EVOLUTION AND PREDICTORS OF BAD SLEEP IN YOUNG CHILDREN

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INTRODUCTION

- Sleep disorders: A major concern for parents

(Ferber, 1985)

- A quarter and a third of young children present difficulties in sleep

(Johnson, 1991; Pollock, 1994; Richman et al., 1985)

- Continuity in frequent night wakings:

6 months ➞ school years

(Ottaviano et al., 1996; Jenkins et al., 1984)

To our knowledge, it is still unclear as to what predicts the development and maintenance of nocturnal awakenings.

AIMS

① to present the evolution of “good” and “bad” sleepers

② to examine the development of sleep characteristics and parasomnias between 5 and 17 months and between 17 and 29 months of children born in the year 1997-1998 in the province of Quebec (Canada)

③ to identify the most determinant variables likely to impede or foster the process of sleeping through the night at 5, 17 and 29 months of age.

METHODS

The analyses presented in this presentation are based on data collected in the first three rounds of the "Quebec Longitudinal Study of Child Development" (QLSCD) 1998-2002 conducted by l'Institut de la Statistique du Québec (ISQ).

- ***Subjects***

  Initial sample: 2115 children who were representative of the births for 1997-1998 in the province of Quebec

  Longitudinal data: 1751 children

METHODS

- ***Procedures***

Questionnaires and interviews

Information on sleep, child and family characteristics, living conditions, etc.

Classification into «good» or «bad» sleepers is based on the mother's opinion on whether the child was sleeping through the night or not

METHODS

- ***Statistical analysis***

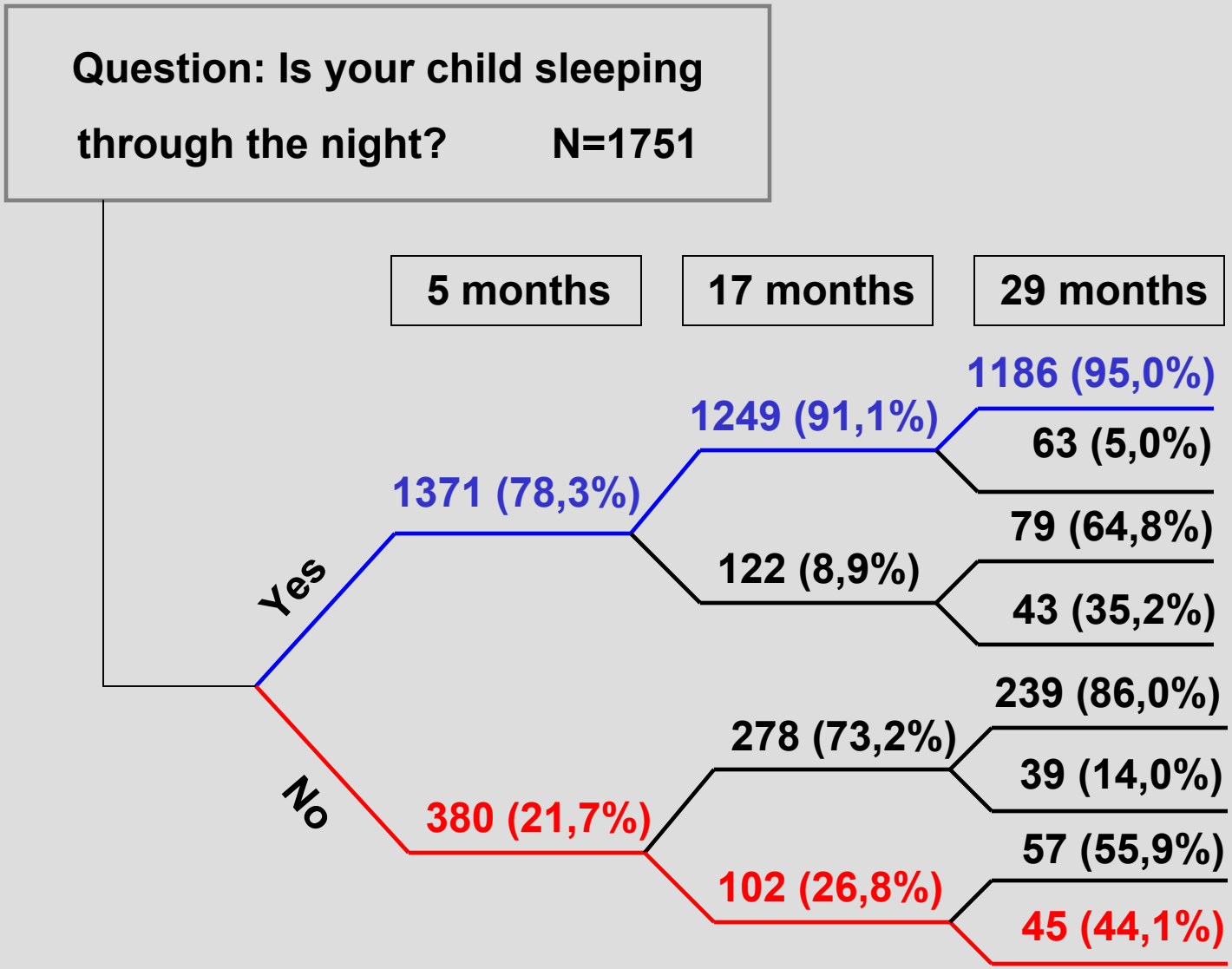
① Percentage of children (longitudinal data) ↳ What's the evolution of "good" or "bad" sleepers based on the mother's opinion?

