Intrapartum Nurse Perception of Labor Support After Implementation of the Coping With Labor Algorithm

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ABSTRACT

The purpose of this research project was to determine if using the Coping with Labor Algorithm would lead to changes in the perception of the intrapartum (IP) nurses' beliefs toward birth practices and frequency of labor support interventions. Twenty-three participants completed the preintervention survey, which included the IP Nurses' Belief Toward Birth Practice Scale and the Labor Support Scale. Following completion of the preintervention survey, participants received a copy of the Coping with Labor Algorithm and Toolkit and then began implementation of the Coping with Labor Algorithm. After implementation, 13 IP nurses completed the postintervention survey. The surveyed IP nurses reported positive changes in their perceived frequency of labor support and a slight change in their birth beliefs.

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Before the 20th century, birth was a normal physiological process that took place in the home. Midwives were typically present in the home to assist with childbirth, and physicians were only present if a problem developed (Leister & Riesco, 2013). Hospitals during this time were a community house for the sick and not considered a safe environment for women to give birth. During the beginning of the 20th century, hospitals began improving sanitary conditions, educating health-care providers (HCPs) on childbirth, advancing

medical technology for safer births, and providing birthing units for continuous care. These changes led to women transitioning to hospitals for childbirth (Leister & Riesco, 2013; Pugh, 2014). However, in the hospital setting, childbirth was no longer a normal physiological event, but instead evolved into a sterile process with a focus on procedures (Pugh, 2014).

Following the shift toward hospital births, new inventions such as analgesics, general anesthesia, electronic fetal monitoring, and breastmilk

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substitutes for infants were developed (Leister & Riesco, 2013; Pugh, 2014). In the hospital, epidural analgesia use increased, which placed women at a higher risk for cesarean births, instrumental vaginal births, fetal distress, and a longer second stage of labor (Tussey et al., 2015). Today, the United States follows a medical model of childbirth which views childbirth as an illness that necessitates medical interventions. This model contributed to the US cesarean birth rate reaching an all-time high of 32.7% in 2014 (Levine & Lowe, 2015).

Problem Statement/Purpose

Labor support is any emotional or physical nursing intervention provided to support and enhance the woman's comfort, confidence, and sense of being cared for and safe during labor and birth (Association of Women's Health, Obstetric, and Neonatal Nurses [AWHONN], 2013). A goal of AWHONN (2013) is to have 100% of women receiving continuous labor support interventions to meet physical and emotional needs. During the labor and birthing process, providing continuous labor support is recommended to improve birth outcomes and has several benefits for the childbearing woman with no harmful effects (AWHONN, 2013; Burke, 2013).

Despite the demonstrated need to provide labor support, the intrapartum (IP) nurse may see labor support as an exception instead of routine care due to the responsibility of assessing, supporting, documenting, and communicating with multiple patients, family members, and others during the labor and birth process. IP nurses may also deal with a variety of other issues that can impact labor support practice including strict time constraints, varying beliefs about labor normalcy, and multiple unnecessary interventions

due to HCPs' beliefs about the labor and birth process (Hanson & VandeVusse, 2014). IP nurses' beliefs toward childbirth can also influence the nursing care provided to the laboring woman and ultimately affect perinatal outcomes (Levine & Lowe, 2015). The purpose of this research project was to determine if using the Coping with Labor Algorithm would lead to changes in the IP nurses' beliefs toward birth practices and their perceived frequency of providing labor support interventions to laboring women.

LITERATURE REVIEW

Description of the Literature Search

A search of literature was completed using Cumulative Index of Nursing and Allied Health Literature Complete, Cochrane Library, Joanna Briggs Institute of Evidence-Based Practice Database, Ovid Nursing Journals, PubMed Central, and Google Scholar. Key search terms included labor support, continuous labor support, nurse attitudes and beliefs toward labor support, nurse noncompliance to labor support, nurse compliance to labor support, childbirth before the 20th century, AWHONN labor support, and labor support scales.

Literature Synthesis

The literature search yielded 29 studies. Nursing beliefs toward labor support, types of labor support, and frequency of labor support were themes revealed through the literature synthesis.

Labor Support and Beliefs. Although multiple people could provide labor support, IP nurses are present during nearly all births, spend more time with the laboring woman than any other HCPs, and can positively impact a woman's birth experience and outcomes (Ross-Davie & Cheyne, 2014). Factors that outweigh all other variables during the woman's labor and birth experience include personal expectations, amount of support, quality of caregiver-patient relationship, and the woman's involvement in decision-making. The nurses' beliefs also have a more powerful influence on patient satisfaction than pain, pain relief, and medical interventions (Ross-Davie & Cheyne, 2014).

