Impact of an educational intervention on postpartum perineal wound care among antenatal mothers in Jos: A quasi-experimental study

Abstract

Most women with stitched perineum after vaginal birth suffer some forms of postpartum complications. Pain is one of the distressing short term morbidity which interferes with the mother's ability to carry out activities of daily living and care for her baby. Wound infection and dehiscence are usually seen in some cases. Supportive information on postpartum perineal wound care was given less attention during Antenatal health education sessions thereby making parturient unable to know and practice proper wound care that will aid healing. The aim of this study was to carry out an educational intervention then evaluate the impact of this intervention on practice of postpartum perineal wound care and wound healing.

The design used for this study was quasi-experimental. A total of 200 mothers (100 interventions and 100 controls) were serially recruited purposively in antenatal Clinics. Instruments used for data collection consisted of a questionnaire and assessment tool. The instrument was reliable at Cronbach co-efficient alpha 78. Descriptive statistics such as frequency tables, percentages, bar chart, mean and standard deviations were used in analysis and Inferential statistics such as Chi-square and Pearson correlation were used in testing hypotheses. Participants in intervention group were given instructions on postpartum perineal wound care while those in control group received routine teaching on postpartum perineal wound care. The study lasted for 12 weeks.

Findings indicate that mothers in intervention group on day 1 practiced perineal wound care; 91.88% implemented hygiene, 93.75% nutrition, 32.29% pain relief measures. On day seven, 92.50% practiced hygiene, 96.88% nutrition, 62.50% pain relief measures, 100% took their medications. Subjects in control group inadequately implemented the practice of postpartum self perineal wound care as seen in day 1; implementation of comfort measure was 3.3%, with 99.33% did not practice hygiene and none practiced eating food that prevents constipation but 99.67% adhered to their prescribed drugs because drugs are usually prescribed within 24 hours of delivery.

Practice was found to influenced pain reduction in both group because as practice increased day 1 in intervention group, there was a decrease in pain intensity ($r=-0.910$; $p<0.05$) even though drugs are usually prescribed on discharge also, in control group as practice increased the second day, there was also decrease in pain intensity ($r=-0.547$; $p=0.002$). Women in the intervention group showed better wound healing process as 12.5% had severe pain on day 1 postpartum as against 20% in control group. On day 7 none in intervention group had gaped wound but 66.70% of them had gaped wound in control group.

In conclusion, women who were taught postpartum perineal wound care practiced it and this resulted in better wound healing progress, therefore, it is recommended that postpartum self-perineal wound care be introduced to antenatal mother, guidelines on perineal wound care be made available in delivery centers, Midwives should encourage parturient to practice care while on admission and encourage mothers to practice care when discharged home.

Keywords: antenatal, knowledge, postpartum perineal wound care, practice, structured teaching programme

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Introduction

Perineal trauma, either spontaneous laceration or an intentional cut is common with most vaginal births. About 90% of mothers sustain trauma during delivery [1]. Prediction and prevention is not possible most of the time [1] but when it occurs there can be short-term

complications such as pain that interfere with daily activities like walking, sitting, urinating, and caring for the baby. In some instances, it can be associated with pain at defecation and wearing tight clothing, it may result in long-term physical and psychological traumas which result in fear of becoming pregnant [2-4]. Complications such as dehiscence, infection, pain, challenges of breastfeeding were found by Dealy and Dudley et al. [5,6].

One big portion of midwifery is to educate our clients with self-care strategies that will promote wellness, prevent illness, regain health and prevent hospitalization [7].

Framework from Orem's self-care deficit nursing theory was used on the belief that mother is endowed with ability, capability, and power of self-care [8], but where limitation in knowing, decision making and engaging in result-achieving courses of actions exist, then some degree of guidance, support, and teaching to assist mothers can be employed by care provider. And one of the strategies is to provide adequate and accurate information on postpartum self-perineal wound care, as this will go a long way in improving knowledge, change in behavior which will result in proper practice of perineal wound care thereby prevention of some short-term complications (pains altering practice of exclusive breastfeeding and activities of daily living, and infection which may lead to systemic infection) and long-term complications such as dyspareunia, and pain.

■ Theoretical/conceptual framework

Orem's Self-Care Deficit Nursing Theory (SCDNT) is comprised of four interrelated theories: theories of self-care, dependent-care, self-care deficit, and nursing systems [8,9]. The six basic concepts in SCDNT include four concepts that are patient-related: self-care/dependent care, self-care agency/dependent-care agency, therapeutic self-care demand/dependent-care demand, and self-care deficit/dependent-care deficit with two concepts related to the nurse: nursing agency and nursing system **FIGURE 1** [8,9].

The concept of Self Care refers to all self-management approaches learned or adopted to maintain one's equilibrium, balance, and functioning and it includes Self-care practice of activities that individual initiates and performs on their own behalf in maintaining life, improve health and well-being. The concept of Self-care agency is a mature or maturing individual with the ability to willingly care for self [8].

The concept of Therapeutic self-care demand refers to the Nurse's therapeutically assistance in meeting the client's or client dependent's self-care needs [10].

The concept of self-care deficit explains limitations in a person's ability to care for oneself, thereby requiring some degree of guidance, Support, and Teaching, as predicted from client condition [8,10]. There could be limitations in knowing, limitations or restrictions of decision-making, and limitations in the ability to engage in result-achieving courses of action [8].