② Frequency analysis ↳ Prevalence of sleep characteristics and parasomnias at each age

③ McNemar and Marginal Tests ↳ Evolution of sleep characteristics and parasomnias

④ Logistic regression analysis ↳ Determination of the most determinant variables in the etablishment of consolidated sleep at each age

RESULTS *(Trajectory of « good » and «bad » sleepers)*



RESULTS *(sleep characteristics)*

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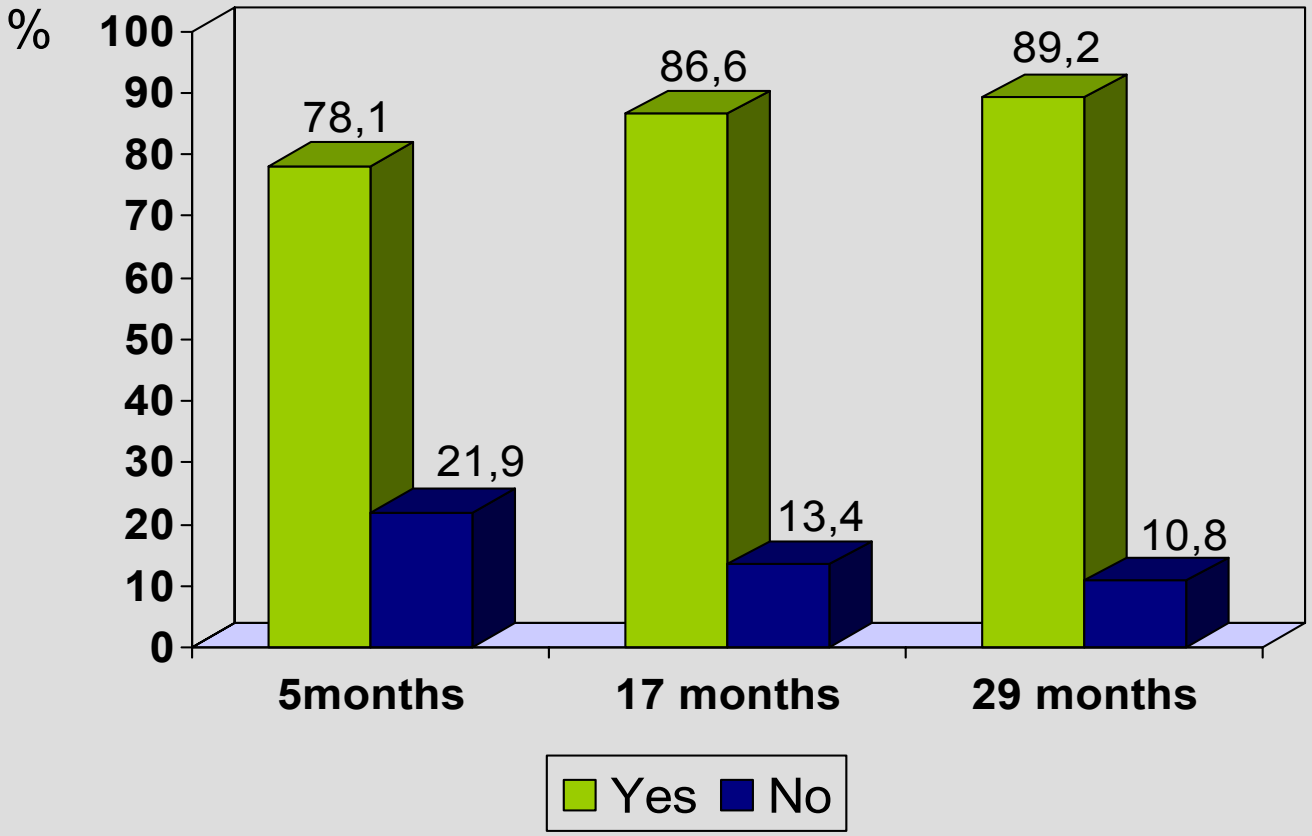
Figure 1. Percentage of children in function of sleeping through the night or not at 5, 17 and 29 months