Nurses possess evaluative beliefs that influence the nursing care provided and the outcomes for women and infants (Levine & Lowe, 2014). The medical model of childbirth negatively affects the beliefs of HCPs. The model endorses beliefs of the woman's body as a machine, childbirth as a means to an end, spontaneous

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vaginal birth (SVB) as risky, implementation of paternalistic practices, importance of infant in the mother–infant dyad, and intolerance to other ways of thinking. In contrast, a physiological model provides a positive view of childbirth as a normal physiological process that is meaningful for the woman. In the physiological model of childbirth, the mother is the expert knower, the maternal–infant dyad is viewed as a whole, and open-mindedness toward other ways of thinking exists. Moreover, the physiological model of childbirth is linked to lower rates of medical interventions and is appropriate for low-risk pregnant women (Levine & Lowe, 2015).

Nurses cite multiple reasons for not providing continuous labor support including coexisting responsibilities, negative attitudes of staff, inadequate staffing, or simply a lack of knowledge about continuous labor support (Burgess, 2014). Simmonds, Peter, Hodnett, McGillis Hall, and Hall (2013) found that nurse's responsibilities are not always clear, and the expectations differ within the unit, which results in compromised care to patients. When women have epidural analgesia, nurses tend to provide less labor support and perceive that these women need less support compared to nonpharmacological labors (Burke, 2013). Nurses also felt that pressure from physicians and institutional time constraints affected the outcomes for an SVD. According to Edmonds and Jones (2013), nurses frequently communicated with physicians and laboring women to gain more time to promote an SVD and avoid cesarean surgeries. Experience, abilities, communication patterns, and individual personalities influence the trust between the nurse and physician. The lack of trust among providers impedes labor support and affects the mode of birth (Edmonds & Jones, 2013). Interprofessional conflicts also lead to feelings of anger, frustration, and intimidation that negatively affect the nurse's performance (Simmonds et al., 2013).

Coping with Labor. Women who receive continuous labor support are less likely to be dissatisfied with the labor and birth experience (Ross-Davie & Cheyne, 2014). Emotional support comprises praising the woman, providing encouragement, reassurance, positivity, and confidence, assisting the woman with relaxation techniques, and explaining the birthing process to the woman and family (Burke, 2013). Ross-Davie and Cheyne (2014) found that women have a more positive labor and birth experience if the woman feels important as an individual,

feels guided and supported, and has caregivers that are positive, caring, and empathic. Nurses should also improve communication techniques with the woman and HCPs, and be able to negotiate on behalf of the woman (Edmonds & Jones, 2013). Effective communication between the nurse and physician is also vital for patient safety and optimizes the woman's labor and birth plans (Edmonds & Jones, 2013).

Supportive nursing care can be a significant factor in predicting the mode of birth (Edmonds & Jones, 2013). Physical support includes a variety of non-pharmacological and pharmacological measures (Burke, 2013). Practices such as laboring down, reassurance, coaching, hydrotherapy, and position changes support the labor process and promote SVB (Edmonds & Jones, 2013). Frequent position changes allow labor to accelerate by the added benefit of gravity, allow for alterations in the pelvic outlet, reduce pain and the need for pharmacological interventions, and decrease operative vaginal births, cesarean births, and episiotomies (Gizzo et al., 2014; Ondeck, 2014; Silva et al., 2013). If the woman chooses to have an epidural, the woman still requires the same amount of labor support and can be repositioned using modified techniques such as the peanut ball (Tussey et al., 2015).

METHODOLOGY

Setting

The setting chosen for this project was a 420-bed regional hospital in southeast Alabama. This facility houses a 27-bed Labor, Delivery, Recovery, and Postpartum (LDRP) unit.

Sample

The target population for this project was IP registered nurses (RNs) who worked on the LDRP unit. Convenience sampling was used to recruit 23 IP RNs. Exclusion criteria included RNs whose primary role was not IP, patient care technicians, surgical technicians, licensed practical nurses, and participants under the age of 19.

Interventions and Procedures

The intervention used for this project was the Coping with Labor Algorithm (Roberts, Gulliver, Fisher, & Cloyes, 2010). The algorithm was developed to assist with pain care for laboring women and consists of two pathways: coping and not coping. Both pathways provide patient cues to assess if the woman is coping with labor or not. If a woman is not coping with labor, the

