**Title:**
Baby Beep: A Tele-Health Intervention for Depressed, Low-income Mothers

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**Session Title:**
Supporting the Needs of Low-Income Families to Improve Parent and Child Outcomes
**Slot:**
D 03: Friday, 28 July 2017: 10:45 AM-12:00 PM
**Scheduled Time:**
11:05 AM

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**Keywords:**
Low-income, rural women, Nursing tele-health counselling and antenatal depression

**References:**
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**Abstract Summary:**
Pregnant women and new mothers who are depressed and living on low-incomes have many economic, social and logistical barriers in obtaining treatment. A nursing tele-health social support/counselling intervention will be presented that is both economical and acceptable to women who received the intervention.

**Learning Activity:**

| LEARNING OBJECTIVES | EXPANDED CONTENT OUTLINE |
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| Learner will describe the barriers that prevent young mothers accessing care for depression. | The presentation will describe the following: 1) The prevalence of ante-partum and post- |

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| | partum depression in the general US population as well as women living in more rural parts of the States, 2) Reasons why rural women in the US are unable to access care for mental health. |
| Learner will describe how Peplau's theory of nurse/patient interaction is useful for describing the Baby BEEP social support/counselling intervention that can be delivered via telephone to geographically isolated mothers. | The presentation will then describe: 1) The Baby BEEP study and how effective the tele-health social support intervention was in reducing depressive symptoms in a large group of rural women living in the Midwest region of the US. 2) The reasons this intervention was so effective, Peplau's nursing theory of Interpersonal Relationships will be described. • The learner will understand the different roles and phases in the development of a nurse/patient relationship. 3) Quotes from the telephone logs of 24 women participating in the Baby BEEP study will be presented to show how Peplau's phases and roles were present in the interactions the nurses had with participants while delivering the Baby BEEP intervention. 4) Quantitative data will also be provided to show the intensity of the intervention as well as the improvement in scores |
| Learner will be able to apply the Baby BEEP tele-health intervention to other health issues in vulnerable populations experiencing health disparities | The presentation will describe: 1) How the Baby BEEP intervention is a feasible and economical way of providing counselling to vulnerable populations. 2) Examples will be provided where implementing a nursing tele-health program in clinics could serve others who are unable to access clinical care but are at risk for health disparities |

**Abstract Text:**

**Introduction**: The link between stress and antepartum depression (APD) is well established, with as many as 20 % of all pregnant women and 47 % of rural, low-income, pregnant women in the United States reporting symptoms. Depressed women are less likely to obtain adequate health care and more likely to engage in poor health behaviors such as abusing drugs, cigarettes, or alcohol, and to experience postpartum depression. Many of these women go on to have difficulty providing the type of care-giving necessary for normal child-development to occur. Rural women who are depressed and living on low-incomes have many economic, social and logistical barriers to overcome in obtaining treatment. These barriers include lack of insurance or other ways to pay for care, inability to afford missed time at work, limited childcare options, lack of public or private transportation in addition to the social stigmas associated with seeking psychiatric help. One economical and feasible way to provide care to this vulnerable group is to deliver nursing care via tele-health. The Baby BEEP study provides a model for a

well-received, workable nursing intervention where low-income women living in a rural setting received nursing care through weekly telephone support calls from a registered nurse. The interactions that occurred during these phone calls reflected Peplau's theory of Interpersonal Relations. Peplau was an early nurse theorist who described and identified roles and phases of the nurse-patient interaction that are core to nursing care and essential in providing psychiatric nursing care. Using Peplau's theory as a framework, and Miles and Huberman's qualitative methodology to characterize the nursing care provided by the Baby BEEP nurses, this study reports on the differences in nurse-patient interactions between two groups of women who began their pregnancies with scores indicative of depression on the Mental Health Index-5. The first group experienced a rapid improvement in mental health scores, while the second group experienced a more gradual improvement. By the end of the tele-health intervention, both groups who had consistently interacted with nurses on the phone had mental health scores in the range of normal.

**Methods:** A secondary mixed methods data analysis was conducted using original data from a randomized controlled trial (NR05313: Nursing Smoking Cessation Intervention during Pregnancy: Baby BEEP). As part of the Baby BEEP study, 695 low-income, rural, pregnant women were recruited from the rural Midwestern United States. Of these women, 345 were randomized to a telephone social support intervention delivered by baccalaureate prepared registered nurses. The purpose of the weekly telephone support intervention was to use "empathetic listening skills and provide social, emotional and/or informational support". The nurses kept detailed records of every phone contact they made with women in their caseload throughout pregnancy and up to six-weeks post-partum. Over 3,000 pages of single spaced notes detailing the interactions between nurse and patient were generated. The initial sampling strategy for this secondary analysis was purposive, ensuring a sample of women who began the study with MHI-5 scores indicative of depression and then split into two subgroups based on scores at the end of pregnancy. Consideration was also given to obtaining an unbiased sample by equal sampling from each of the six nurses who provided the intervention.

**Results:** A total of 24 women's telephone logs were analyzed. All women in this study were similar in age (mean = 23 years), marital and education status. The group whose mental health status improved more rapidly over the course of pregnancy (referred to as the "non-depressed group") received 21 calls during the study period and had an average improvement in mental health scores of 17 by the end of pregnancy. Women whose mental health scores did not improve as rapidly (referred to as the "depressed group") received 18 calls and showed an average improvement of 8 over the same time. Although mental health scores differed significantly at the onset of the study, by the end, there was no statistically significant difference between groups in mental health scores. The minutes/call was nine minutes for the non-depressed group versus 11 minutes for the depressed group. Total minutes of support provided throughout the study was 2338 minutes for the non-depressed group versus 2348 minutes for the depressed group.

Evidence of all Peplau's roles (stranger, surrogate, resource, teacher, counselor and leader) were found in the data, but most nursing care occurred as nurses acted as a resource, teacher and counsellor. Direct quotes from the logs will be presented to illustrate that as a counselor the nurses addressed the woman's emotional and psychological state by restating, reframing, probing and pointing out the woman's personal successes. Additionally, evidence of Peplau's phases (orientation, identification, exploitation and resolution) were found. Both groups of women moved from the orientation to identification phase of the relationship quickly, but the amount of time spent in the identification phase varied. For those who were longer in this phase, the time seemed to be spent trying to reach a point of mutual alignment, trust and readiness to work. The women in the depressed group took longer to progress during this phase. However, when the depressed women could progress through these two phases and moved into the exploitation phase, the length of the weekly telephone calls became longer with the nurse having to use more roles during the call than she did with women in the non-depressed group.

**Conclusions:** Although Peplau's Theory of Interpersonal Relationships has been applied to nursing care in more traditional clinical settings, this study makes explicit what a tele-health therapeutic relationship "looks and sounds like". This type of counselling intervention can be used in delivering nursing care to

depressed rural, low-income women who may only have access to health care for their depression via a telephone. Women who are depressed may require more time talking to the nurse and the nurse may have to initiate more of Peplau's nursing roles with these women. The telephone support provided by the Baby BEEP nurses provides a model of a type of nursing intervention aimed at alleviating depressive symptoms in an extremely vulnerable and hard to reach population that have little or no current systems in place for depression treatment.