Telehealth: Preparing Advanced Practice (APNs) Nurses for Transition into Clinical Practice

Pamela Willson, PhD, RN, FNP-BC, CNE, FAANP
Susan Lee, PhD, RN & Dinorah Martinez-Anderson, MSN, RN, FNP-C
Overview

For the things we have to learn before we can do them, we learn by doing them - Aristotle.

• Objectives were to prepare and evaluate Advanced Practice Nursing (APN) students’ competencies to independently provide woman’s healthcare using telehealth modality.

• Imbedded within NURS 5341 Reproductive, Sexual and Obstetrical Health, a graduate course for APN students (N=32) in a 10 week course.
  – Pre-Work included individual & group assignments
  – Low fidelity simulation & Standardized Patient vignettes
  – Implementation of “REAL” patient care – 4 home visits (20 hours) Telehealth patient interactions
Rationale

• Evaluation of simulation learning appears overwhelmingly positive (Gore, & Thomson, 2016; Hope et al, 2011; McCaughey & Traynor, 2010; Rutledge, et al, 2014)

• Little evidence exists regarding its impact within clinical practice (Handley & Dodge, 2013)

• The specific aim of this evaluation was to determine if, after skills competency check-offs, does an Edularp* experience prepare students for clinical practice via Telehealth.

*live-action roleplaying used to impart pre-determined pedagogical or didactic content
Methods

• TRACS platform was used for on-line learning modules and assignments

• Three hour face-to-face low fidelity static manikin use for small groups (6-7) lead by Clinical Faculty acting as the Standardized Patient

• Vignettes presented by faculty role playing as patient
Pre-Work Assignments

- Weekly Reading and Quizzes
- Forums and Discussions
- Common Pregnancy Discomforts Teaching Tool
- Standardized Electronic Medical Record (EMR)
- Contraception Toolkit
- Clinical Breast Exam Teaching Video
# Common Discomforts of Pregnancy

## Second Trimester Complaints

<table>
<thead>
<tr>
<th>Complaint</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Ligament Pain & Back aches**    | - Try taking warm baths or using a heating pad.  
- Do not use a heating pad longer than 20 minutes.  
- You may take Tylenol (650mg) every 4 hours as needed  
- **Red flags** include contractions, menstrual-like cramps, right lower abdominal pain, fever, unilateral back pain, or urinary tract symptoms.  (Younkin et al., 2013) |
| **Varicosities**                  | - Avoid standing or sitting for long periods of time.  
- Avoid constrictive clothing.  
- You may try compression stockings and may be referred to a surgeon after your pregnancy if you are finished having children.  
- Elevate legs when lying down or if possible, when sitting.  
- **Red flags** include calf pain, numbness, tingling, and tenderness (Varicose veins and piles, 2021). |
| **Bladder and kidney infections** | - Avoid bath, antibacterial soaps near the vagina and urethra.  
- Try drinking cranberry juice without added sugar.  
- Stay well hydrated.  
- **Red flag**: Call your provider with any burning or stinging of urination, fever, or unilateral back. Fever and back pain may indicate that you could be developing a kidney infection. This can be a serious complication during pregnancy (Second trimester Pregnancy: What to Expect, 2014). |

## Third Trimester Complaints

<table>
<thead>
<tr>
<th>Complaint</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Heartburn**                    | - Eat small, frequent meals.  
- Avoid spicy foods, caffeine, chocolate, or other aggravating foods.  
- Don’t lie down for 2 hours after eating.  
- Try to sip milk, yogurt, or cream during episodes for relief.  
- You may take tums 1-2 tablets every hour as needed.  
- You may try taking Prevacid or Zantac over the counter as directed. Let your doctor know that you are taking this medication and how often.  
- **Red flags** include chest pain, shortness of breath, palpitations, and flu-like symptoms.  (Younkin et al., 2013) |
| **Braxton-Hicks Contractions**   | - Stay hydrated.  
- Side-lying rest, walking, or exercise  
- Lamaze breathing  
- Empty your bladder frequently  
- You may take Tylenol (650mg) every 4 hours as needed  
- **Red flags** include regular contractions, vaginal bleeding, leaking of fluid, fever, or symptoms of a urinary tract infection.  (Younkin et al., 2013) |
| **Insomnia**                     | - Increase comfort while sleeping  
- Establish healthy sleep habits, including exercise. |

