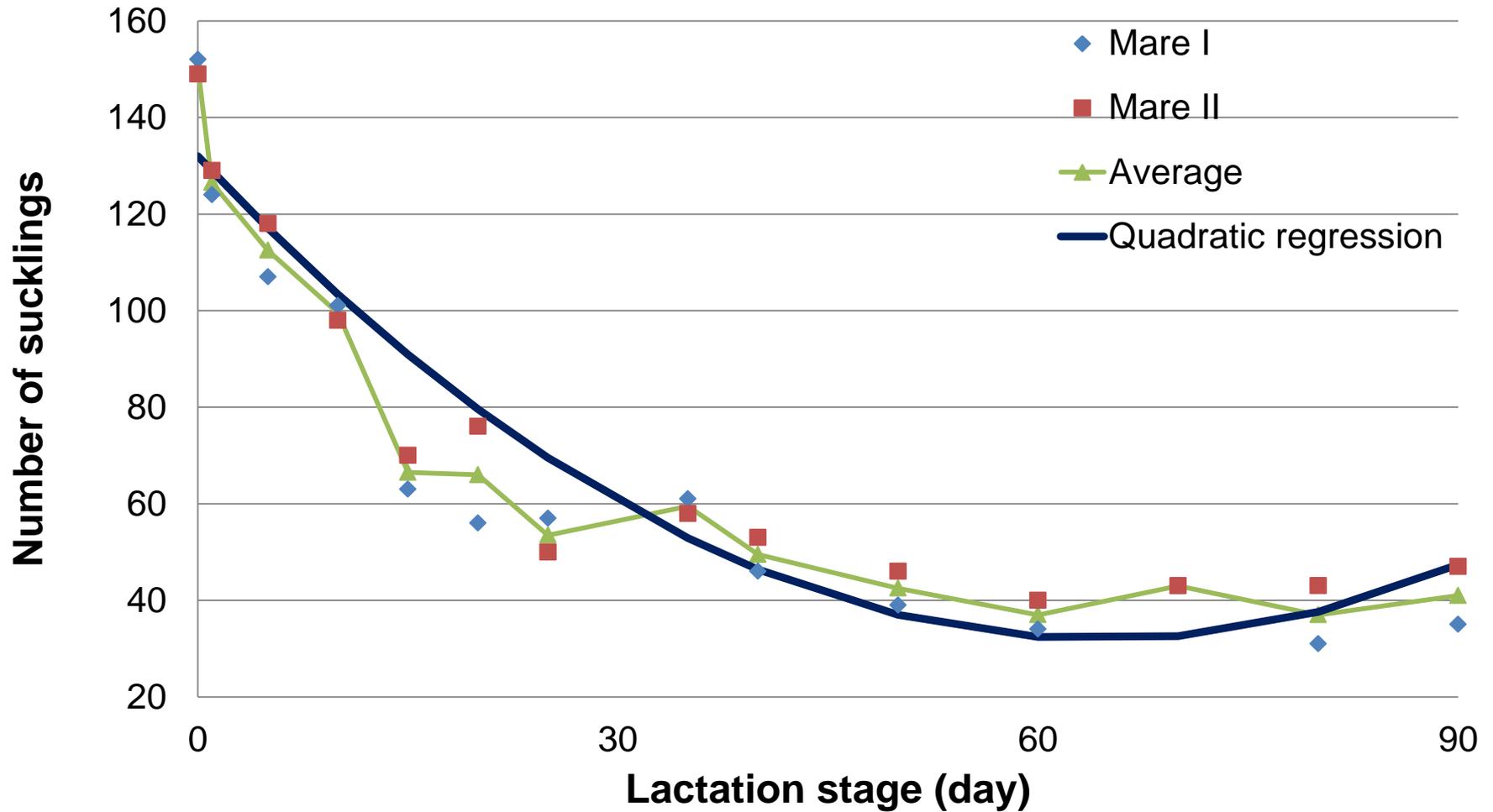
Descriptive statistics

	Number of sucklings	Suckling duration (sec)			
		Mean	SD	Min	Max
Mare I	949	85.5	48.40	6	259
Mare II	1020	89.1	39.65	6	291
Total	1969	87.4	44.11	6	291

