

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

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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*

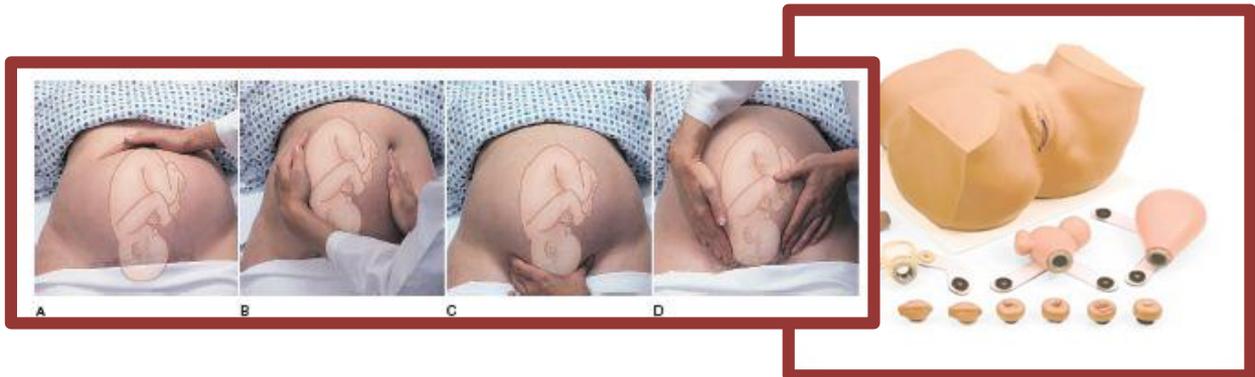
Methods

- 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



The most common complaints of pregnant patients along with treatments, comfort measures, and warning signs.

Second Trimester Complaints

Ligament Pain & Back aches

- Try taking warm baths or using a heating pad.
- Do not using a heating pad longer than 25 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, 2012).

Bladder and kidney infections

- Avoid bath, antibacterial soaps near the vagina and urethra
- Try drinking cranberry juice without added sugar.
- Stay well hydrated
- ** Red flags: 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

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 Pepcid 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 health sleep-habit, including exercise