The concept of Nursing Agency refers to the capability to nurse. The agency is necessary to know and meet patients' therapeutic self-care

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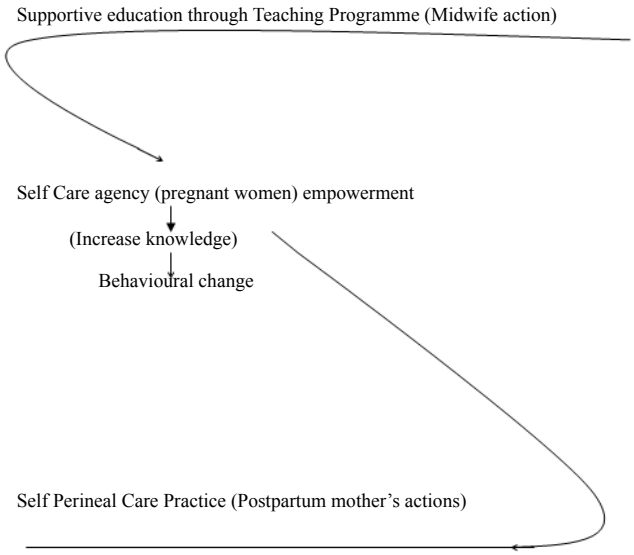

FIGURE 1. S-Model showing relationship between nursing system, self-care agency and self-care. source: adapted from Orem's (2001) self-care deficit nursing theory.

demands and to protect and to regulate the exercise of the development of the patient's self-care agency [11].

The concept of Nursing Systems emerges when a nurse extends assistance such as a supportive educative system for an intellectual product (the design for helping the client needing knowledge) to an individual to address identified self-care limitations [10].

Application of the theory

The framework for this study was based on the presumption that mothers are agents that are having power, self-care must capability, and ability to willingly act on their own; Midwives need to affect the power by educating them to recognize signs of localized perineal infection and on postpartum perineal wound care. The focus here is based on the belief that individuals learn self-care practices through education, scientific knowledge, growth, and development [12]. It is also assumed that a person performing, first knows what can and should be done before embarking on the actions.

The theory addresses the relationship between Nursing System, Self-care Agency and Self-care thereby met one of Orem's strategies, like supportive educative system [13] (Midwife action) that would empower pregnant women with knowledge and this will positively influence

TABLE 1. Socio-demographic data of the subjects.

Variable	Group	Experimental group		Control group	
n=100		F	%	F	%
Age in years	18-23	5	5	24	24
	24-29	50	50	42	42
	30-35	28	28	22	22
	36 and above	17	17	12	12
	Total	**100**	**100**	**100**	**100**
Mother's education	No formal education	0	0	4	4
	Primary	1	1	2	2
	Secondary	22	22	33	33
	Tertiary	77	77	61	61
	Total	**100**	**100**	**100**	**100**
Religion	Christianity	76	76	90	90
	Islam	24	24	10	10
	Others	0	0	0	0
	Total	**100**	**100**	**100**	**100**
Marital status	Married	99	0	100	100
	Single	1	1	0	0
	Divorce	0	0	0	0
	Widow	0	0	0	0
	Total	**100**	**100**	**100**	**100**
Residency	Urban	83	83	98	98
	Rural	17	17	2	2
	Total	**100**	**100**	100	100
Number of present pregnancy	1	29	29	33	33
	2	33	33	22	22
	3	17	17	15	15
	4	10	10	9	9
	5 and above	11	11	21	21
	Total	**100**	**100**	**100**	**100**
Number of children delivered	None	37	37	60	60
	1	25	25	15	15
	2	19	19	8	8
	3	9	9	8	8
	4	9	9	9	9
	5 and above	1	1	0	0
	Total	**100**	**100**	**100**	**100**
Type of family	Nuclear	78	78	96	96
	Extended	22	22	4	4
	Total	**100**	**100**	**100**	**100**

their practice of postpartum self-perineal wound care when they sustain perineal trauma thereby resulting in better healing progress.

Data Presentation and Result

TABLE 1 shows that most (50%) intervention and (42%) control group were within the age range 24-29 years. Regards to mother's education, 4% had no formal education in the control group, 77% in case group had tertiary education, 61% in control group also had tertiary education, 22% and 33% in intervention and control group had secondary education respectively. In intervention group, majority (76%) subjects were Christians, while 24% were Muslims. 90% in control group were Christians, 10% were Muslims. 99% in experimental group were married while 100% in control group were married. The majority (83%) in experimental group and 98% of the control group were living in urban areas respectively. Regarding pregnancy status, 29% were primigravidas while 71% were multigravidas in intervention group. 33% of the women were primigravidas and 67% were multigravidas in control group. Women with no previous delivery were 37%, 25% had one previous delivery, 19% had 2 deliveries, 9 delivered 33 and 4 children respectively and only one had 5 previous deliveries in intervention group. In control group, 60% had no previous delivery, 15% had one previous delivery, 8% had 2 and 3 previous delivery, and 9% had 4 previous deliveries. The majority (78%) in experimental group had nuclear families, while only 22% had an extended family. Similarly, those in control group with nuclear families were 96% while only 4% had extended family **TABLES 2 and 3**.

TABLE 4 shows that participants in day 1 adequately practiced instructions given to them as 91.88% implemented practice of hygiene, 93.75% nutrition, 32.29% pain relief measures. The practice of pain relief was lower because none of the women applied ice pack. Day 2, 91.56% implemented the practice of hygiene, 96.88% nutrition, 60.42% pain relief measures and 100% adhered to prescribe drugs. Day 7 92.50% implemented practice on hygiene, 96.88% nutrition, 60.50% pain reduction measures and 100% took their prescribed medication. The drugs for pain relief were prescribed for only 3 days and generally medication is usually prescribed on discharge (day 2) **TABLES 5 and 6**.

