

Effect of shower bath on pain relief of parturients in active labor stage*

Efeito do banho de chuveiro no alívio da dor em parturientes na fase ativa do trabalho de parto

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ABSTRACT

BACKGROUND AND OBJECTIVES: Labor pain is not only influenced by individual parturients characteristics, but also by their psychological experiences and cultural, ethnic, social and environmental factors. This study aimed at evaluating the effect of shower bath on pain relief during active labor stage.

METHOD: This is a controlled clinical trial of therapeutic intervention type, with 34 parturients admitted to pre-delivery for parturition process assistance, who received shower bath therapy for 30 minutes. Pain was measured by the visual analog scale (VAS).

RESULTS: VAS has shown 80 mm before and 55 mm after therapy with pain relief of patients in active labor with cervix dilatation of 4-5 cm.

CONCLUSION: There has been significant pain intensity decrease by VAS during active labor stage, after shower bath therapy.

Keywords: Labor, Pain, Pain evaluation.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor no trabalho de parto é influenciada não apenas pelas características individuais das parturientes, mas também por suas experiências psicológi-

cas e por fatores culturais, étnicos, sociais e ambientais. O objetivo deste estudo foi avaliar o efeito do banho de chuveiro no alívio da dor, durante a fase ativa do trabalho de parto.

MÉTODO: Trata-se de um ensaio clínico controlado, do tipo intervenção terapêutica, com 34 parturientes, admitidas no pré-parto para assistência ao processo de parturição, que receberam a terapêutica banho de chuveiro, por 30 minutos. Avaliou-se o grau de dor por meio da escala analógica visual (EAV).

RESULTADOS: Pela EAV obteve-se um grau de 80 mm antes e 55 mm depois da terapêutica, havendo uma redução da dor das pacientes em trabalho de parto ativo, com dilatação cervical de 4 a 5 cm.

CONCLUSÃO: Houve redução significativa da intensidade da dor pela EAV na fase ativa do trabalho de parto, após a aplicação da terapêutica do banho de chuveiro.

Descritores: Avaliação da dor, Dor, Trabalho de parto.

INTRODUCTION

With the beginning of hospital obstetric assistance in the first half of last century, delivery became no longer a woman's private event to become an institutionalized event, surrounded by technological innovations aiming at controlling the parturition process, including pain. This shift in the scenario has allowed the use and the improvement of pain relief methods¹. Labor pain is influenced not only by individual parturient characteristics, but also by their psychological experiences and cultural, ethnic, social and environmental factors².

Both pain and anxiety promote noxious effects and increase catecholamine and cortisol release, resulting in increased cardiac output, blood pressure and peripheral vascular resistance. Maternal cardiac output increase is progressive, around 10% to 15% during dilatation, 50% during expulsion and up to 80% above baseline values immediately after delivery. A significant blood volume is also shifted from the uterus to central circulation during contractions, contributing to increase cardiac output³. Some studies show 200% to 600% increase in circulating epinephrine and norepinephrine levels during labor without pharmacological analgesia, leading to decreased uterine blood flow and fetal perfusion commitment. In addition, catecholamines affect uterine contractility, contributing to a difficult delivery^{1,4-7}.

The most popular method to measure pain in the proposed period is the visual analog scale (VAS) – commonly used in

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clinical contexts to quantitatively evaluate pain – which corresponds to a 100 mm ruler which may vary from “no pain” to the “worst imaginable pain”. Based on the study⁸, pain intensity by VAS was evaluated taking as reference score intervals of 0 to 4 mm, which may be considered pain free, from 5 to 44 mm, mild pain, from 45 to 74 mm, moderate pain, and from 75 to 100 mm severe pain.

Both shower and immersion baths act on pain relief of parturients by the influence of water warmed at around 37 to 38° C. Blood flow redistribution promotes muscle relaxation and decreases catecholamine release and, by increasing endorphins, decreases anxiety and promotes parturients’ satisfaction⁹.