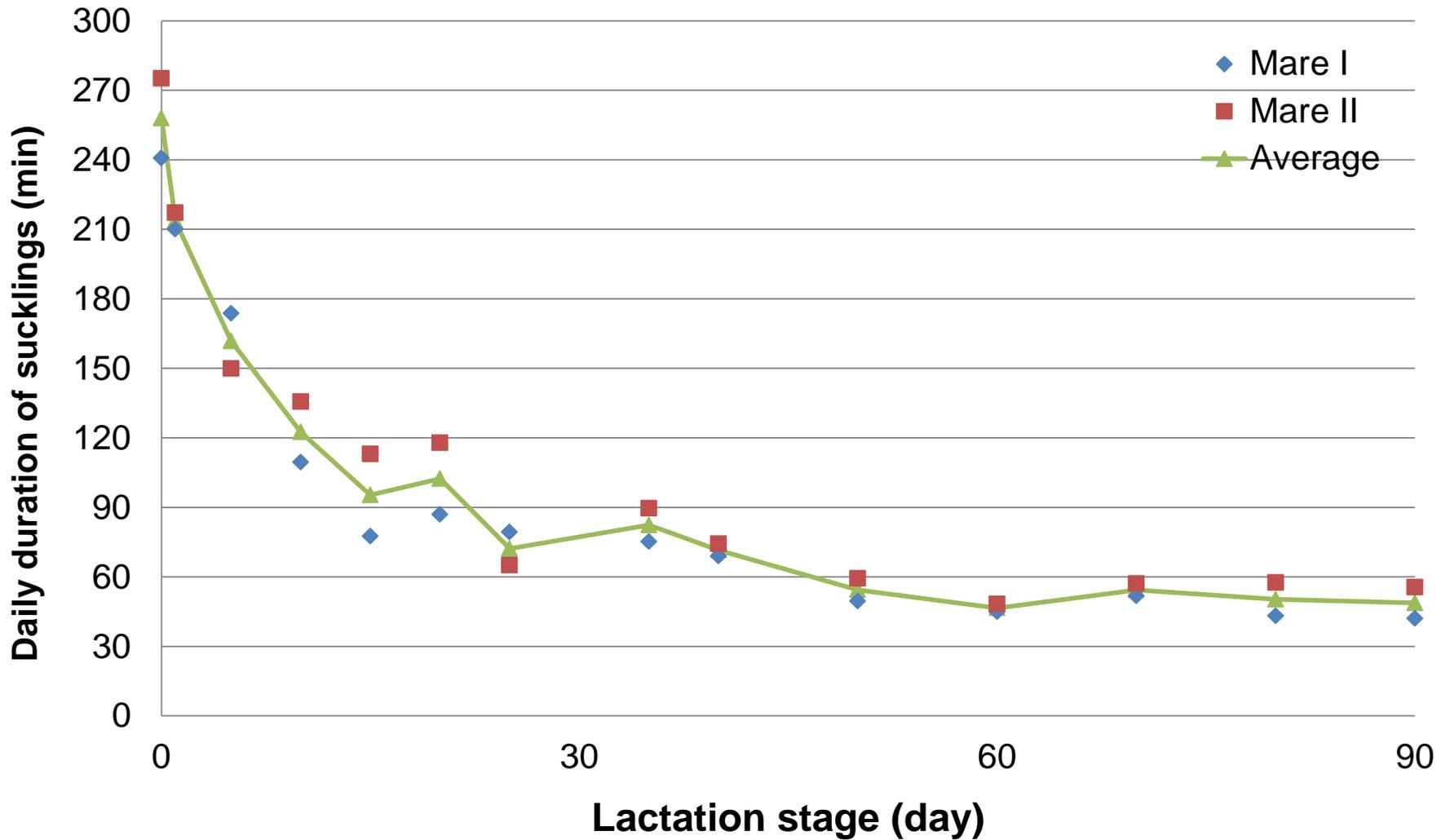
Duration of suckling



Frequency of suckling



Daily duration of suckling



Conclusions

- Difficulty to define sucklings with video observations
- Foals suckled frequently as we expected, especial in first weeks after birth
 - ~150 times in first 24 hours
 - ~ 40 times after 7th week of age to the end of experiment
- Duration of suckling varied within day, especial in the first weeks after birth
 - On average 80 s after 7 weeks of age
- No significant differences between mares-foals

Thank You for your attention!