TABLE 7 shows that participants in day

TABLE 2. Participants' practice of hygiene (Experimental group).

Practice	Day 1									Day 2									Day 7								
	I		S		NI					I		S		NI					I		S		NI				
	F	%	F	%	F	%	X	SD	R	F	%	F	%	F	%	X	SD	R	F	%	F	%	F	%	X	SD	R
Hygiene																											
Washing of hands before and after perineal care	30	93.75	2	6.25	0	0	2.94	0.25	A	31	96.88	1	3.13	0	0	2.97	0.18	A	30	93.75	1	3.13	1	3.13	2.91	0.39	A
Cleaning of perineum from front to back	31	96.88	1	3.13	0	0	2.97	0.18	A	31	96.88	1	3.13	0	0	2.97	0.18	A	30	93.75	1	3.13	1	3.13	2.91	0.39	A
Not touching inner part of perineal pad	31	96.88	0	0	1	3.13	2.94	0.35	A	29	96.88	2	6.25	1	3.13	2.88	0.42	A	29	96.88	2	6.25	1	3.13	2.87	0.42	A
Pouring warm water from front to back	30	93.75	1	3.13	1	3.13	2.91	0.39	A	31	96.88	1	3.13	0	0	2.97	0.18	A	30	93.75	2	6.25	0	0	2.94	0.25	A
Regular bathing and showering	31	96.88	0	0	1	3.13	2.94	0.35	A	31	96.88	1	3.13	0	0	2.97	0.18	A	32	100	0	0	0	0	3	0	A
Application of pad from front to back	27	84.38	4	12.5	1	3.13	2.81	0.47	A	28	87.5	3	9.38	1	3.13	2.84	0.45	A	30	93.75	1	3.13	1	3.13	2.91	0.39	A
Patting perineum dried with unpowered tissue Paper or unscented wipes or clean flannel	26	81.25	4	12.5	2	6.25	2.75	0.57	A	27	84.38	3	9.38	2	6.25	2.78	0.55	A	28	87.5	3	9.38	1	3.13	2.84	0.45	A
Changing of pad at least 3 to 4 times a day	31	96.88	1	3.13	0	0	2.97	0.18	A	32	100	0	0	0	0	3	0	A	31	96.88	0	0	1	3.13	2.94	0.35	A
Air dry perineum	28	87.5	3	9.38	1	3.13	2.84	0.45	A	24	75	4	12.5	4	12.5	2.62	0.71	A	26	81.25	3	9.38	3	9.38	2.72	0.63	A

Key: I: Implemented; S: Sometimes; NI: Not Implemented; X: Mean; SD: Standard Deviation; R: Remark

TABLE 3. Participants' practice of nutrition and reducing perineal discomfort (Experimental group).

Practice	Day 1									Day 2									Day 7								
	I		S		NI					I		S		NI					I		S		NI				
Nutrition	F	%	F	%	F	%	X	SD	R	F	%	F	%	F	%	X	SD	R	F	%	F	%	F	%	X	SD	R
Eating balanced diet, roughages and liberal water	30	93.75	2	6.25	0	0	2.94	0.25	A	31	96.88	1	3.13	0	0	2.97	0.18	A	31	96.88	0	0	1	3.13	2.94	0.4	A
Reducing Perineal discomfort																											
Sitz bath	1	3.13	0	0	31	96.88	1.06	0.35	A	31	96.88	0	0	1	3.1	2.94	0.35	A	31	96.88	0	0	1	3.13	2.94	0.4	A
Kegel exercise	30	93.8	1	3.13	1	3.13	2.91	0.39	A	27	84.38	3	9.38	2	6.3	2.78	0.55	A	29	90.63	2	6.25	1	3.13	2.88	0.4	A
Application of cold pack	0	0	0	0	32	100	1	0	A	0	0	0	0	32	100	1	0	A	0	0	0	0	32	100	1	0	A
Medication taken	0	0	0	0	32	100	1	0	A	32	100	0	0	0	0	3	0	A	32	100	0	0	0	0	3	0	A

Key: I: Implemented; S: Sometimes; NI: Not Implemented; X: Mean; SD: Standard Deviation; R: Remark

TABLE 4. Overall practice of postpartum perineal wound care by intervention group.

Practiced items	Day 1							Day 2							Day 7						
	I		S		NI			I		S		NI			I		S		NI		
	F	%	F	%	F	%	R	F	%	F	%	F	%	R	F	%	F	%	F	%	R
Hygiene	29.4	91.88	1.8	5.6	0.8	2.5	A	29.3	91.56	1.8	5.63	0.9	2.81	A	30	92.5	1.4	4.38	1	3.13	A
Nutrition	30	93.75	2	6.3	0	0	A	31	96.88	1	3.13	0	0	A	31	96.88	0	0	1	3.13	A
Reducing perineal discomfort	10.3	32.29	0.3	1	21.3	66.7	IA	19.3	60.42	1	3.13	11.7	36.5	A	20	62.5	0.7	2.08	11.3	35.42	A
Medication taken	0	0	0	0	32	100	IA	32	100	0	0	0	0	A	32	100	0	0	0	0	A
Average Practice score	23.3	72.81	1.4	4.4	7.4	23.1	A	27.6	86.25	1.4	4.38	3.1	9.69	A	28	86.88	1.1	3.44	3.1	9.69	A

Key: I: Implemented; S: Sometimes; NI: Not implemented; x: Mean; SD: Standard Deviation; R: Remark

TABLE 5. Participants' practice of hygiene (Control group).

