

Evaluation of the Coping with Labor Algorithm[®] as an effective pain management tool in laboring women

Cheryl Goossens, MS, BSN, RNC-OB
Catawba Valley Medical Center, Hickory NC



Introduction

Pain is a normal part of the labor process. The standard of practice at the facility has been using a numerical pain scale of 0 to 10 to rate a patient's pain. Along with creating distraction for the patient, nurses are also often frustrated at the ineffectiveness of using a descriptive ordinal scale to assess and guide management of the labor patient's pain.

A team of Birthing Center nurses decided to evaluate an alternative method of assessing pain in their patient population. The Coping with Labor Algorithm[®] was developed at the University of Utah Hospital and was used with the author's permission¹. It is a guide that assists the labor nurse in assessing and subsequently making intervention decisions. It addresses physiological, physical, and emotional/psychosocial needs in an effort to effectively support and help manage pain for the laboring patient. The Algorithm utilizes the patient's verbal response to "Are you coping?" as well as non verbal cues noted by the nurse.

Purpose

This pilot research study was designed to evaluate whether the Coping With Labor Algorithm[®] was a more effective tool in assessing and managing the pain of a woman in labor than the numerical pain scale.

Design & Methods

Study Design

- Replicative pilot study
- Comparative in nature
- Randomization of subjects to either the control (pain scale) group, or the experimental (coping) group via computer-generated random number table

Methods

- Conducted in the Birthing Center
- Staff educated prior to study implementation
- Potential subjects were all admitted labor patients
 - Inclusion Criteria:
 - Obstetrically stable in labor
 - Of legal age
 - Willing to give consent
 - Exclusion Criteria
 - Non-stable status
 - Scheduled C-Section
 - Known fetal anomalies
 - Preterm labor
- Pain assessment
 - Experimental subjects:
 - Coping With Labor Algorithm[®]
 - Control Subjects:
 - Standard 0-10 pain scale

Data & Sample

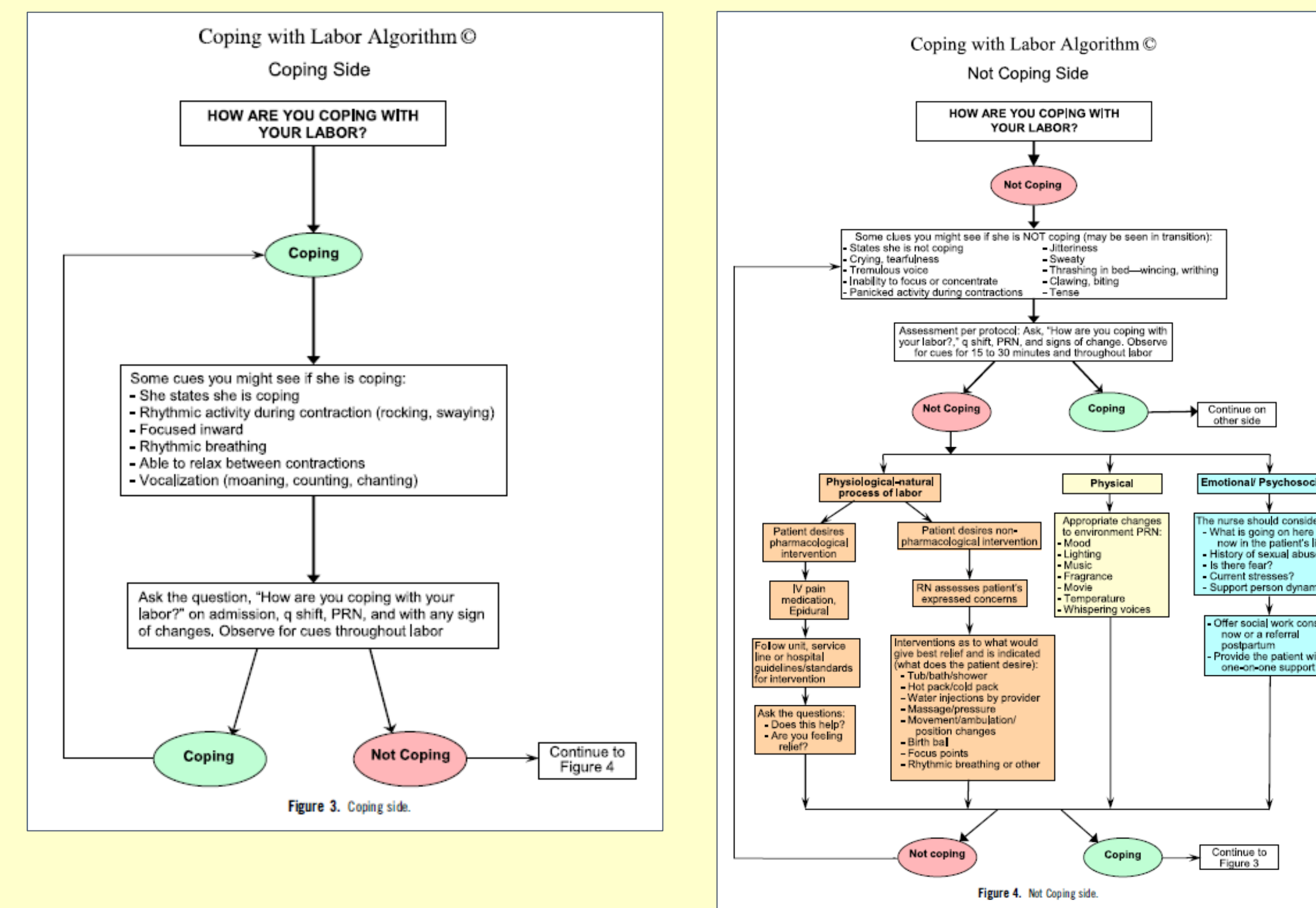
- Physiological Interventions
 - movement, ambulation, birthing ball, breathing, cold pack, hot pack, focal point, massage, bath, position change, pressure, room temp, shower
- Environmental Interventions
 - whispering, mood, aromatherapy, audio, video, lighting, sleep, rocking chair, remove stress
- Pharmacological Interventions
 - epidural, IV medication
- Nonverbal Cues (Experimental subjects only)
 - Coping cues:
 - rhythmic activity, focused inward, rhythmic breathing, ability to relax between contractions, vocalization
 - Non-coping cues:
 - crying, sweating, tremulous voice, thrashing, unable to focus, wincing, writhing, panicked activity, clawing, biting, jitteriness, tense
- Time intervention performed and/or cue observed
- Stage of Labor when intervention performed and/or cue observed