---

*The information is sourced from various medical references and textbooks.*
EMR

PREVIOUS EDITION IS NOT USABLE

MEDICAL RECORD

PRENATAL AND PREGNANCY

DATE: 08/02/2015

PATIENT INFORMATION

LAST NAME: R
FIRST NAME: M
MIDDLE INITIAL: R
STREET ADDRESS: 20608 Commons Parkway
CITY: Pflugerville
STATE: TX
ZIP CODE: 78660
DATE OF BIRTH (Month, Day, Year): 11/18/1974
AGE: 40
RACE: WHITE
EDUCATION (Last grade completed):
OCCUPATION: BSN
HOMEMAKER: No
OUTSIDE WORK: No
STUDENT: No
TYPE OF WORK: Nurse
SINGLE: No
MARIED: Yes
DIVORCED: No
SEPARATED: No
WIDOWED: No
EMERGENCY CONTACT NAME: C. R.
EMERGENCY CONTACT AREA CODE NUMBER: 512 348-7459

C. Blanco

HUSBAND/FOther OF BABY: No

FINAL ESTIMATED DELIVERY DATE: 02/10/2015
HOSPITAL OF DELIVERY: Seton Medical Center
PRIMARY PROVIDER GROUP: Dr. Swanson
MEDICAID NUMBER/INSURANCE: Aetna

TOTAL PREGNANCIES: 0
TOTAL PREGNANCIES (LAST SIX): 0
FULL TERM: 0
PREMATURE: 0
ABORTIONS INDUCED: 0
ABORTIONS SPONTANEOUS: 0
ECTOPIES: 0
MULTIPLE BIRTHS: 0
LIVING: 0

DATE (MO/YR): None
GA WEEKS: 0
LENGTH OF LABOR: 0
BIRTH WEIGHT: 0
SEX: F
TYPE OF DELIVERY: Full Term Labor
ANESTHESIA: None
PLACE OF DELIVERY: Hospital of Delivery
PRETERM LABOR: No
COMMENTS/COMPLICATIONS: None

MENSTRUAL HISTORY

DEFINITE APPROXIMATE (MONTH KNOWN) MONTHLY PRIOR (OMN) Q DAYS ON BCP AT CONCEPT: 0
NORMAL AMOUNT/INTERVAL: NO
OCC + (Date): 05/06/2015
FINAL END: YES
MENOPAUSE: No
DATE: 12/06/2015

SYMPTOMS SINCE LAST MENSTRUAL PERIOD

DESCRIPTIVE SYMPTOMS

8/15
Patient reports nausea and vomiting has improved with the use of pyridoxine 25 mg daily which was recommended by her OB/GYN. She continues to gain 0.5-1 lb per week and has been maintaining a diet consisting of 1600-1800 calories daily.

RELATIONSHIP TO SPONSOR

SPONSORS NAME: R, R
SPONSORS ID NUMBER (SSN or Other): 000000

PREGNANT AND PREGNANCY

STANDARD FORM 533 (REV. 12/1999)
Prescribed by OSARC FMR (41 CFR 101-11.290)