Practice Items	Day 1									Day 2									Day 7								
	I		S		NI					I		S		NI					I		S		NI				
Hygiene	**F**	**%**	**F**	**%**	**F**	**%**	**X**	**SD**	**R**	**F**	**%**	**F**	**%**	**F**	**%**	**X**	**SD**	**R**	**F**	**%**	**F**	**%**	**F**	**%**	**X**	**SD**	**R**
Washing of hands before and after perineal care	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Cleaning of perineum from front to back	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Not touching inner part of perineal pad	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Pouring warm water from front to back	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Regular bathing and showering	0	0	2	6.67	28	93.3	1.07	2.54	IA	29	96.67	0	0	1	3.33	2.93	0.37	A	29	96.67	0	0	1	3.33	2.93	0.4	A
Application of pad from front to back	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Patting perineum dried with unpowdered tissue Paper or unscented wipes or clean flannel	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Changing of pad at least 3 to 4 times a day	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Air dry perineum	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA

Key: I: Implemented; S: Sometimes; NI: Not Implemented; X: Mean; SD: Standard Deviation; R: Remark

TABLE 6. Participants' practice of nutrition and reducing perineal discomfort (control group).

Practice	Day 1									Day 2									Day 7								
	I		S		NI					I		S		NI					I		S		NI				
Nutrition	F	%	F	%	F	%	X	SD	R	F	%	F	%	F	%	X	SD	R	F	%	F	%	F	%	X	SD	R
Eating balanced diet, roughages and liberal water	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Reducing Perineal discomfort																											
Sitz bath	3	10	0	0	27	90	1.2	0.61	IA	28	93.33	1	3.33	1	3.33	2.9	0.4	A	27	90	1	3.3	2	6.67	2.83	0.53	IA
Kegel exercise	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Application of cold pack	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA	0	0	0	0	30	100	1	0	IA
Medication taken	29	96.67	0	0	1	3.33	2.93	0.37	IA	29	96.67	0	0	1	3.33	2.93	0.37	A	29	96.67	0	0	1	3.33	2.93	0.37	A

Key: I: Implemented; S: Sometimes; NI: Not Implemented; X: Mean; SD: Standard Deviation; R: Remark

TABLE 7. Overall practice of postpartum perineal care by control group.

Practiced items	Day 1							Day 2							Day 7						
	I		S		NI			I		S		NI			I		S		NI		
	F	%	F	%	F	%	R	F	%	F	%	F	%	R	F	%	F	%	F	%	R
Hygiene	0	0	0.2	0.67	29.8	99.33	IA	3.2	10.67	0	0	26.8	89.33	IA	3.2	10.67	0	0	26.8	89.33	IA
Nutrition	0	0	0	0	30	100	IA	0	0	0	0	30	100	IA	0	0	0	0	30	100	IA
Reducing perineal discom-fort	1	3.33	0	0	29	96.67	IA	9.3	31.11	0.3	1.11	20.3	67.78	IA	9	30	0.3	1.11	20.7	68.89	IA
Medica-tion taken	29	96. 67	0	0	1	3. 33	IA	29	96.67	0	0	1	3. 33	A	29	96.67	0	0	1	3. 33	A
Average Practice score	2.3	7.67	0.1	0.33	27.6	92	IA	6.1	20.33	0.1	0.33	23.8	79.33	IA	6.1	20.33	0.1	0.33	23.9	79.67	IA

Key: I: Implemented; S: Sometimes; NI: Not implemented; x: Mean; SD: Standard Deviation; R: Remark

1 inadequately implemented the practice of postpartum self perineal wound care. Regarding the practice of reducing perineal discomfort, 3.3% implemented it, 96.67 adhered to prescribed drugs. As regards to hygiene 0.67% sometimes implemented it, 99.33% did not practice hygiene. On nutrition, none practiced it. On day 2 postpartum, 10.67% implemented hygienic practices, while 89.33% did not. None practiced nutrition that prevents constipation. 31.11% carried out measures that reduced their pains, 10% sometimes implemented pain reduction measures while 51.67% did not implement. 96.67% complied with prescribed medications. Day 7 postpartum, 10.67% implemented hygiene while 89.33% did not. None practiced nutrition. 30% practiced measures that reduced pains, 10% sometimes practiced while 52.67% did not practice and 96.67% adhered to prescribed medication.

■ Nature of perineal wound healing for both groups

The nature of wound healing in the intervention group shows that out of 32 subjects observed for nature of perineal wound healing, 12.5% of them had severe pain on day 1 postpartum. On day seven, 6.25% participants' wounds were found draining fluid, 3.10% had severe pain and 6.25% had perceived offensive odor. This was as a result of failure to practice instructions learned. Among 30 women observed in control, 20% had severe perineal pain on day 1, Day seven shows that 16.67% subjects wound drained fluid, 30% of them had severe pain, none had swellings at stitched area, 6.7% had excessive redness at the stitched area, offensive odor was perceived from 10%, 66.70% of then had gaped wound, and 6.70% had pus formed at their wound.