Sample Population N=80

Experimental Subjects: n=42

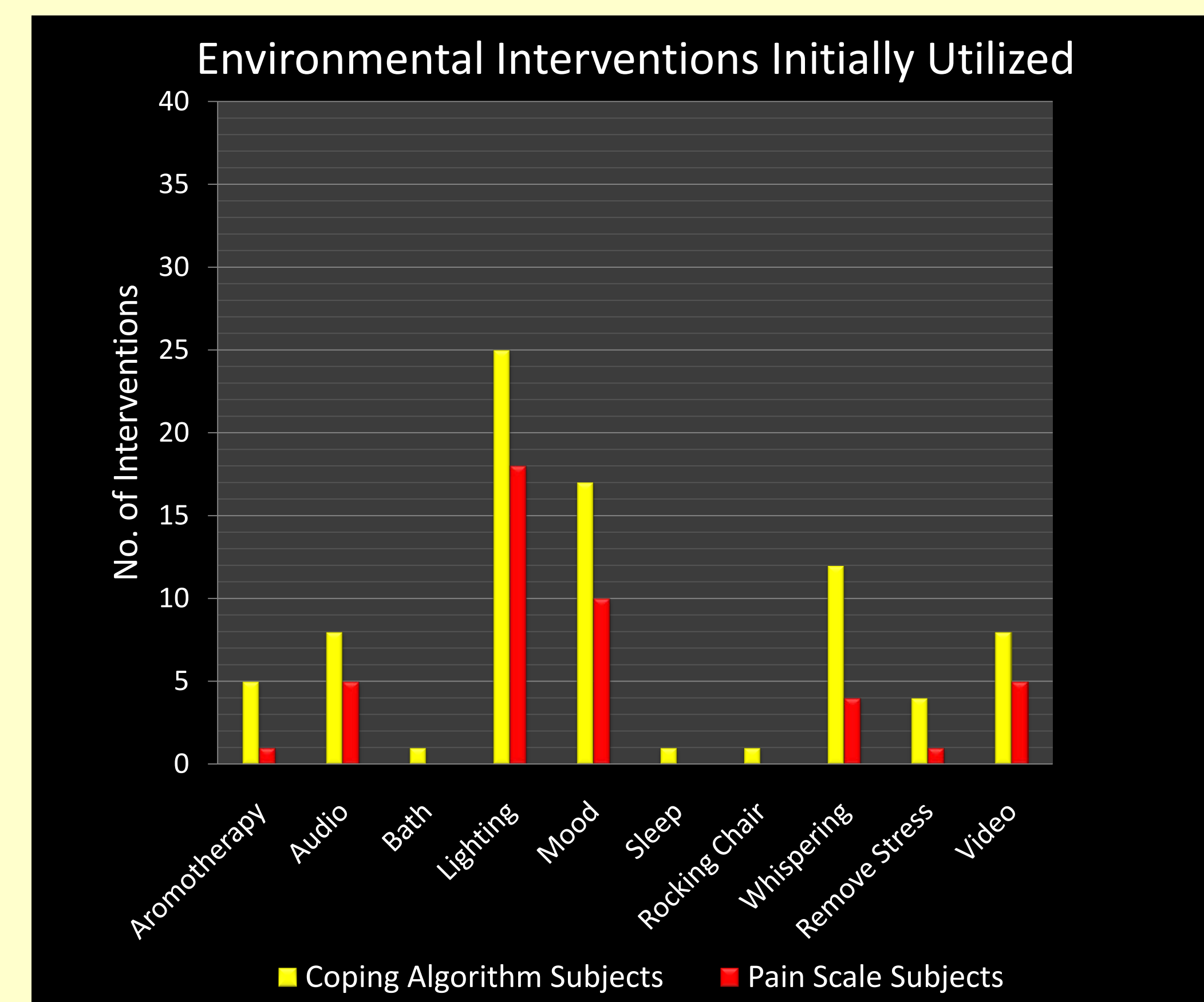