Although there are few studies showing the efficacy of shower bath, it influences pain and labor evolution because it acts on the cardiovascular system promoting peripheral vasodilation and blood flow redistribution, thus improving maternal satisfaction. In muscles, the relaxation effect increases birth canal elasticity and decreases parturients’ anxiety, due to decreased catecholamine and increased endorphin release⁹⁻¹¹.

Although shower bath is easy to apply, has no side effects and is of low cost, the international literature has few controlled clinical trials on the use of this therapy to relieve pain during labor, thus justifying the importance of this research which may contribute for the definition of this non-pharmacological resource. This study aimed at evaluating the effect of shower bath on pain relief during active labor stage.

METHOD

This is a controlled clinical trial of the therapeutic intervention type, developed in a maternity assisting low risk parturients, namely the Women’s Health Reference Center of Ribeirão Preto-MATER, from August 2011 to July 2012. Sample was made up of 34 parturients admitted in the pre-delivery and who would meet the inclusion criteria for parturition process assistance. Inclusion criteria were primiparous, literate patients with single fetus in the cephalad position, low risk pregnancy, as from 37 weeks of gestation, cervical dilatation between 4 and 5 cm, with adequate uterine dynamics

for this labor stage with spontaneous start, without the use of drugs during the study period, intact membranes without associated risk factors and absence of cognitive or psychiatric problems evaluated by the institution’s psychologist during pre-natal evaluation. Exclusion criteria were intolerance to the use of non pharmacological resources.

After admission to pre-delivery, parturients with established inclusion criteria were invited to participate in the study and after accepting the invitation they signed the Free and Informed Consent Term (FICT). Then, all participants were evaluated by VAS and soon after they received shower bath therapy for 30 minutes, with cervical dilatation of 4 to 5 cm, in a temperature of 37 to 39° C checked by a gauged thermometer. After this, patients were again evaluated by VAS.

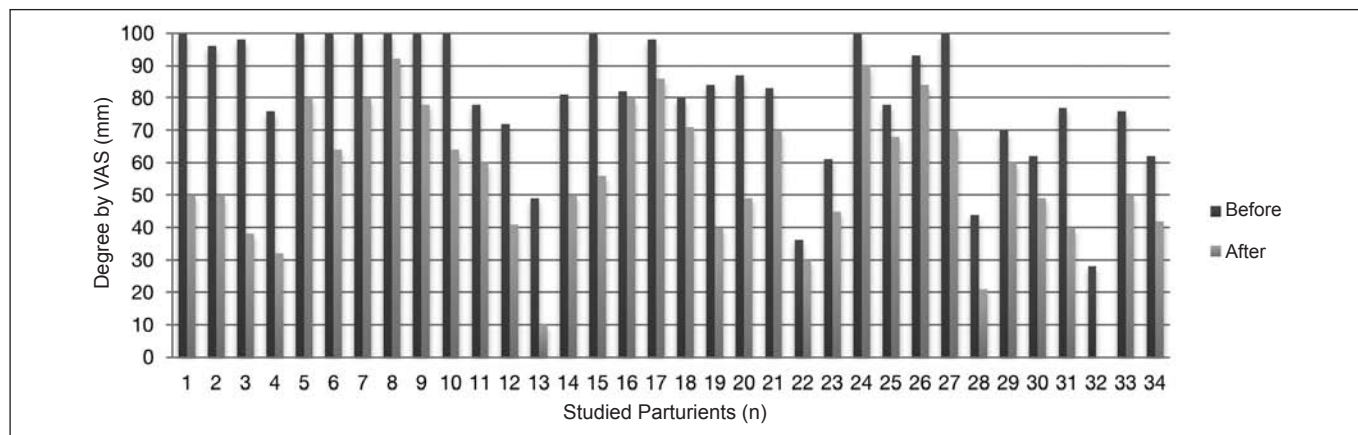
Pain was evaluated by VAS by the assistant physical therapist, who would first explain the scale, subsequently so patients would check their pain at that moment. This procedure was repeated before and after therapy, that is, in a moment between 4 and 5 cm in the beginning of the active labor stage. Excel was used for data statistical analysis and results were presented in mean and standard deviation.