TABLE 8 shows that, within 24 hours postpartum, 53.13% experienced mild pain, 31.25% moderate and 15.63% severe pain with urination. Those who experienced mild pains were 65.63%, 21.88% moderate pain and 12.50% severe pain with defecation. On sitting, 78.13% experienced mild pain, 6.25% moderate pain, and 15.63% severe pain. In regards to breastfeeding, 78.13% mild pain, 9.38% moderate pain, and 12.50% severe pain. 68.75% experienced mild, 21.88% moderate, and 9.38% severe pain with walking.

Day 2, 3.13% experienced no pain, 71.88% mild pain, 6.25% moderate and 18.75% severe pain with urination. 3.13% experienced no pain, 71.88% mild pain, 6.25% moderate pain and 18.75% severe pain with defecation. On sitting, 6.25% experienced no pain, 68.75% mild pain, 15.63% moderate pain, and 9.38% severe pain. In regards to breastfeeding, 6.25%the experienced no pain, 68.75% mild pain, 15.63% moderate pain, and 9.38% severe pain. 6.25% experienced no pain, 71.53% mild, 12.50% moderate, and 9.38% severe pain with walking.

Day 7, 25% experienced no pain, 68.75% mild pain, and 6.25% moderate, none with severe pain on urination. 15.65% experienced no pain, 75% mild pain, 9.38 moderate pain and 0 severe pain with defecation. On sitting, 18.75% experienced no pain, 78.13% mild pain, 3.13% moderate pain, and none with severe pain. In regards to breastfeeding, 21.88% experienced no pain, 73.13% mild pain, moderate pain, and 0 severe pains. 18.75% experienced no pain, 81.25% mild pain and none with moderate or severe pain with walking.

TABLE 9 shows that, within 24 hours postpartum, 3.33% experienced mild pain, 63.33% moderate and 33.33% severe pain with urination. 50% experienced moderate pain and

50% severe pain with defecation. On sitting, 66.67% experienced mild pain, 10% severe pain. In regards to breastfeeding, 3.33% no pain, 26.67% mild pains, 63.33% moderate pain, and 10% severe pain. 36.67% experienced mild, 53.33% moderate, and 10% severe pain with walking.

Day 2, 36.67% mild pain, 60% moderate and 3.33% severe pain with urination. 30% experienced mild pain, 56.67% moderate pains and 13.33% severe pain with defecation. On sitting, 50% experienced mild pain, 50% moderate pain, and none with severe pain. In regards to breastfeeding, 53.33% women experienced mild pain, 46.67% moderate pains, and 0 severe pains. 70% experienced mild, 30% moderate, and none severe pain with walking.

Day 7, 3.33% of women experienced no pain, 26.67% mild pain, and 60% moderate, 10% with severe pain with urination. 36.67% experienced mild pain, 40% moderate pain and 23.33% severe pain with defecation. On sitting, 3.33% experienced no pain, 60% moderate pain, 30% mild and 6.67% with severe pain. In regards to breastfeeding, 3.33% experienced no pain, 53.33% mild pain, 36.67% moderate pain, and 6.67% severe pain. 3.33% experienced no pain, 63.33% mild, 26.67% moderate and 6.67% severe pains with walking

TABLE 10 The nature of wound healing in the intervention group shows that out of 32 subjects observed for nature of perineal wound healing, 12.5% of them had severe pain on day 1 postpartum. On day seven, 6.25% participants' wounds were found draining fluid, 3.10% had severe pain and 6.25% had perceived offensive odor. This was as a result of failure to practice instructions learned.

TABLE 11 Among 30 women observed, 20% had severe perineal pain on day 1, Day seven shows that 16.67% subjects wound drained fluid, 30% of them had severe pain, none had swellings at stitched area, 6.7% had excessive redness at the stitched area, offensive odor was perceived from 10%, 66.70% of then had gaped wound, and 6.70% had pus formed at their wound.

■ Test of hypotheses

- H1 There is the influence of practice on reduction of pain interference with daily activities among intervention and control group
- Correlation is significant at the 0.01 level (2-tailed)
- Correlation is significant at the 0.05 level (2-tailed)

TABLE 12 shows that there was a negative correlation between practice of postpartum perineal care and pain intensity among intervention group on the first day, which is statistically significant ($r=-0.910$; $p<0.05$). This implies that as practice increased the first day, there was a decrease in pain intensity the first day. Similarly, as practice reduced the first day there was an increase in pain intensity the first day.

There was a negative correlation between practice of postpartum perineal care and pain intensity among the intervention group in the second day postpartum, which is statistically significant ($r=-0.827$; $p<0.05$). This implies that as practice increased the second day, there was a decrease in pain intensity the second day postpartum. Similarly, as practice reduced the second day there was increase in pain intensity the second day.

There was a negative correlation between the practice of postpartum perineal care and pain intensity among intervention group in the seventh day postpartum, which is statistically significant ($r=-0.366$; $p<0.05$). This implies that as practice increased the seventh day postpartum, there was a decrease in pain intensity the seventh day postpartum. Similarly, as practice reduced the seventh day there was increase in pain intensity the seventh day.

- Correlation is significant at the 0.01 level (2-tailed)
- Correlation is significant at the 0.05 level (2-tailed)

TABLE 13 shows that there was a negative correlation between the practice of postpartum perineal care and pain intensity among control group on the first day, which is statistically significant ($r=-0.618$; $p<0.05$). This implies that as practice increased the first day, there was a decrease in pain intensity the first day. Similarly, as practice reduced the first day there was increase in pain intensity the first day.