TABLE 1
Characteristics of the Study Samples

Characteristics	Preintervention (<i>N</i> = 23)		Postintervention (<i>N</i> = 12)	
	<i>n</i>	%	<i>n</i>	%
Race				
Caucasian	20	87.0	12	100.0
African American	3	13.0	0	0.0
Age				
19 to 24	6	26.1	4	33.3
25 to 34	6	26.1	3	25.0
35 to 44	3	13.0	2	16.7
45 to 54	7	30.4	2	16.7
55 to 64	1	4.3	1	8.3
Nursing degrees				
Master of Science	4	17.4	2	16.7
Bachelor of Science	11	47.8	8	66.7
Associate of Science	9	39.1	2	16.7
Certifications				
Electronic Fetal Monitoring	8	34.8	2	16.7
In-Patient Intrapartum Nursing	4	17.4	2	16.7
Childbirth Education	2	8.7	1	8.3
Nurse-Midwifery	2	8.7	0	0.0
Certified Nurse Specialist	1	4.3	1	0.0
Other	3	13.0	2	16.7
N/A	9	39.1	5	41.7
Number of years as IP nurse				
0 to 3	9	39.1	5	41.7
3 to 5	3	13.0	2	16.7
5 to 8	4	17.4	1	8.3
8 or more	7	30.4	4	33.3
Attended a IP CEU in last 2 years				
Yes	17	73.9	9	75.0
No	6	26.1	3	25.0

IP nurse can then follow the three branches for pain management options to assist the woman to return to the coping pathway (Roberts et al., 2010).

Before implementation of the algorithm, informed consent was obtained from the participants at the beginning of the questionnaire via SurveyMonkey. Participants completed the IPNBBPS and LSS questionnaires to measure IP nurses' beliefs toward labor support and the perceived frequency of labor support. The participants received a paper and electronic copy of the algorithm and Coping with Labor Toolkit after completing the questionnaire. The toolkit explained how to use the algorithm, how to provide labor support interventions, and unit policies in place for labor support interventions. Implementation of the algorithm began after participants received the toolkits. After 8 weeks of implementing the algorithm, participants completed the IPNBBPS and LSS questionnaire

again via SurveyMonkey in a posttest fashion to assess for changes in the IP nurses' beliefs towards labor support and perceived frequency of the labor support provided.

Tools

IPNBBPS. The IPNBBPS was developed by Adams and Sauls (2014a) to measure the birth beliefs of the IP nurse related to birth practice. This scale consists of 28 quantitative items that are measured by a 6-point Likert scale and two qualitative open-ended questions to allow IP nurses to express beliefs towards birth practices narratively. There are two subscales: one to measure birth beliefs related to medicalized birth and another to measure birth beliefs related to normal physiological birth. An overall lower score signifies a belief towards a medicalized birth and an overall higher score indicates a belief towards a normal

TABLE 2

Characteristics of Participants' Personal Birth Experience

Characteristics	Preintervention (<i>N</i> = 23)		Postintervention (<i>N</i> = 12)	
	<i>n</i>	%	<i>n</i>	%
Given birth				
Vaginally	14	60.9	7	58.3
Cesarean birth	5	21.7	3	25.0
Forceps	2	8.7	1	8.3
Vacuum extraction	2	8.7	1	8.3
N/A	5	21.7	3	25.0
Given birth at				
Home	1	4.3	0	0.0
Hospital	17	73.9	9	75.0
N/A	5	21.7	3	25.0
Describes birth experience as				
Positive	17	73.9	8	66.7
Negative	0	0.0	0	0.0
N/A	5	21.7	3	25.0
Other	1	4.3	1	8.3

physiological birth. The use of this scale can assist the researcher to detect a connection between beliefs, birth practices, and birth outcomes (Adams & Sauls, 2014a, 2014b).

The IPNBBPS was assessed as a valid tool by using the content validity index ($>.83$, $p \leq .05$), scale validity per Lynn's method (0.83), convergence validity using Pearson product-moment correlation test ($r = .48$; p

$< .0005$), and construct validity using factor analysis. The subscales were also evaluated: Cronbach $\alpha = .82$ for medicalized birth beliefs and Cronbach $\alpha = .78$ for normal birth beliefs (Adams & Sauls, 2014b). To test the reliability of the IPNBBPS, the internal consistency method was used through item-total correlation, item-to-item correlation, and Cronbach α . In the item-total correlation, 13 items did not meet the criteria and deletion of these items only raised the Cronbach α by .10 (Adams & Sauls, 2014b).

LSS. The LSS was developed by Sleutel (2002) as a self-report scale to describe the frequency that IP nurses perform interventions and the nurses' perceptions of the effectiveness of the interventions performed. The scale consists of 28 items that are measured on a 5-point Likert scale. Higher scores indicate an increase in the frequency that IP nurses perform labor support interventions and perceive the interventions as helpful (Sleutel, 2002).