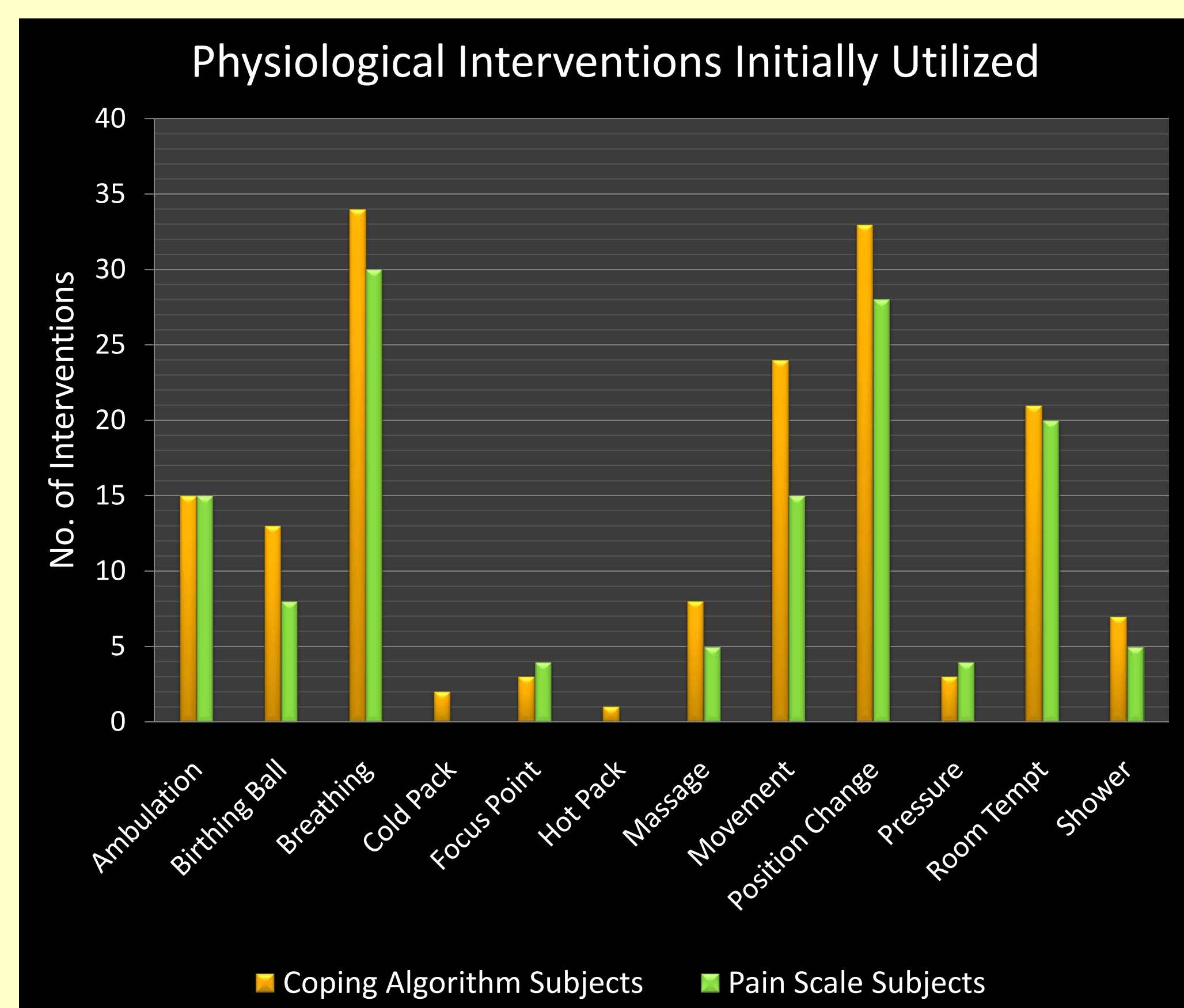
Control Subjects: n=38