There was a negative correlation between practice of postpartum perineal care and pain intensity among the control group on the second day postpartum, which is statistically significant ($r=-0.547$; $p=0.002$). This implies that as practice increased the second day, there was a decrease in pain intensity the second day

postpartum. Similarly, as practice reduced the second day there was increase in pain intensity the second day.

There was a negative correlation between the practice of postpartum perineal care and pain intensity among control group in the seventh day postpartum, which is statistically significant (r=-0.543; p=0.002). This implies that as practice increased the seventh day postpartum, there was a decrease in pain intensity the seventh day postpartum. Similarly, as practice reduced the seventh day there was increase in pain intensity the seventh day.

Discussion

These findings are presented using 4 headings: Socio-demographic characteristics of participants, the practice of postpartum perineal wound care, pain interference with daily activities, and the nature of wound healing.

The aim of the current study was to determine the impact of teaching programs on the practice of postpartum perineal wound care. Pregnant mothers were taught on numerous measures of care with the intention to improve practice and promote perineal wound healing and these measures include: application of ice pack, sitz bath, perineal muscles exercise, perineal hygiene, bowel care, bladder care, and good nutrition.

■ Socio-demographic characteristics of participants

Regarding socio-demographic characteristics, most (50%) intervention and (42%) control group were within the age range 24-29 years with the mean age of participants in the intervention group was 29.9+4.989 years while that of control group was 27.8+6.005 years. This was not similar to Firouzbakht et al. [14] whose samples for both control and experimental were in similar mean age 25.42 and 25.62 respectively, not similar to Oleiwi and Ali [15] where majority in both experimental and control group were less than 20 years, Tammy et al. [16] whose studied population were within the age range 31-35 years, higher than samples in Mohamed and El-Nagger [4] where mean age for mother in experimental group was22.2 years and that of control 21.8. Regarding mother's education, 70% in case group had tertiary education, 61% in control group also had tertiary education, 22% and 33% in intervention and control group had secondary education respectively, 4% had no formal education in the control group, similar to majority of his participant had tertiary education [4,16]. This is not so in a study carried out by Firouzbakht et al. [14] where majority of the participants in intervention group had secondary education and that of control group had primary education. The majority (76%) in study group were Christians, while 24% of the participants were Muslims. Ninety-nine (99%) subjects in the experimental group were married while 100% of the control group were married. The majority 83% were living in urban areas in experimental group and 98% of the control group. The finding in not similar to that of Firouzbakht et al. [14] where majority in experimental group lived in urban areas and that of control group lived in rural areas. Regarding pregnancy status, 29% were primigravidas while 71% were multigravidas in intervention group. 33% of the women were primigravidas and 67% were multigravidas in control group. Women with no previous delivery were 37%, 25% had one previous delivery, 19% had 2 deliveries, 9 delivered 3 and 4 children respectively and only one had 5 previous deliveries in intervention group. In control group, 60% had no previous delivery, 15% had one previous delivery, 8% had 2 and 3 previous delivery, and 9% had 4 previous deliveries. The majority (78%) in studied group had nuclear families, while only 22% had an extended family. Similarly, those in control group with nuclear families were 96% while only 4% had an extended family.

■ The practice of postpartum perineal wound care

Regards to practice of postpartum perineal wound care, participants in intervention group day 1 adequately practice instructions given to them as 91.88% implemented hygienic practices, 93.75% nutrition, 32.29% pain relief measures. The practice of pain relief was lower because none of the women applied the ice pack. Day 2, 91.56% implemented hygiene, 96.88% nutrition, 60.42% pain relief measures and 100% adhered to prescribe drugs. Day 7 92.50% implemented practice on hygiene, 96.88% nutrition, 60.50% pain reduction measures and 100% took their prescribed medication. The drugs for pain relief were prescribed for only 3 days and generally, medication is usually prescribed on discharge (day 2). Their practice could be as a result of knowledge gained through teaching programme not only that also because half of these women had tertiary education with none having no formal education. This finding supported the study of Raman [17] where all participants

TABLE 8. Pain interference with daily activities in intervention group.

Intensity of Pain with variable	Day 1								Day 2								Day 7							
	No pain		Mild pain		Moderate pain		Severe Pain		No pain		Mild pain		Moderate pain		Severe Pain		No pain		Mild pain		Mode-rate pain		Sev-ere Pain	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Urination	0	0	17	53.13	10	31.25	5	15.63	1	3.13	23	71.88	2	6.25	6	18.75	8	25	22	68.75	2	6.25	0	0
Defecation	0	0	21	65.63	7	21.88	4	12.5	1	3.13	23	71.88	2	6.25	6	18.75	5	15.63	24	75	3	9.38	0	0
Sitting	0	0	25	78.13	2	6. 25	5	15.63	2	6.25	22	68.75	5	15. 63	3	9.38	6	18.75	25	78.13	1	3.13	0	0
Breast-feeding	0	0	25	78.13	3	9. 38	4	12.5	2	6.25	22	68.75	5	15. 63	3	9.38	7	21.88	25	78.13	0	0	0	0
Walking	0	0	22	68.75	7	21.88	3	9. 38	2	6.25	23	71.88	4	12. 50	3	9.38	6	18.75	26	81.25	0	0	0	0
Average score	0	0	22	68.75	5.8	18.13	4.2	13.13	1.6	5	22.6	70.63	3.6	11. 25	4.2	13.13	6.4	20	24.4	76.25	1.2	3.75	0	0

TABLE 9. Pain interference with daily activities in control group.