RESULTS *(sleep characteristics)*

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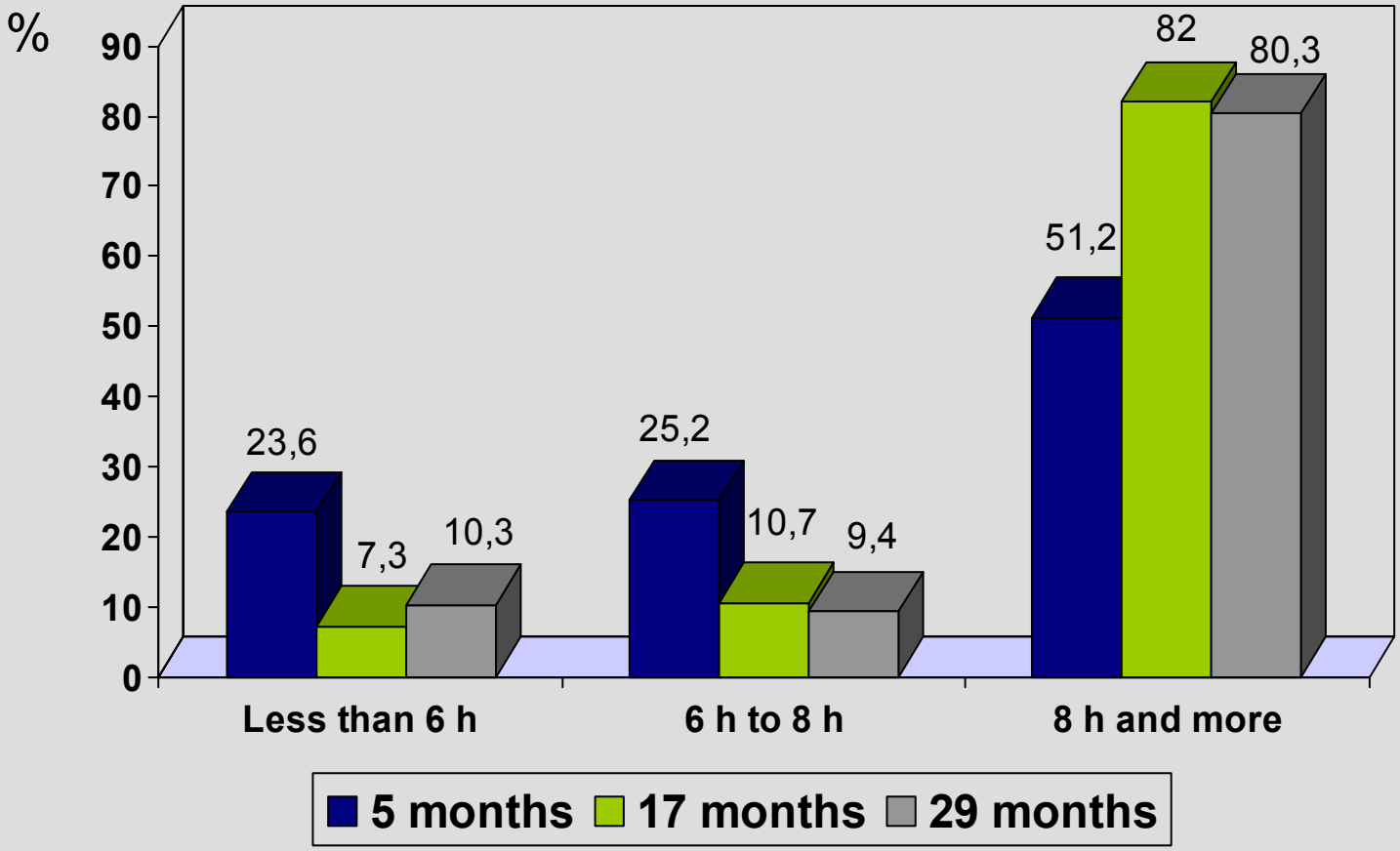
Figure 2. Percentage of children in function of hours slept consecutively during the NIGHT at 5, 17 and 29 months



RESULTS *(sleep characteristics)*

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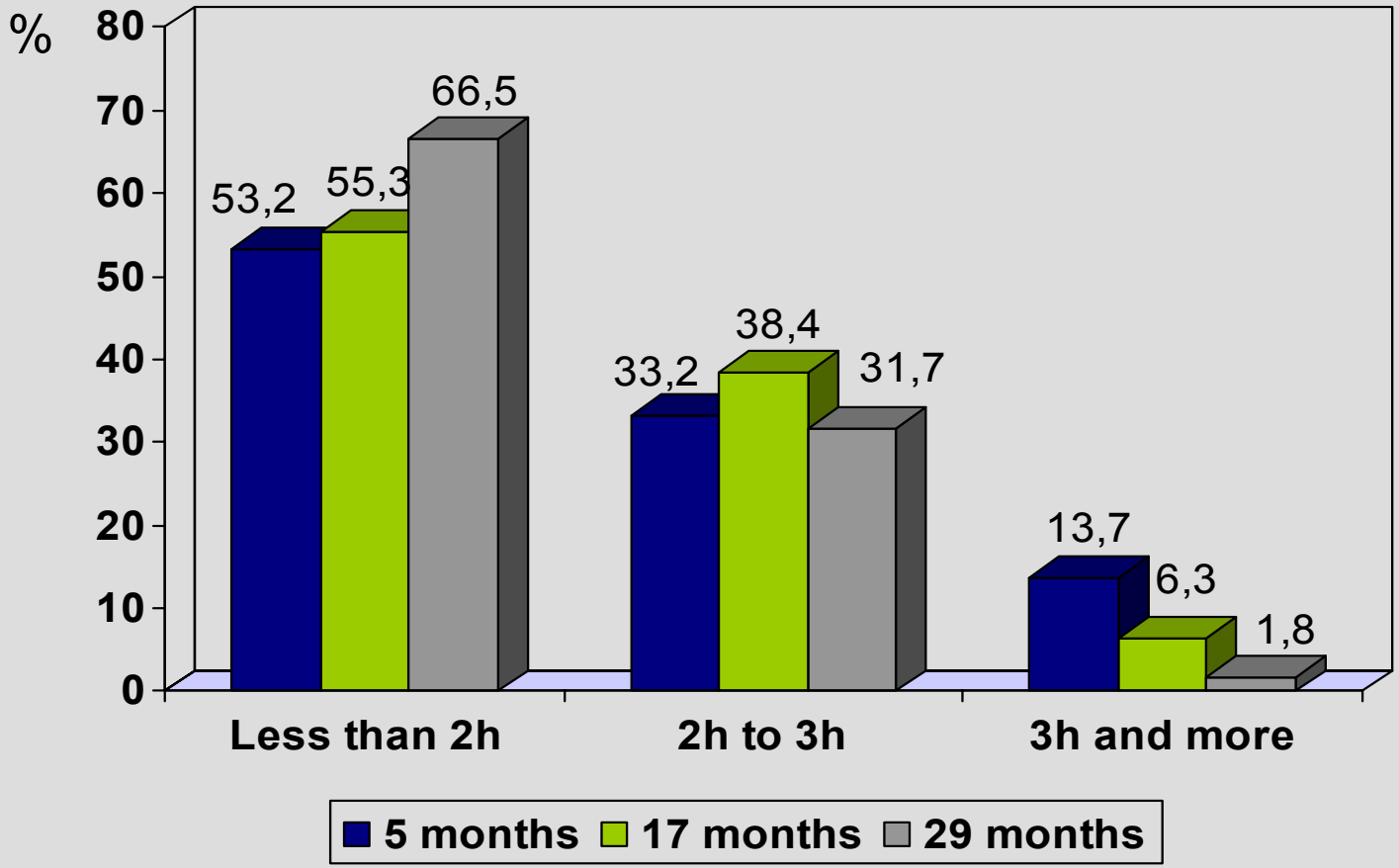
Figure 3. Percentage of children in function of hours slept consecutively during the DAY at 5, 17 and 29 months