Medical Record

R, R, ID # 000000, Female
# Contraceptive Toolkit

<table>
<thead>
<tr>
<th>Contraceptives</th>
<th>How to use them</th>
<th>Effectiveness</th>
<th>Standard errors</th>
<th>Follow-up</th>
</tr>
</thead>
</table>
| **Spermicides** | - Chemical substance that immobilizes sperm, inserted near the vagina  
-HCan be used alone as creams, suppositories, and jellies or in conjunction with other barriers such as the diaphragm or sponge (Youngkin, Davis, Schadewald, & Juve, 2013) (Level 1 evidence)  
-Provides protection for up to one hour (typically equal to one sexual encounter)  
-29 pregnancies per 100 women with typical use and 18 pregnancies per 100 women with perfect use (Youngkin et al., 2013) (Level 1 evidence)  
-Incomplete dissolution or inadequate insertion of spermicidal suppositories results in inadequate protection (Youngkin et al., 2013)  
-Data from 2006-2010 showed that among women aged 15-44, 6.8% of women have used spermicidal foam with a standard error of 0.4 (Daniels, Mosher, & Jones, 2013) (Level 1 evidence) | - Male: Data from 2006-2010 showed that among women aged 15-44, 93.4% had used this form of birth control with a standard error of 0.5  
- Female: Data from 2006-2010 showed that among women aged 15-44, 1.7% of them have used female condoms with a standard error of 0.2 (Daniels et al., 2013) (Level 1 evidence) | - Male: Data from 2006-2010 showed that among women aged 15-44, 93.4% had used this form of birth control with a standard error of 0.5  
- Female: Data from 2006-2010 showed that among women aged 15-44, 1.7% of them have used female condoms with a standard error of 0.2 (Daniels et al., 2013) (Level 1 evidence) | - Teaching should include:  
- Spermicide must be used for every sexual encounter  
- All forms of spermicides should be kept in place for six hours after intercourse  
- Do not rinse or douche for six hours after intercourse (Youngkin et al., 2013) (Level 1 evidence) |
| **Condoms (male and female)** | - Male: provides a mechanical barrier that stops sperm from entering the vagina, readily available without a prescription  
-Female: Available over the counter, offer protection by covering the vaginal wall and an outer ring covers the labia allowing easy access for the penis (Youngkin et al., 2013) (Level 1 evidence) | - Male: Out of 100 couples, only 2% will become pregnant with consistent and adequate use over the course of one year, 15 out of 100 women will become pregnant with typical use  
-Female: 21 pregnancies per 100 women with typical use and five pregnancies with perfect use (Youngkin et al., 2013) (Level 1 evidence) | - Male: Data from 2006-2010 showed that among women aged 15-44, 93.4% had used this form of birth control with a standard error of 0.5  
- Female: Data from 2006-2010 showed that among women aged 15-44, 1.7% of them have used female condoms with a standard error of 0.2 (Daniels et al., 2013) (Level 1 evidence) | - Teaching for both male and female condoms should include:  
- Do not use both kinds of condoms at the same time  
- The couple should practice putting them on prior to initiating intercourse  
- Spermicides can be used to provide added protection  
- Do not use if allergic to latex (Youngkin et al., 2013) (Level 1 evidence) |
Clinical Breast Exam Teaching Video
Simulation

• Promoting competency through simulated practice learning
  – Leopold’s Maneuvers
  – Fetal Heart Rates
  – Adult Gynecological Exams
  – Standardized Patients

• Edularp Vignettes:
  – Essential content included gynecological exams for the pregnant, pediatric, obese, disabled, and elderly patients
  – Learning opportunities were built on students’ established clinical experiences using Adult Learning Theory
Simulation Vignette

• Edularp Vignettes:
  – Essential content included gynecological exams for the pregnant, pediatric, obese, disabled, and elderly patients

• Student’s experiences:
  – 15 year old initial gynecologic exam with birth control
  – 30 year old obese patient due cancer screening
Simulation Vignette

• Edularp Vignettes:
  – Essential content included gynecological exams for the pregnant, pediatric, obese, disabled, and elderly patients

• Student’s experiences:
  • 14 weeks pregnant and vaginal bleeding
  • 65 year old with arthritis needs pelvic exam due to vaginal pain
Telehealth Implementation

• After the pre-work and simulation was completed the students began The Pregnant Family Project:
  – Assess a pregnant patient, covering all essential histories and physicals of the prenatal and pregnancy EMR chart form.
  – Evaluate the dynamics of a family unit experiencing pregnancy.
  – Counsel the pregnant patient regarding health promotion.
  – Implement a plan of care for the prenatal patient.

• Initial visit face-to-face, 3 follow-up visits using telehealth modalities.
Conclusion

The first cohort of students (N=32) successfully completed their assignments. Students integrated telehealth modalities into their primary care practices. Telephone, videos, face-time, video presentations were used to follow-up with patients and to provide education, counseling and motivation for self-management of common discomforts of pregnancy to patients in their homes. Electronic medical records were maintained and billing codes were identified. Patients and students were highly satisfied with telehealth encounters.
Discussion

• Telehealth can prepare and enhance APN students’ competencies to independently provide distance woman’s healthcare to expand access to care and patient satisfaction.

• Recommend the use of Edularp learning experiences across the curriculum.


Contact Information

Pamela Willson, PhD, RN, FNP-BC, CNE, FAANP
St. David’s School of Nursing
E-mail: paw66@txstate.edu

Dinorah Martinez-Anderson, MSN, RN, FNP-C
E-mail: d_m282@txstate.edu

Susan Lee, PhD, RN
Texas Board of Nursing
E-mail: Susan.Lee@bon.texas.gov