Coping with Labor Algorithm[®]



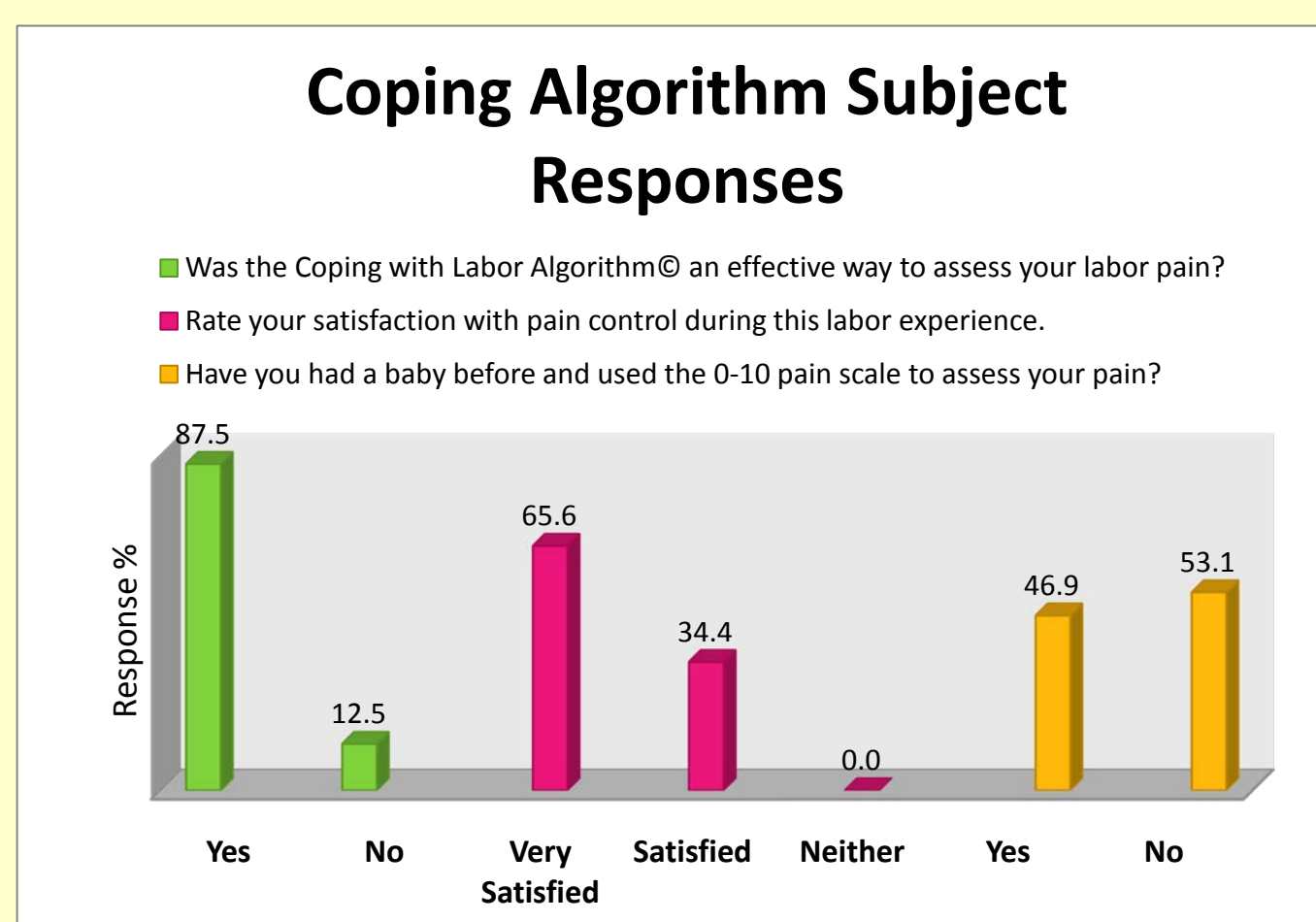
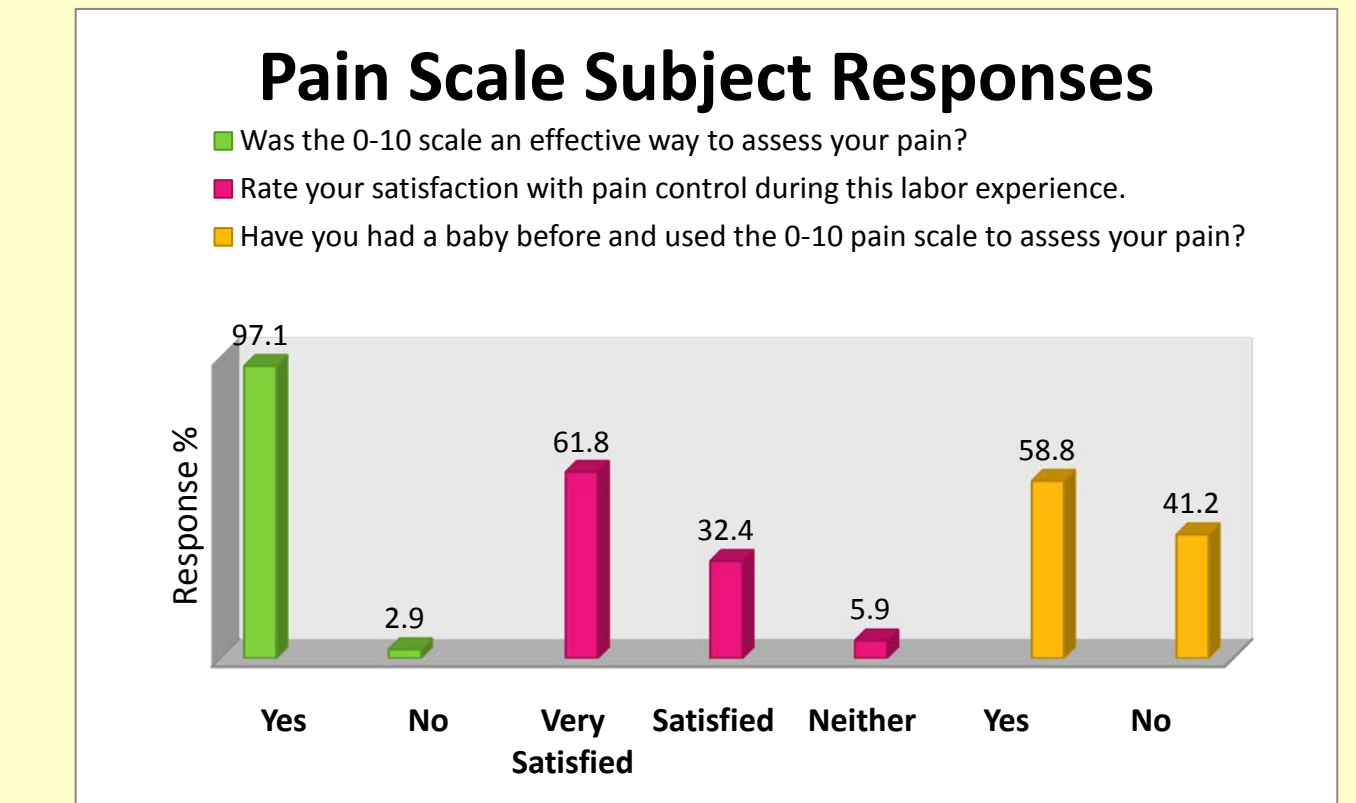
Roberts L, Gulliver B, Fisher J, Cloyes KG. The coping with labor algorithm: an alternate pain assessment tool for the laboring woman. *J Midwifery Womens Health*. 2010;55:107-116.