RESULTS *(sleep characteristics)*

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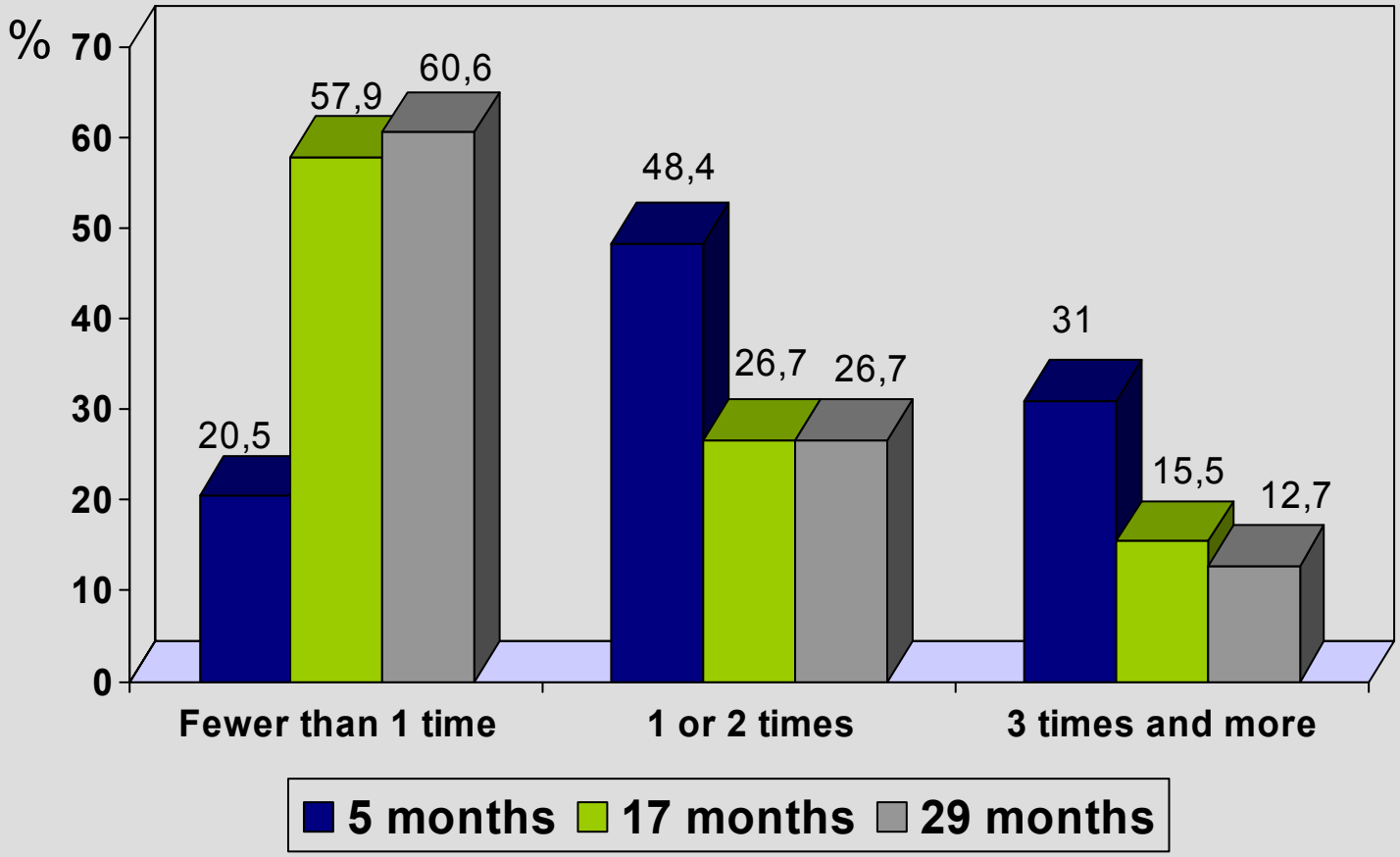
Figure 4. Percentage of children in function of their nightly awakenings at 5, 17 and 29 months