Validity for the LSS was assessed using construct validity via exploratory factor analysis. Mean frequency score and Bonferroni post hoc tests showed a significant difference between the group who worked with neither doulas nor midwives and the group that did ($p = .01$). The internal consistency reliability was low at .73. Reliability for the LSS was assessed using Cronbach α (frequency $\alpha = .90$, helpfulness $\alpha = .92$), item-total correlation (.30 to .70), and internal

TABLE 3

Beliefs Related to Medicalized Birth of Preintervention Sample (*N* = 23)

Variables	Strongly Differs	Differs	Somewhat Differs	Somewhat Aligns	Aligns	Strongly Aligns
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
To recognize uterine hyperstimulation/tachystole intrauterine pressure catheter must be used.	6 (26.1)	11 (47.8)	2 (8.7)	3 (13.0)	1 (4.3)	0 (0.0)
Maternal pushing during the second stage requires directions from the IP nurse including counting to 10 during each push.	1 (4.3)	7 (30.4)	5 (21.7)	4 (17.4)	5 (21.7)	1 (4.3)
Continuous fetal monitoring is a standard of care that is appropriate for use with all laboring women.	4 (17.4)	2 (8.7)	5 (21.7)	3 (13.0)	8 (34.8)	1 (4.3)
Intravenous fluids are necessary for labor.	4 (17.4)	3 (13.0)	6 (26.1)	6 (26.1)	3 (13.0)	1 (4.3)
Ice chips provide necessary oral hydration.	1 (4.3)	7 (30.4)	4 (17.4)	6 (26.1)	4 (17.4)	1 (4.3)
Breastfeeding is a personal choice and teaching may cause emotional distress.	5 (21.7)	11 (47.8)	5 (21.7)	1 (4.3)	1 (4.3)	0 (0.0)
Plotting the progress for labor and comparing to Friedman's curve is necessary.	3 (13.0)	6 (26.1)	5 (21.7)	5 (21.7)	4 (17.4)	0 (0.0)
Hydrotherapy in labor is a risk to patient safety.	5 (21.7)	9 (39.1)	2 (8.7)	7 (30.4)	0 (0.0)	0 (0.0)
When the laboring woman expresses pain, a priority nursing intervention is to prepare for epidural anesthesia.	4 (17.4)	7 (30.4)	5 (21.7)	5 (21.7)	2 (8.7)	0 (0.0)
Effectiveness in IP nursing is mainly related to years of experience.	2 (8.7)	11 (47.8)	3 (13.0)	4 (17.4)	3 (13.0)	0 (0.0)
Preferred method of warming a newborn is radiant heat.	7 (30.4)	7 (30.4)	7 (30.4)	1 (4.3)	0 (0.0)	1 (4.3)

TABLE 4

Beliefs Related to Medicalized Birth of Postintervention Sample (N = 12)

Variables	Strongly Differs	Differs	Somewhat Differs	Somewhat Aligns	Aligns	Strongly Aligns
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
To recognize uterine hyperstimulation/tachystole intrauterine pressure catheter must be used.	6 (50.0)	4 (33.3)	1 (8.3)	1 (8.3)	0 (0.0)	0 (0.0)
Maternal pushing during the second stage requires directions from the IP nurse including counting to 10 during each push.	2 (16.7)	2 (16.7)	3 (25.0)	4 (33.3)	1 (8.3)	0 (0.0)
Continuous fetal monitoring is a standard of care that is appropriate for use with all laboring women.	3 (25.0)	3 (25.0)	2 (16.7)	3 (25.0)	1 (8.3)	0 (0.0)
Intravenous fluids are necessary for labor.	3 (25.0)	3 (25.0)	2 (16.7)	3 (25.0)	1 (8.3)	0 (0.0)
Ice chips provide necessary oral hydration.	2 (16.7)	0 (0.0)	5 (41.7)	1 (8.3)	1 (8.3)	3 (25.0)
Breastfeeding is a personal choice and teaching may cause emotional distress.	6 (50.0)	4 (33.3)	1 (8.3)	1 (8.3)	0 (0.0)	0 (0.0)
Plotting the progress for labor and comparing to Friedman's curve is necessary.	2 (16.7)	2 (16.7)	4 (33.3)	3 (25.0)	1 (8.3)	0 (0.0)
Hydrotherapy (shower or bath) in labor is a risk to patient safety.	3 (25.0)	3 (25.0)	3 (25.0)	2 (16.7)	0 (0.0)	1 (8.3)
When the laboring woman expresses pain, a priority nursing intervention is to prepare for epidural anesthesia.	4 (33.3)	1 (8.3)	4 (33.3)	3 (25.0)	0 (0.0)	0 (0.0)
Effectiveness in IP nursing is mainly related to years of experience.	2 (16.7)	5 (41.7)	2 (16.7)	2 (16.7)	1 (8.3)	0 (0.0)
Preferred method of warming a newborn is radiant heat.	5 (41.7)	1 (8.3)	3 (25.0)	2 (16.7)	1 (8.3)	0 (0.0)

reliability coefficients (instrumental/physical support $\alpha = .86$, emotional support $\alpha = .76$, information/advice and partner support $\alpha = .71$, mother directed pushing $\alpha = .63$, and sustenance $\alpha = .69$) (Sleutel, 2002).