Intensi-ty of Pain with variable	Day 1								Day 2								Day 7							
	No pain		Mild pain		Mode-rate pain		Severe Pain		No pain		Mild pain		Mode-rate pain		Se-vere pain		No pain		Mild pain		Mode-rate pain		Severe Pain	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Urination	0	0	1	3. 33	19	63.33	10	33.33	0	0	11	36.67	18	60	1	3. 33	1	3. 33	8	26.67	18	60	3	10
Defecation	0	0	0	0	15	50	15	50	0	0	9	30	17	56.67	4	13.33	0	0	11	36.67	12	40	7	23. 33
Sitting	0	0	7	23.33	20	66.67	3	10	0	0	15	50	15	50	0	0	1	3. 33	18	60	9	30	2	6.67
Breast-feeding	1	3. 33	8	26.67	19	63.33	3	10	0	0	16	53.33	14	46.67	0	0	1	3. 33	16	53.33	11	36.67	2	6.67
Walking	0	0	11	36.67	16	53.33	3	10	0	0	21	70	9	30	0	0	1	3. 33	19	63.33	8	26.67	2	6.67
Average score	0.2	0.67	5.4	18	17.8	59.33	6.8	22.67	0	0	14.4	48	14.6	48.67	1	3. 33	0.8	2. 67	14.4	48	11.6	38.67	3.2	10. 67

TABLE 10. Nature of perineal wound in intervention group.

	Day 1				Day 7			
	Yes		No		Yes		No	
	F	%	F	%	F	%	F	%
Draining of fluid at stitched area	0	0	32	100	2	6.25	30	93.75
Severe Pain	4	12.5	28	87.5	1	3.1	31	96.9
Swellings at stitched area	0	0	30	100	0	0	32	100
Excessive redness at stitched area	0	0	32	100	0	0	32	100
Perceived offensive odour	0	0	32	100	2	6.25	30	93.75
Sutured edges separates	0	0	32	100	0	0	32	100
Pus formed at wound site	0	0	32	100	0	0	32	100

TABLE 11. Nature of perineal wound in control group.

Perineal tear area assessment	Day 1				Day 7			
	Yes		No		Yes		No	
	F	%	F	%	F	%	F	%
Draining of fluid at stitched area	0	0	30	100	5	16.67	25	83.33
Severe pain	6	20	24	80	9	30	21	70
Swellings at stitched area	0	0	30	100	0	0	30	100
Excessive redness at stitched area	0	0	30	100	2	6.7	28	93.3
Perceived offensive odour	0	0	30	100	3	10	27	90
Sutured edges separates	0	0	30	100	20	66.7	10	33.3
Pus formed at wound site	0	0	30	100	2	6.7	28	93.3

effectively practiced self-perineal care. It is in line which found out that primiparas practice of episiotomy care significantly increased after teaching programme and Oleiwi and Ali [15] knowledge gained improved practice.

Participants in control group day 1 inadequately practiced postpartum self-perineal wound care. Regarding the practice of reducing perineal discomfort, 3.3% implemented it, 96.67% adhered to prescribed drugs. As regards to hygiene 0.67% sometimes implemented it, 99.33 did not practice hygiene. On nutrition, none practiced it. On day 2 postpartum, 10.67% implemented hygienic practices, while 89.33% did not. None practiced proper nutrition. 31.11% carried out measures that reduced their pains, 10% sometimes implemented pain reduction measures while 51.67% did not implement. 96.67% complied with prescribed medications. Day 7 postpartum, 10.67% implemented hygiene while 89.33% did not. None practiced nutrition. 30% practiced measures that reduced pains, 10% sometimes practiced while 52.67% did not practice and 96.67% adhered to prescribed medication. Participant in intervention group adequately practiced postpartum perineal wound care than those in control group and is in line with previously published studies [4,15,17]. In both groups, practice of wound care even though not adequately implemented by control group had a significant effect on reduction of pain interfering with daily activities. The findings also discovered that non-pharmacological self-perineal care practices aid in healing of the perineum than pharmacological therefore drugs should be prescribed as in combination with other non-pharmacological perineal wound care practices to facilitate wound healing. In addition, the study found out that, self-perineal care application of ice pack and sitz bath was not convenient for mothers to practice while in hospital.

The hypothesis tested for influence of practice on reduction of pain interference with daily activity in both groups found out that, in intervention group, there was a negative correlation between practice of postpartum perineal care and reduction of pain intensity among intervention group in the first day, which is statistically significant ($r=-0.910$; $p<0.05$). This implies that as practice increased the first day, there was a decrease in pain intensity the first day. Similarly, as practice reduced the first day there was increase in pain intensity the first day. There was a negative correlation between practice of postpartum perineal care and pain intensity among intervention group in the second day postpartum, which is statistically significant ($r=-0.827$; $p<0.05$). This implies that as practice increased the second day, there was a decrease in pain intensity the second day postpartum.

TABLE 12. Correlation between practice of perineal wound care and pain reduction among intervention group.

	Intervention group		Pain intensity		
			Day 1	Day 2	Day 7
Practiced of postpartum perineal care among intervention group	Day 1	Pearson Correlation	-0.910**	-0.868**	-0.385*
		Sig. (2-tailed)	0	0	0.03
		N	32	32	32
	Day 2	Pearson Correlation	-0.811**	-0.827**	-0.366*
		Sig. (2-tailed)	0	0	0.039
		N	32	32	32
	Day 7	Pearson Correlation	-0.811**	-0.827**	-0.366*
		Sig. (2-tailed)	0	0	0.039
		N	32	32	32

TABLE 13. Correlation between practice of perineal wound care and pain reduction among control group.