EMR



PREVIOUS EDITION IS NOT USABLE NSN 7540-00-634-4276

MEDICAL RECORD		PRENATAL AND PREGNANCY				DATE 08/02/2015					
PATIENT INFORMATION											
LAST NAME R			FIRST NAME R			MIDDLE INITIAL M					
STREET ADDRESS 20608 Commons Parkway			CITY Pflugerville		STATE TX	ZIP CODE 78660					
TELEPHONE (Home)		TELEPHONE (Work)			ID NUMBER	DAY OF BIRTH (Month, Day, Year)	AGE				
AREA CODE 512	NUMBER 460-9337	AREA CODE	NUMBER	EXT.	000000	11/18/1974	40				
RACE			EDUCATION (Last grade completed)		OCCUPATION						
<input type="checkbox"/> WHITE	<input type="checkbox"/> HISPANIC WHITE	<input checked="" type="checkbox"/> AMERICAN INDIAN/ALASKA NATIVE			<input type="checkbox"/> HOMEMAKER	<input type="checkbox"/> OUTSIDE WORK					
<input type="checkbox"/> BLACK	<input type="checkbox"/> HISPANIC BLACK	<input type="checkbox"/> ASIAN/PACIFIC ISLANDER			<input type="checkbox"/> STUDENT						
MARITAL STATUS				TYPE OF WORK							
<input type="checkbox"/> SINGLE	<input checked="" type="checkbox"/> MARRIED		<input type="checkbox"/> SEPARATED	<input type="checkbox"/> WIDOWED	BSN						
HUSBAND/FATHER OF BABY				EMERGENCY CONTACT		TELEPHONE					
NAME C. Blanco		TELEPHONE		C. R		AREA CODE 512	NUMBER 348-7459				
FINAL ESTIMATED DELIVERY DATE 02/10/2015		HOSPITAL OF DELIVERY Seton Medical Center		NEWBORN'S PHYSICIAN Not established		REFERRED BY No Referral					
				PRIMARY PROVIDER/GROUP Dr. Swenson		MEDICAID NUMBER/INSURANCE Aetna					
NUMBER OF PREGNANCIES											
TOTAL 1	FULL TERM 0	PREMATURE 0	ABORTIONS INDUCED 0	ABORTIONS SPONTANEOUS 0	ECTOPICS 0	MULTIPLE BIRTHS 0	LIVING 0				
PAST PREGNANCIES (LAST SIX)											
DATE (MO/YR)	GA WEEKS	LENGTH OF LABOR	BIRTH WEIGHT	SEX		TYPE DELIVERY	ANESTHESIA	PLACE OF DELIVERY	PRETERM LABOR DELIVERY		COMMENTS/COMPLICATIONS
				F	M				YES	NO	
None											
MENSTRUAL HISTORY											
LAST MENSTRUAL PERIOD		MENSES		FREQUENCY		MENARCHE					
<input checked="" type="checkbox"/> DEFINITE	APPROXIMATE (MONTH KNOWN)	MONTHLY	PRIOR (Date)	Q (Days)	ON BCP AT CONCEPT	AGE ONSET	HCG + (Date)				
<input type="checkbox"/> UNKNOWN	NORMAL AMOUNT/DURATION	<input checked="" type="checkbox"/> YES	05/06/2015	0	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	12	06/10/2015				
FINAL:		<input type="checkbox"/> NO									
RELATIONSHIP TO SPONSOR		SPONSOR'S NAME			SPONSOR'S ID NUMBER (SSN or Other)						
		LAST	FIRST	MI							
DEPART./SERVICE		HOSPITAL OR MEDICAL FACILITY			RECORDS MAINTAINED AT						
PATIENT'S IDENTIFICATION (For typed or written entries, give: Name -- last, first, middle; ID No. or SSN; Sex)				REGISTER NO.	WARD NO.						
R, R, ID # 000000, Female											

PRENATAL AND PREGNANCY
Medical Record

STANDARD FORM 533 (REV. 12-1999)
Prescribed by GSA/ICMR FMR (41 CFR) 101-11.203

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Contraceptive Toolkit

CONTRACEPTION TOOLKIT

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Contraceptives	How to use them	Effectiveness	Standard errors	Follow-up
Spermicides	<p>-Chemical substance that immobilizes sperm, inserted near the vagina</p> <p>-Can 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)</p>	<p>-Provides protection for up to one hour (typically equal to one sexual encounter)</p> <p>-29 pregnancies per 100 women with typical use and 18 pregnancies per 100 women with perfect use (Youngkin et al., 2013) (Level 1 evidence)</p>	<p>-Incomplete dissolution or inadequate insertion of spermicidal suppositories results in inadequate protection (Youngkin et al., 2013)</p> <p>-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)</p>	<p>-Teaching should include:</p> <ul style="list-style-type: none"> o Spermicide must be used for every sexual encounter o All forms of spermicides should be kept in place for six hours after intercourse o Do not rinse or douche for six hours after intercourse (Youngkin et al., 2013) (Level 1 evidence)
Condoms (male and female)	<p>-Male: provides a mechanical barrier that stops sperm from entering the vagina, readily available without a prescription</p> <p>-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)</p>	<p>-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 uses</p> <p>-Female: 21 pregnancies per 100 women with typical use and five pregnancies with perfect use (Youngkin et al., 2013) (Level 1 evidence)</p>	<p>-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</p> <p>-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)</p>	<p>Teaching for both male and female condoms should include:</p> <ul style="list-style-type: none"> o Do not use both kinds of condoms at the same time o The couple should practice putting them on prior to initiating intercourse o Spermicides can be used to provide added protection o Do not use if allergic to latex (Youngkin et al., 2013) (Level 1 evidence)

Clinical Breast Exam Teaching Video



[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

- **T**elehealth 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.

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