RESULTS

Description of the Sample

Data were compiled into a dataset and analyzed using IBM SPSS version 22.0. Pre- and postintervention data were not linked, resulting in two samples. Table 1 describes the characteristics of the samples both pre- ($N = 23$) and postsurvey ($N = 12$). The characteristics of the participants included race, age, education, certifications, years of experience, and attendance to a continuing education unit (CEU) within the last 2 years. All participants were female. Participants also obtained the following additional certifications not included in Table 1: *Clinical Nurse Leader*, *Sexual Assault Nurse Examiner*, *Neonatal Resuscitation*, and *Certified Lactation Counselor*.

Descriptive Statistics

The characteristics of the participants' personal birth experiences can be found in Table 2. There were five presurvey and three postsurvey participants who had not given birth. Most participants who had a personal birth experience had a vaginal birth, gave birth in the hospital, and described their birth experience as

positive. One participant in the pre- and postsurvey described their birth experiences as "three positives and one negative."

In the pre- and postsurvey, there were two qualitative questions included from the IPNBBPS. Twenty (86.9%) of the presurvey participants and 12 (100%) of the postsurvey participants responded to the first qualitative question, which asked participants to describe the birth process as it relates to their beliefs toward birth practices. In both surveys, there were recurring words and phrases which included: a natural/normal process/event and a personal/subjective/individualized process. Eighteen (90%) of the presurvey and 12 (100%) of the postsurvey participants' answers aligned with the beliefs of a normal physiological birth. Participants whose beliefs aligned with the medicalized birth in the presurvey stated that the birth process is:

a group effort between patient, patient support, and a care provider that is unfortunately hindered by fear of negative outcomes and lawsuit. This fear drives our healthcare practices making it nearly impossible to satisfy patient's unrealistic expectations while managing labor progression using healthcare standards in order to avoid prosecution and supposed to be a joyful experience while following the researched data on labor care for positive fetal outcomes.

TABLE 5

Beliefs Related to Normal Birth of Preintervention Sample (N = 23)

Variables	Strongly Differs	Differs	Somewhat Differs	Somewhat Aligns	Aligns	Strongly Aligns
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Birth environments should be homelike and optimize privacy and comfort.	0 (0.0)	2 (8.7)	0 (0.0)	3 (13.0)	12 (52.0)	6 (26.1)
Certified nurse-midwives are appropriate for low-risk women.	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.3)	7 (30.4)	15 (65.2)
Most pregnancies are low risk.	0 (0.0)	2 (8.7)	3 (13.0)	7 (30.4)	10 (43.5)	1 (4.3)
Pain in labor is physiological process.	0 (0.0)	1 (4.3)	0 (0.0)	2 (8.7)	15 (65.2)	5 (21.7)
Continuous fetal monitoring unnecessary to promote health.	1 (4.3)	5 (21.7)	5 (21.7)	6 (26.1)	6 (26.1)	0 (0.0)
Indwelling urinary catheters are unnecessary to promote health.	0 (0.0)	6 (26.1)	5 (21.7)	4 (17.4)	8 (34.8)	0 (0.0)
IP nurses have positive effect on birth outcomes.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (17.4)	19 (82.6)
Positions for first stage of labor are appropriate for IP nurses to use.	0 (0.0)	0 (0.0)	1 (4.3)	2 (8.7)	10 (43.5)	10 (43.5)
Labor support includes physical comfort measures.	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.3)	10 (43.5)	12 (52.2)
Visual focal point, imagery, and social conversation are effective methods of distraction appropriate for use in labor.	0 (0.0)	0 (0.0)	1 (4.3)	6 (26.1)	13 (56.5)	3 (13.0)
Laboring woman's desires are more important than care providers.	0 (0.0)	2 (8.7)	7 (30.4)	6 (26.1)	6 (26.1)	2 (8.7)
Labor support includes explanations to client about what's occurring in labor process.	1 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	6 (26.1)	16 (69.6)
Squatting is appropriate for second stage of labor.	0 (0.0)	0 (0.0)	0 (0.0)	6 (26.1)	12 (52.2)	5 (21.7)
Labor support includes listening and respecting patient's opinion and wishes.	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.3)	8 (34.8)	14 (60.9)
Providing explanations about procedures to partners is necessary.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	7 (30.4)	16 (69.6)
Labor support includes providing reassurance and praise.	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.3)	11 (47.8)	11 (47.8)
Labor support includes ensuring privacy and protecting modesty.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	10 (43.5)	13 (56.5)

A few statements from participants in the pre- and postsurvey whose responses were closely related to a normal physiological birth stated that the birth process are:

a natural human event that should ideally result from the love of two human beings. Birth should not be turned into a "well-oiled machine" whose effectiveness is determined by speed and statistical outcomes. A measure of success of the birth process should be the health and well-being of mother, child, and family involved; is subjective. What is good for one person may not necessarily be beneficial for another. As long as baby and mother are safe, I believe a patient should have the free will to choose the way she progresses throughout labor as well as how she copes with that pain/progression. The birth process should not be dependent of the needs of the health-care staff; an amazing experience. IP nurses are the people who can help make this a wonderful experience for the families we serve, and meant to be a memorable event where the laboring woman should be encouraged and supported.