RESULTS *(sleep characteristics)*

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Figure 5. Percentage of children in function of their sleep latency at 5, 17 and 29 months

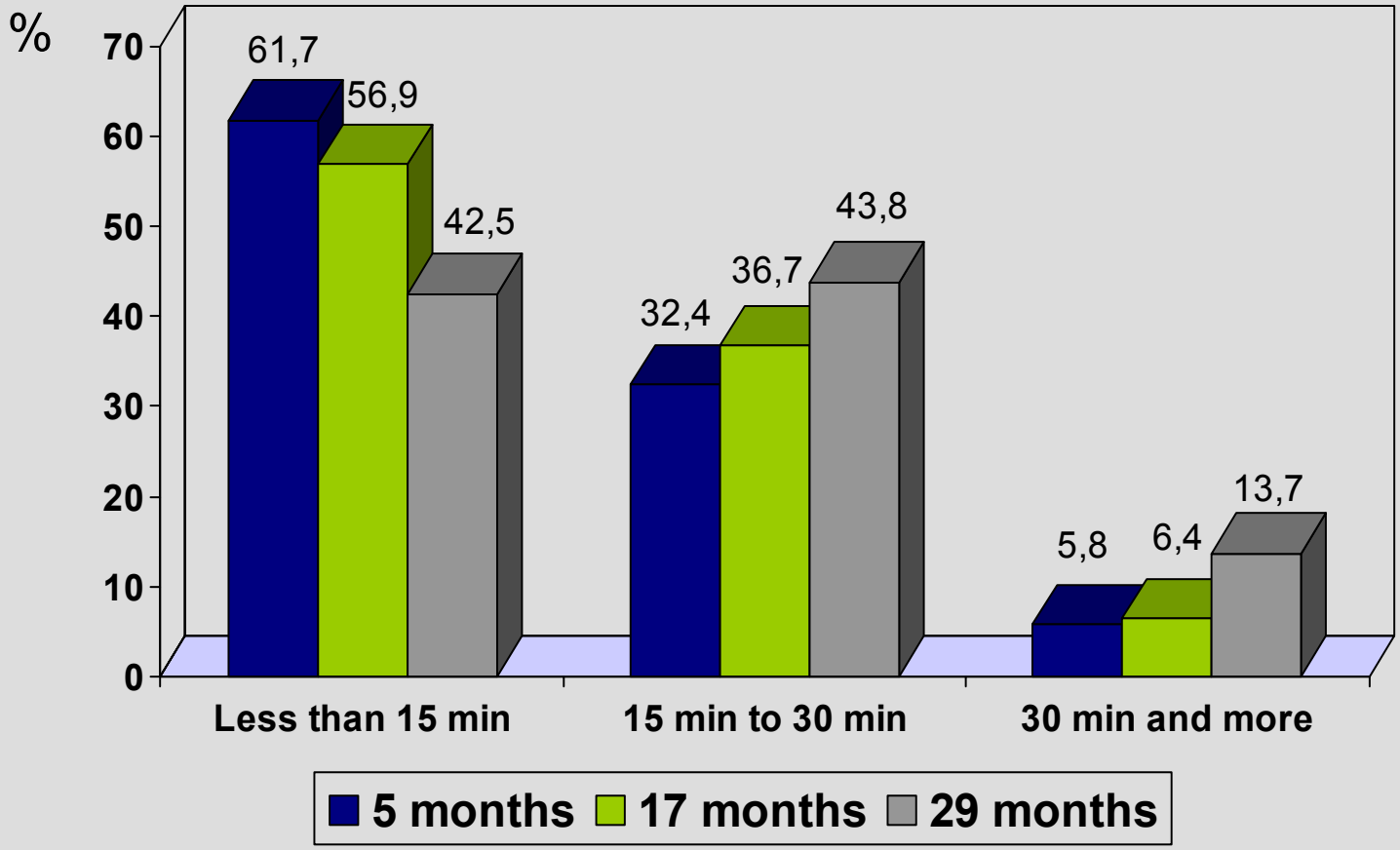

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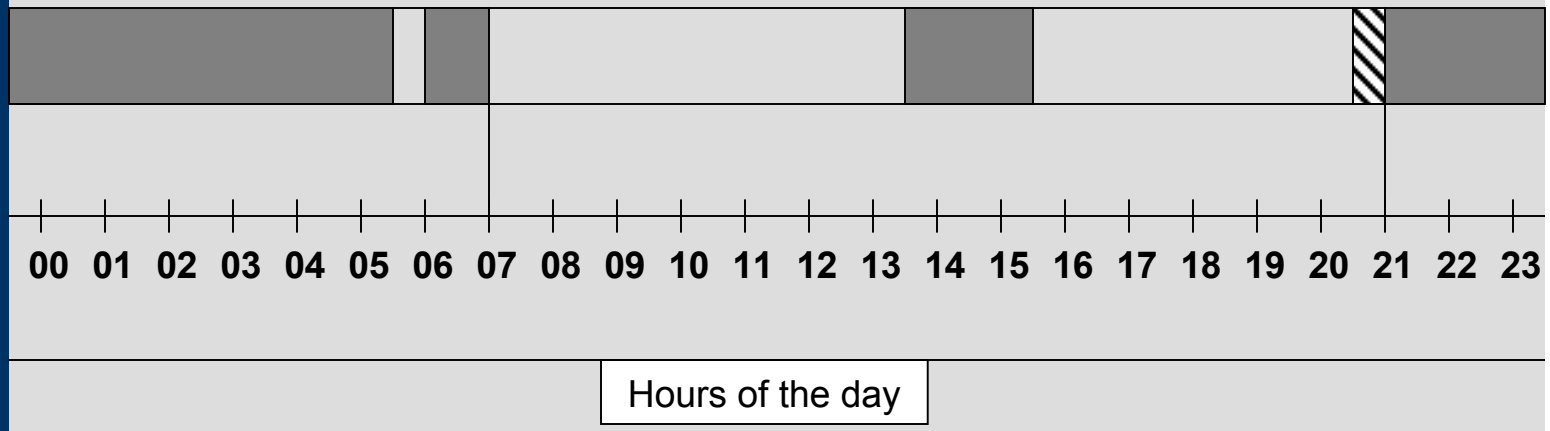
Figure 6. Portrait of a typical 24 hours of an 29 months children, Quebec, 2000