Initial Physiological and Environmental Intervention Results

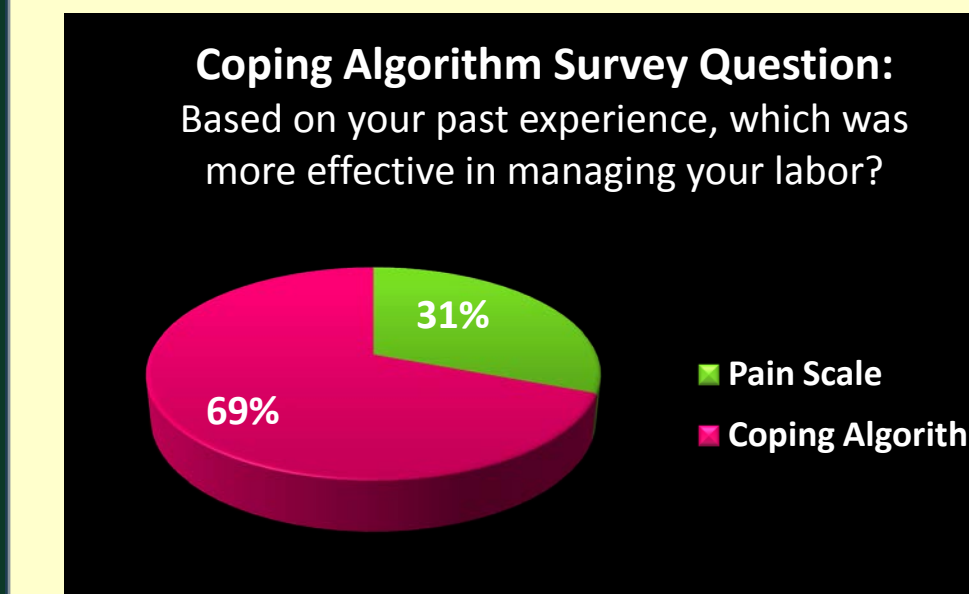


- Physiological interventions outnumbered environmental interventions for all subjects
- Of the 298 physiological interventions used, 55% were used with experimental subjects
- Almost two-thirds (65%) of environmental interventions (#126) were employed with experimental subjects
- Although intervention usage varied between the coping algorithm and pain scale groups, these differences were not statistically significant
 - Physiological Interventions ($p=0.971$)
 - Environmental Interventions ($p=0.928$)
- Pharmacological interventions were similar for control and experimental subjects, 82% and 88%, respectively (data not shown)

Satisfaction Survey Results



- Most subjects, both control (n=34) and experimental (n=32), judged their respective method of pain assessment effective
- Were satisfied with their labor pain management



- Twice as many coping algorithm subjects, having a prior labor experience (n=13), preferred the coping method over their previous numerical pain assessment

Conclusions & Limitations

- Interventions offered and utilized by labor nurses initially were not influenced by the subject group assignment - as expected since the interventions are usual practice
- Coping algorithm approach to pain assessment was preferred among experimental subjects having had a child before
- More extensive analysis and further research are required
 - To determine the potential for change from the current practice of using a numerical pain scale to assess labor pain
 - To optimize the benefit for patients and staff
- Study limitations
 - small sample size, inconsistent subject evaluation/recording by nurse data collectors, and staff turnover during study

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brenda.gulliver@hsc.utah.edu

Acknowledgements & Contact Information

Dr. Rebecca Tart, Director for Research and Evidence-Based Practice
Kimberly Yates, MSN/MHA, RN, NEA-BC
CVMC Birthing Center Nursing Staff

Cheryl Goossens, MS, BSN, RNC-OB
cgoossens@catawbavalleymc.org