In the second qualitative question, 22 (95.7%) of the presurvey participants and 12 (100%) of the postsurvey participants responded. The second qualitative question asked participants to describe the IP nurse's role in the birth process as it related to the nurse's birth beliefs. Patient advocate, support patient/patient wishes, and provide safe care were some of the recurrent words and phrases present in the pre- and postsurvey responses. Twenty-one (95.5%) of presurvey and 12 (100%) of the postsurvey participants' answers aligned with the beliefs of a normal birth. The participant whose response closely related to medicalized birth in the presurvey stated that the IP nurse's role in the birth process is:

followed using my trained IP skills and the observation for well-being of the fetus using external fetal monitoring and other related interventions.

A few statements from the pre- and postsurvey participants whose answers aligned to normal birth beliefs included that the IP nurse's role in the birth process is:

TABLE 6

Beliefs Related to Normal Birth of Postintervention Sample (N = 12)

Variables	Strongly Differs	Differs	Somewhat Differs	Somewhat Aligns	Aligns	Strongly Aligns
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Birth environments should be homelike and optimize privacy and comfort.	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	5 (41.7)	6 (50.0)
Certified nurse-midwives are appropriate for low-risk women.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (25.0)	9 (75.0)
Most pregnancies are low risk.	0 (0.0)	1 (8.3)	1 (8.3)	6 (50.0)	3 (25.0)	1 (8.3)
Pain in labor is physiological process.	0 (0.0)	2 (16.7)	0 (0.0)	1 (8.3)	5 (41.7)	4 (33.3)
Continuous fetal monitoring unnecessary to promote health.	0 (0.0)	3 (25.0)	3 (25.0)	3 (25.0)	1 (8.3)	2 (16.7)
Indwelling urinary catheters are unnecessary to promote health.	2 (16.7)	0 (0.0)	2 (16.7)	2 (16.7)	4 (33.3)	2 (16.7)
IP nurses have positive effect on birth outcomes.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	11 (91.7)
Positions for first stage of labor are appropriate for IP nurses to use.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (25.0)	9 (75.0)
Labor support includes physical comfort measures.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	7 (58.3)	5 (41.7)
Visual focal point, imagery, and social conversation are effective methods of distraction appropriate for use in labor.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (50.0)	6 (50.0)
Laboring woman's desires are more important than care providers.	0 (0.0)	1 (8.3)	2 (16.7)	6 (50.0)	1 (8.3)	2 (16.7)
Labor support includes explanations to client about what's occurring in labor process.	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	0 (0.0)	11 (91.7)
Squatting is appropriate for second stage of labor.	0 (0.0)	0 (0.0)	0 (0.0)	2 (16.7)	5 (41.7)	5 (41.7)
Labor support includes listening and respecting patient's opinion and wishes.	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	2 (16.7)	9 (75.0)
Providing explanations about procedures to partners is necessary.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (25.0)	9 (75.0)
Labor support includes providing reassurance and praise.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (41.7)	7 (58.3)
Labor support includes ensuring privacy and protecting modesty.	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	3 (25.0)	8 (66.7)

act as a patient advocate, relaying information to and from care providers while providing support, knowledge, and expertise to patients. A nurse's role is to ultimately provide the best care while balancing the wants and needs of patients and dealing with expectations of HCPs; to support the mom's wishes as long as she has been informed of the risks/benefits/alternatives of her choices and is able to make informed consent. I'm just there to support whatever those choices may be; be a patient advocate by honoring patient's wishes, providing encouragement, and including necessary interventions to deliver a healthy baby; supportive, non-judgmental, environment-creating, patient-focused, safety-embracing, and maternal wishes-respecting; and assist the patient in following her bodies commands to give birth.

In the pre- and postsurvey, there were 28 quantitative questions from the IPNBBPS. In the presurvey sample, participants' scores ranged from 94 to 134, with seven participants (30.4%) scoring in the lower range indicating a belief towards medicalized birth and 16 (69.5%) scoring in the higher range indicating a belief toward normal birth. Participants' scores in the postsurvey sample ranged from 89 to 116, with

nine (75%) participants' scores aligning more with a medicalized birth and three (25%) participants' scores displaying beliefs toward a normal birth.