Legend:

: Sleep period

: Sleep latency

: Awake period

RESULTS *(parasomnias)*

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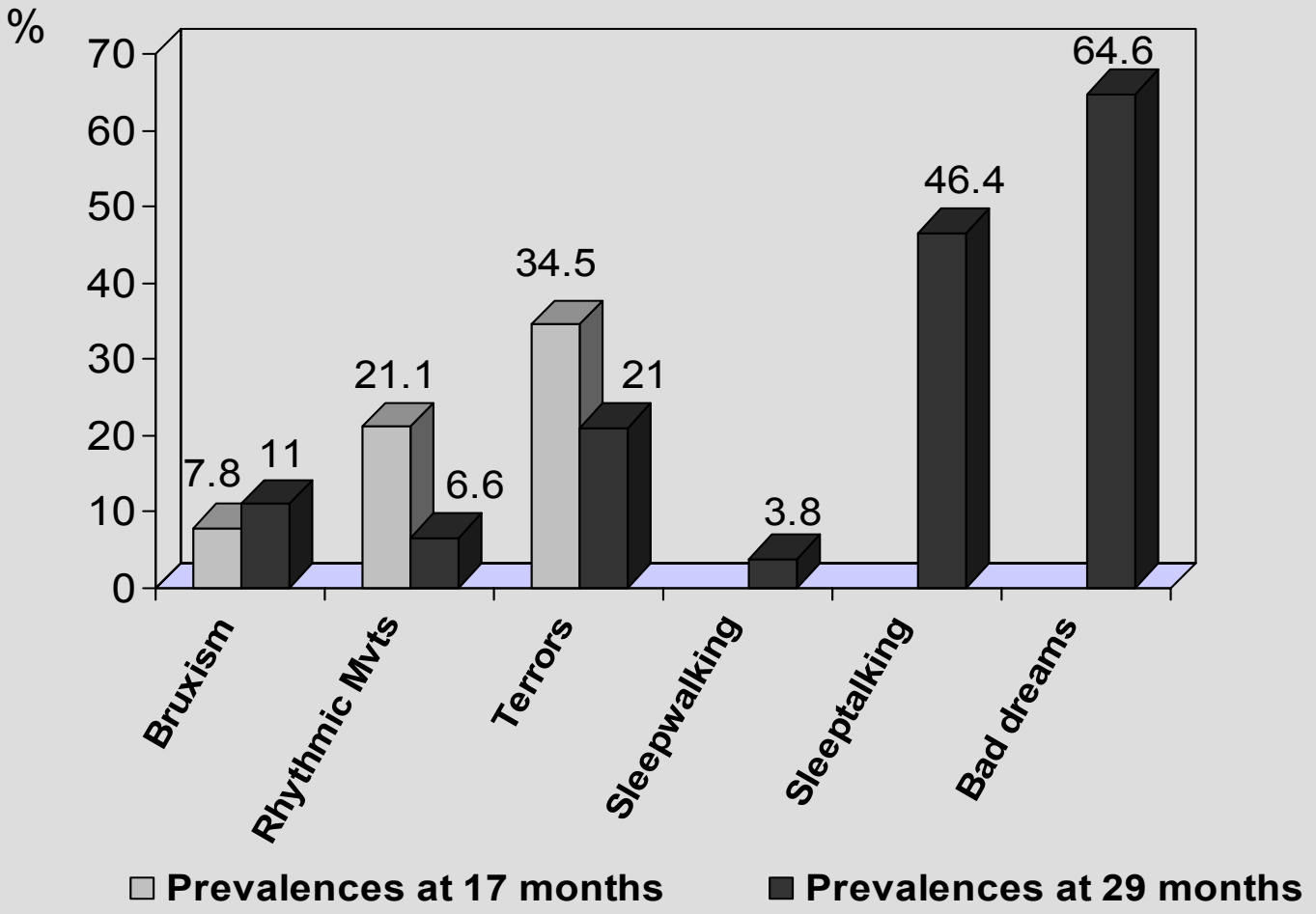
Figure 7. Prevalence of parasomnias at 17 and 29 months