This study was approved by the Research Ethics Committee, Clinicas Hospital, School of Medicine of Ribeirão Preto (HCFMRP) according to process HCRP 9147/2011.

RESULTS

With regard to sociodemographic characteristics of 34 studied primiparous patients, mean age was 20 ± 4 years, and all patients had an escort who remained with them throughout labor until delivery.

Results were obtained from pain evaluation by VAS before intervention and most parturients have measured pain with a mean of 80 ± 20 mm. After intervention, most patients have measured pain with a mean of 55 ± 22 mm, so there has been significant difference of 25 mm when comparing before and after intervention (p < 0.01), showing that shower bath decreases pain of active labor stage patients, with cervical dilatation of 4-5 cm (Graph 1).



Graph 1 – Distribution of parturients pain evaluation. VAS = visual analog scale; n = number; mm = millimeter

DISCUSSION

This study shows that shower bath is a non-pharmacological resource which is very favorable for labor pain relief being effective, without side-effects, easily accepted by patients and with satisfactory results. For this to be applied with the desired results, it is necessary that water temperature is around 37 to 38° C, and that patients remain at least 20 minutes in the shower. Shower bath with warm water is contraindicated for hypotensive patients because initially warm water promotes peripheral vasodilation, blood flow redistribution and, as a consequence, blood pressure decrease⁹.

It is known that shower bath with warm temperatures promotes peripheral vasodilation thus redistributing blood flow and inducing muscle relaxation. The pain relief process promotes catecholamines release and increased endorphins, which decreases anxiety and promotes pain relief^{11,12}.

To evaluate the effect of shower bath on labor pain relief, a study¹³ has carried out a randomized and controlled clinical trial with 100 parturients with cervical dilatation of 8 to 9 cm. Pain before and after the resource was measured by VAS. Result was that shower bath was effective in decreasing pain intensity of patients in acute labor stage. These statements are in line with our results.

Aiming at identifying the influence of water immersion on the duration of the first clinical delivery period and on the frequency and duration of uterine contractions, a randomized, experimental clinical trial was carried out with 108 parturients allocated to two groups – control group with 54 parturients following the maternity routine, and 54 in the experimental group submitted to water immersion. Results have shown that contractions duration was statistically shorter in the experimental group and we have concluded that water immersion is an alternative to provide comfort during labor because it relieves parturients' pain¹⁴.

To evaluate the influence of water immersion during labor, authors¹⁵ have carried out a study with 205 primiparous labor patients who were distributed in control group (n = 100) and experimental group (n = 105). The following variables were used to evaluate patients: labor time and duration, uterine contractions before and after water immersion, and cervical dilatation during and after water immersion. They have observed that experimental group patients had faster cervical dilatation after 2 cm, thus having a shorter labor period as compared to the control group. They have concluded that the optimal moment for water immersion is in the early active labor stage.

It is known that in response to labor pain there are effects which may be deleterious for the mother-fetus binomial and so there

is the need to relieve pain since such mechanisms may harm the fetus and affect physiological labor progression.

CONCLUSION

Based on our results, it is possible to observe that labor pain is severe and highly unpleasant, thus needing to be relieved. Shower bath is an effective therapeutic modality to relief labor pain as shown by this study. So, the use of such resource should be encouraged by health professionals to promote a humanized delivery.

STUDY LIMITATIONS

Very strict inclusion criteria make difficult to increase sample size. We suggest that further studies are carried out with larger samples compared to a control group, to check the benefits of this therapy for longer periods.

Further studies are needed to evidence the effects of shower bath therapy in later labor stages as well as its association to other modalities.

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