The IPNBBPS was broken down further into two subscales that specifically look at certain questions that are associated with beliefs related to medicalized birth and beliefs related to normal birth. Eleven items are used to measure the concept of birth beliefs related to medicalized birth and 17 items are used to measure the concept of birth beliefs related to normal birth. Table 3 displays the participants' response to birth beliefs related to the medicalized subscale in the presurvey sample (N = 23). For this subscale, a score of 11–33 indicates an IP nurse's birth beliefs are more closely related to a medicalized birth. Of the 23 participants, 16 (69%) of the participants scored in the range of 18 to 33 indicating beliefs toward a medicalized birth. Table 4 demonstrates the postsurvey (N = 12) participants' responses to the birth beliefs related to the medicalized subscale. Participants' scores ranged from 11–39 with eight (66.6%) participants' scores indicating beliefs toward a medicalized birth. Table 5 displays the results from the items of the IPNBBPS subscale for beliefs toward a normal birth. For this

TABLE 7

Frequencies of Pre- and Postintervention Samples of Labor Support Provided

	Preintervention (N = 23)					Postintervention (N = 12)				
	Never	Seldom	Sometimes	Frequently	Always	Never	Seldom	Sometimes	Frequently	Always
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Use intermittent auscultation during part or all of the mothers' labors.	2 (6.7)	8 (34.8)	9 (39.1)	2 (8.7)	2 (8.7)	1 (8.3)	6 (50.0)	4 (33.3)	1 (8.3)	0 (0.0)
Position laboring mothers in unusual or creative ways.	0 (0.0)	2 (8.7)	8 (34.8)	9 (39.1)	4 (17.4)	0 (0.0)	1 (8.3)	0 (0.0)	8 (66.7)	3 (25.0)
Give food to laboring women who are hungry.	6 (26.1)	5 (21.7)	9 (39.1)	3 (13.0)	0 (0.0)	1 (8.3)	5 (41.7)	4 (33.3)	1 (8.3)	1 (8.3)
Make suggestions for alternate pushing techniques.	0 (0.0)	2 (8.7)	10 (43.5)	6 (26.1)	5 (21.7)	0 (0.0)	1 (8.3)	4 (33.3)	5 (41.7)	2 (16.7)
Delay pushing when laboring mothers who are completely dilated have no urge to push.	0 (0.0)	2 (8.7)	10 (43.5)	9 (39.1)	2 (8.7)	0 (0.0)	1 (8.3)	2 (16.7)	6 (50.0)	3 (25.0)
Have laboring mothers who are not yet completely dilated push if they feel "pushy."	16 (69.6)	3 (13.0)	2 (8.7)	1 (4.3)	1 (4.3)	9 (75.0)	2 (16.7)	1 (8.3)	0 (0.0)	0 (0.0)
Provide warmth for laboring mothers' comfort.	1 (4.3)	3 (13.0)	11 (47.8)	6 (26.1)	2 (8.7)	0 (0.0)	0 (0.0)	3 (25.0)	7 (58.3)	2 (16.7)
Have mothers in your facility take warm showers during active labor.	7 (30.4)	8 (34.8)	7 (30.4)	1 (4.3)	0 (0.0)	4 (33.3)	5 (41.7)	1 (8.3)	2 (16.7)	0 (0.0)
Go with laboring mothers to walk.	5 (21.7)	9 (39.1)	5 (21.7)	4 (17.4)	0 (0.0)	0 (0.0)	5 (41.7)	4 (33.3)	3 (25.0)	0 (0.0)
Teach visitors efforts in helping mothers.	0 (0.0)	2 (8.7)	4 (17.4)	13 (56.6)	4 (17.4)	0 (0.0)	0 (0.0)	2 (16.7)	3 (25.0)	7 (58.3)
Teach visitors how to praise laboring mothers' efforts.	0 (0.0)	2 (8.7)	4 (17.4)	11 (47.8)	6 (26.1)	0 (0.0)	0 (0.0)	2 (16.7)	3 (25.0)	7 (58.3)
Praise visitors for their efforts in helping mothers.	0 (0.0)	2 (8.7)	2 (8.7)	11 (47.8)	8 (34.8)	0 (0.0)	0 (0.0)	3 (25.0)	5 (41.7)	4 (33.3)
Stay with laboring mothers while visitors take a break.	1 (4.3)	1 (4.3)	9 (39.1)	9 (39.1)	3 (13.0)	0 (0.0)	0 (0.0)	5 (41.7)	5 (41.7)	2 (16.7)
Intervene to prevent providers from performing interventions that laboring mothers don't want.	0 (0.0)	1 (4.3)	11 (47.8)	8 (34.8)	3 (13.0)	1 (8.3)	0 (0.0)	5 (41.7)	3 (25.0)	3 (25.0)
Work intensively with mothers who wish to avoid pain medications or an epidural.	0 (0.0)	2 (8.7)	5 (21.7)	10 (43.5)	6 (26.1)	0 (0.0)	0 (0.0)	1 (8.3)	6 (50.0)	5 (41.7)
Intervene when visitors are doing activities that you feel are unhelpful to mothers.	0 (0.0)	3 (13.0)	5 (21.7)	6 (26.1)	9 (39.1)	0 (0.0)	0 (0.0)	1 (8.3)	5 (41.7)	6 (50.0)