RESULTS *(parasomnias)*

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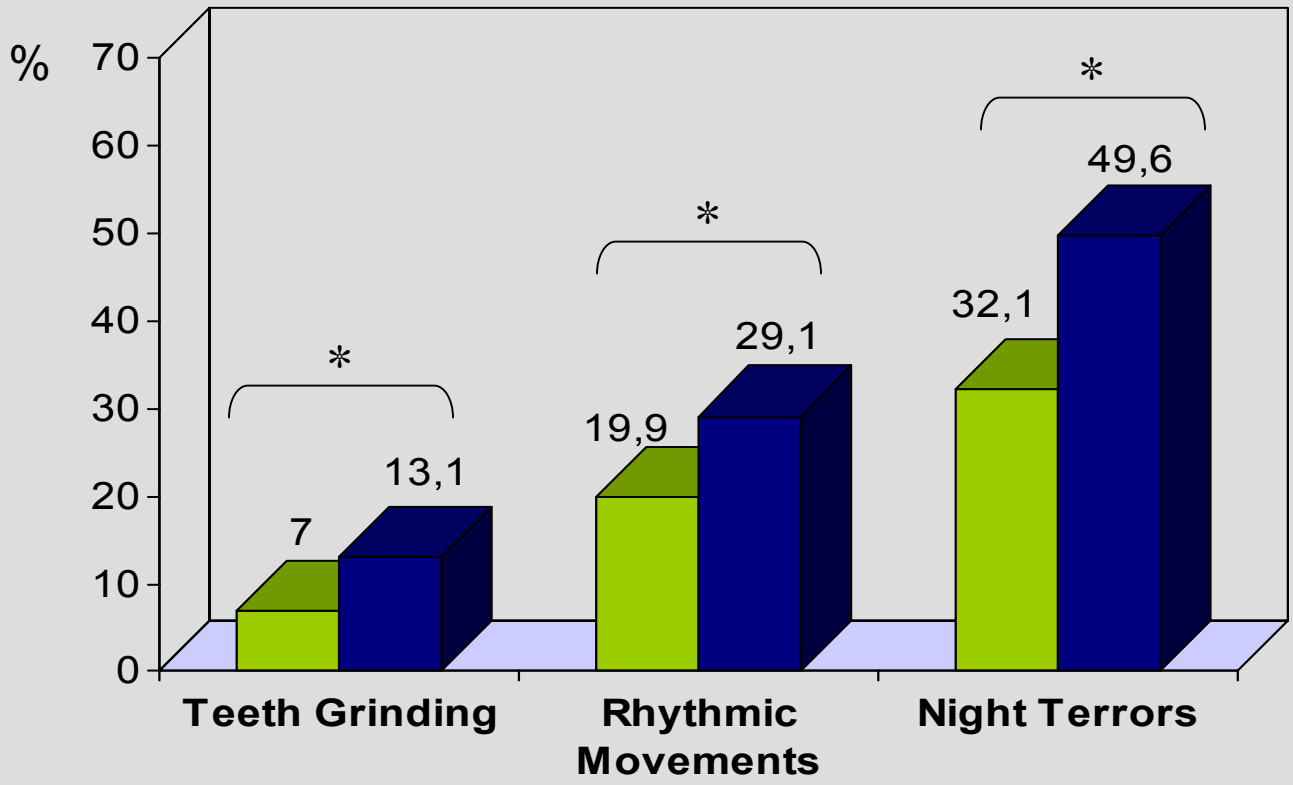
Figure 7. Prevalence of parasomnias as a function of sleeping through the night or not at 17 months



* χ^2 (p<0,01)

RESULTS *(parasomnias)*

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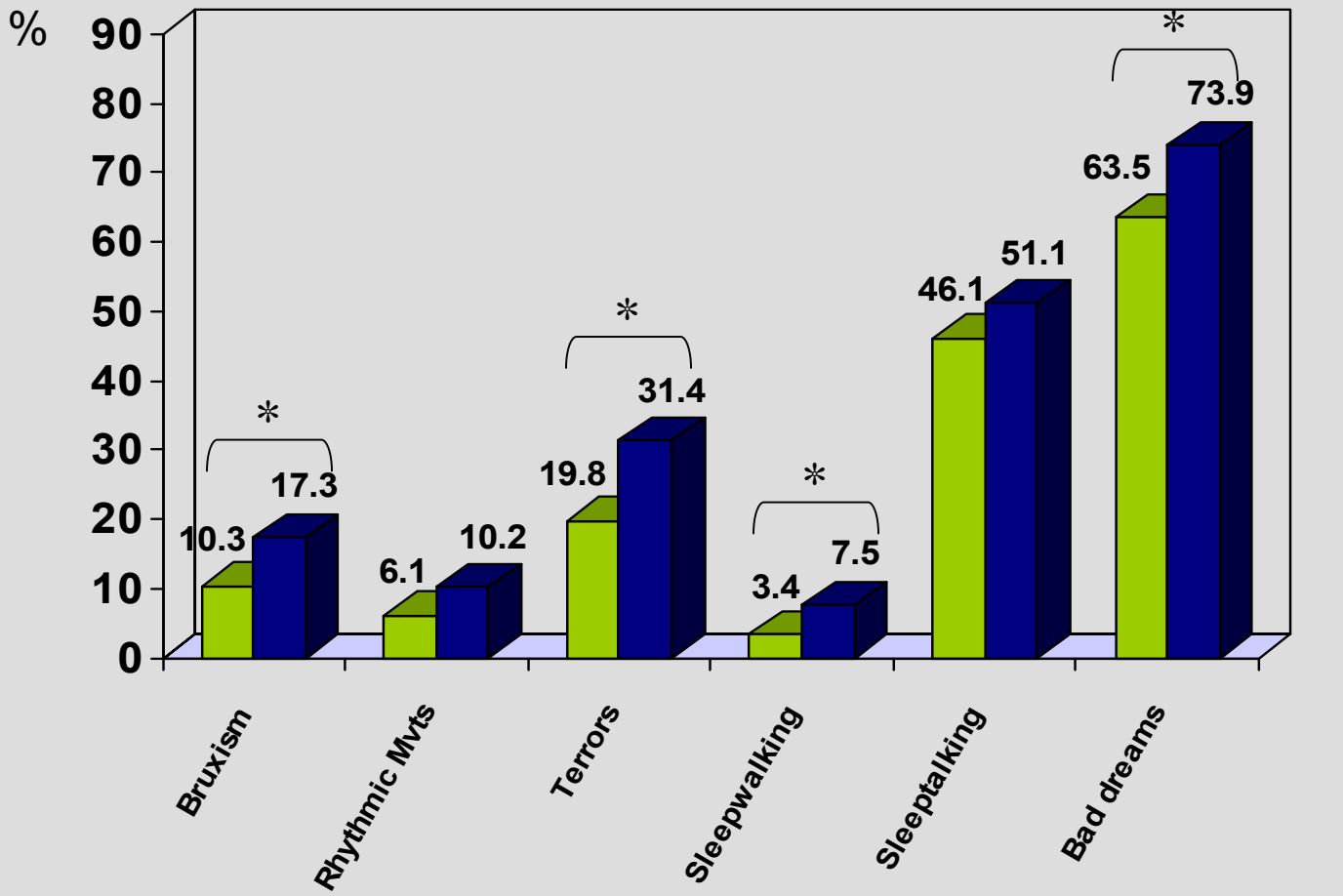
Figure 8. Prevalence of parasomnias as a function of sleeping through the night or not at 29 months