	Control group		Pain intensity		
			Day 1	Day 2	Day 7
Practiced of postpartum perineal care	Day 1	Pearson Correlation	-0.618**	-0.324	-0.431*
		Sig. (2-tailed)	0	0.081	0.017
		N	30	30	30
	Day 2	Pearson Correlation	-0.797**	-0.547**	-0.543**
		Sig. (2-tailed)	0	0.002	0.002
		N	30	30	30
	Day 7	Pearson Correlation	-0.797**	-0.547**	-0.543**
		Sig. (2-tailed)	0	0.002	0.002
		N	30	30	30

Similarly, as practice reduced the second day there was increase in pain intensity the second day. There was a negative correlation between practice of postpartum perineal care and pain intensity among intervention group in the third day postpartum, which is statistically significant (r=-0.366; p=0.039). This implies that as practice increased the seventh day postpartum, there was a decrease in pain intensity the seventh day postpartum. Similarly, as practice reduced the seventh day there was increase in pain intensity the seventh day. For the control group, there was a negative correlation between practice of postpartum perineal care and pain intensity among control group on the first day, which is statistically significant (r=-0.618; p<0.05). This implies that as practice increased the first day, there was a decrease in pain intensity the first day. Similarly, as practice reduced the first day there was increase in pain intensity the first day. There was a negative correlation between practice of postpartum perineal care and pain intensity among control group on the second day postpartum, which is statistically significant (r=-0.547; p=0.002). This implies that as practice increased the second day, there was a decrease in pain intensity the second day postpartum. Similarly, as practice reduced the second day there was increase in pain intensity the second day. There was a negative correlation between practice of postpartum perineal care and pain intensity among control group on the third day postpartum, which is statistically significant (r=-0.543; p=0.002). This implies that as practice increased the seventh day postpartum, there was a decrease in pain intensity the seventh day postpartum. Similarly, as practice reduced the seventh day there was increase in pain intensity the seventh day. The present finding supported the study [17] which found practice to be associated with decrease pain interference with parturient daily activities.

■ Nature of wound healing

Concerning nature of perineal wound healing, findings revealed that out of 32 subjects in the intervention group observed for nature of perineal wound healing, 12.5% of them had severe pain on day 1 postpartum. On day seven, 6.25% participant's wounds were found draining fluid, 3.10% had severe pain and 6.25% had perceived offensive odor. Out of 30 women observed in control group, 20% had severe perineal pain on day 1. Day 7 shown that 16.67% subjects wound drained fluid, 30% of them had severe pain, none had swellings at stitched area, 6.7% had excessive redness at the stitched area, and offensive odour was perceived from 10%. 66.70% of then had gaped wound and 6.70% had pus formed at their wound? This

finding is similar to that of [5,6] found pain, dehiscence, infection, defaecation problem, as postpartum morbidities resulting from perineal trauma. Wound breakdown was higher in this study than that of Mutihir and Utoo [18] who found wound breakdown among 3.7% of his samples. The rate of infection found in control group was higher than that in Johnson et al. [19] who found out one out ten women in his samples had perineal infection. Subjects in intervention group showed better healing process than those in control group and this result if similar to Mohamed and El-Nagger, and Raman [4,17] found out that better perineal wound healing progress was seen in mothers who practiced self-perineal care. Oleiwi and Ali [15] also found out that women practice of self-perineal wound care promoted wound healing.

This finding revealed the following morbidities; severe pain, purulent discharge from wound site, wound breakdown, excessive redness at the wound site, offensive odour and pus formed at wound site. These complications were seen in previous studies [5,6,18,19]. According to Herrera et al. [3] and Priddis et al. [20], pain is associated with infection or wound breakdown. This could be the possible reason why numbers of women 30% who experience severe pain day 7 in control group were more than that 3.1% in intervention group.

Summary

The study was conducted to determine the impact of teaching programme on the practice of postpartum perineal wound care among antenatal mothers in Jos. A quasi-experimental design was used. Two hundred (100 in each group) pregnant mothers were recruited purposively. Data was analyzed, presented and discussed. The teaching programme was found to be effective after educational intervention with pretest overall knowledge score 52.9% which increased to 92% posttest. Mothers who sustained trauma in intervention group adequately practiced the instructions given and it resulted in better healing progress. The practice was found to be associated with reducing pain interference with daily activities while pregnant women that had previous delivery showed no difference in their knowledge about postpartum perineal wound care.

Conclusion

Parturient with stitched perineum after vaginal birth suffer some complications. Information on how to carry out postpartum perineal wound care was said to be inadequate. Women who were taught postpartum perineal wound care practiced what they were taught and this resulted in a better wound healing process.

Recommendations

Based on available evidence, mothers should be taught on postpartum self-perineal care during antenatal and reinforced immediately the perineum is stitched. Midwives should encourage mothers to carry out self-perineal care immediately after birth in the hospital and assess their practice at home after discharge through phone calls. There is also need to improve the quality of care of patients by re-training midwives on evidence-based practice of postpartum perineal wound care since they form bulk of practitioners nursing antepartum, intrapartum and postpartum mothers.

Suggestions for Further Studies

Research should be carried out on measures that prevent perineal trauma, short and long-term morbidity of perineal trauma, parturient experiences of perineal trauma, health care provider's knowledge on practices of postpartum perineal wound care.

Limitation of the Study

The practice of perineal wound care after mothers were discharged from the hospital was done through phone calls. Wound healing was assessed for only 7 days postpartum.

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