The Coping with Labor Algorithm allowed the IP nurses to assess how well women were coping with labor and to implement various labor support interventions to meet both physical and emotional needs.

subscale, a score of 68–102 indicates a belief toward normal birth. Twenty-two (95.6%) participants in the presurvey scored in the range of 72–95, signifying that these participants have beliefs that align with a normal birth. In Table 6, the outcomes from the IPNBBPS for the beliefs toward a normal birth are illustrated for the postsurvey ($N = 12$). The range of scores for participants was 64–83. Ten (83.3%) participants scored in the range of 68–102 indicating beliefs that aligned with a normal birth.

The frequency subscale of the LSS was used to allow participants to rate how often labor support interventions are provided to laboring women. In both the pre- and postsurvey samples, over 90% of the participants stated that laboring women were frequently or always *given advice about techniques to cope with labor, gave liquids to laboring women who were thirsty, and collaborated with other caregivers to make sure special requests were honored*. Furthermore, in both pre- and postsurvey samples, none of the participants frequently or always *allowed laboring women to labor in water*, and over 90% *seldom or never allowed laboring women to push while on the toilet*. All participants frequently or always *asked laboring women if they had special preferences for their labor or birth*. Several variables did not significantly change between the pre- and postsurvey including *teaching laboring mothers to grunt, moan, or make noise while pushing, having the mother labor out of bed after 3 cm dilated, walk after labor is active, use squatting bar to push, giving mothers backrubs during labor, and breathing with laboring mothers to help them to cope*. Table 7 displays items that appeared to significantly change from pre- to postsurvey samples.

DISCUSSION

The Coping with Labor Algorithm allowed the IP nurses to assess how well women were coping with labor and to implement various labor support interventions to meet both physical and emotional needs. The data collected in the preintervention survey showed that the IP nurses on the unit overall had beliefs aligning with normal physiological childbirth and did provide a few labor support

interventions at a high frequency. However, a comparison of pre- and postintervention data revealed an increase in the provision of labor support interventions and a slight change in the IP nurses' beliefs from a medicalized birth to a normal physiological birth.

IP nurses' beliefs toward childbirth could potentially influence the nursing care provided to women and affect perinatal outcomes (Levine & Lowe, 2015). Ross-Davie and Cheyne (2014) furthermore showed that nurses' beliefs have a stronger overall impact on the birth experience than any other factors and that providing continuous labor support to meet the physical and emotional needs of women ensures that women will be more satisfied with the overall birth experience. The positive changes found in the IP nurses' birth beliefs and IP nurses' perceived frequency of labor support positively influenced the nursing care provided and potentially had a positive impact on the overall labor and birth experience and outcomes of their patients.

Limitations

Although the project goals were partially met, there were limitations. The project was conducted over a small period of time, and the participants also had an increased workload during the time of the project. Another limitation was due to the small sample size, a decrease in the number of participants in the postsurvey, and participants were not linked between pre- and postsurveys which prevented further statistical assessments to be conducted. There were also some labor support interventions included on the Coping with Labor Algorithm that were not supported by the facility.

RECOMMENDATIONS

Nursing Research

Further research is needed on this topic to be able to evaluate the complete impact that the Coping with Labor Algorithm and Coping with Labor Toolkit could have on IP nurses' beliefs, the frequency that IP nurses provide labor support, patient satisfaction with the labor and birth process, and overall patient outcomes. Future studies need to be conducted over multiple sites and should include larger sample sizes. In the future studies, pre- and postsurvey data could be linked, and confounding variables limited to provide strength to the methodology.

Nursing Practice

The Coping with Labor Algorithm and the Coping with Labor Toolkit can be used on any IP nursing unit to assist IP nurses with the necessary resources to promote coping among laboring women. Childbirth educators can use the information provided within the Coping with Labor Toolkit to educate IP nursing staff on labor support interventions and assist with implementing the Coping with Labor Algorithm in place of other pain assessment scales. With additional training and use of these interventions, IP nurses can further assist childbearing women to cope with labor and birth, improve the frequency of labor support provided, change the IP nurses' beliefs from a medicalized birth belief to a normal physiological birth belief, and potentially improve patient outcomes and patient satisfaction of labor and birth experiences.

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