* χ^2 (p<0,01)

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RESULTS *(Significant variables inserted in each regression)*

5 months	17 months	29 months
• Parental behaviors at bedtime • Parental behaviors during awakenings • Foreign status • Sex of the child • Mother's perception of the infant's temperament • Mother's smoking habits • Maternal overprotective scale • Breast or bottle feeding • Presence of a transitional object • Sleeping in the parents ' bed • Place where the baby slept	• Parental behaviors at bedtime • Parental behaviors during awakenings • Foreign status • Level household income • Matrimonial status • Family type • Mother employment • Custody or not • Place where the baby slept • Use a pacifier (day and night) • Use a transitional object • Child temperament (difficult) • Maternal overprotective scale • Mother depression • Mother age • Safety of the neighborhood • Child mood change	• Parental behaviors at bedtime • Parental behaviors during awakenings • Foreign status • Matrimonial status • Level household income • Mother level of education • Mother health • Child health • Use a pacifier • Maternal overprotective scale • Mother's feeling efficacy • Perception of maternal impact

RESULTS *(Factors which impede sleep consolidation)*

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Table 1.

Variables – 5 months	Odds ratio
1) Comforting child outside his bed/ feeding	5,24
2) Infant's temperament (difficult)	1,07
3) Co-sleeping	1,46
4) Sex (boy)	1,43

N = 1478

These factors correctly classified 72,0% of the infants at 5 months

RESULTS *(Factors which impede sleep consolidation)*

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Table 2.

Variables – 17 months	Odds ratio
1) Putting the child to bed already asleep or staying with him until asleep	4,18
2) Comforting child outside his bed	2,16
3) Child's temperament (difficult)	1,17
4) Co-sleeping	1,78

N = 1827

These factors correctly classified 72,3% of the children at 17 months

RESULTS *(Factors which impede sleep consolidation)*

Table 3.

Variables – 29 months	Odds ratio
1) Putting the child to bed already asleep or staying with him until asleep	2,93
2) Comforting child outside his bed	2,26
3) Mother's feeling of efficacy (low)	1,12
4) Child's health (poor)	1,64

N = 1823

These factors correctly classified 69,2% of the children at 29 months

RESULTS *(Factors which impede sleep consolidation)*

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Variables – 5 months	Odds ratio
1) Comforting child outside his bed/feeding	**5,24**
2) Infant's temperament (difficult)	1,07
3) Co-sleeping	**1,46**
4) Sex (boy)	1,43
Variables – 17 months	**Odds ratio**
1) Putting the child to bed already asleep or staying with him until asleep	**4,18**
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Variables – 29 months	**Odds ratio**
1) Putting the child to bed already asleep or staying with him until asleep	**2,93**
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4) Child's health (poor)	1,64

CONCLUSIONS

- Trajectory of “good” and “bad” sleepers

CONCLUSIONS

❖ **Sleep characteristics:**

Data show that the sleep consolidation process is evolving rapidly early in life.

❖ **Parasomnias:**

The analyses showed that parasomnias were in general more frequent among children who were not sleeping through the night than in those who were.

❖ **Important ingredients in the recipe for a good sleep:**

Parental behaviors surrounding sleep periods

ACKNOWLEGMENTS

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The authors are grateful to l'Institut de la Statistique du Québec (ISQ), direction Santé Québec.

This research was also supported by:

A grant to J. Montplaisir and a studentship to É. Touchette from "Fonds de la recherche en Santé du Québec" (FRSQ).