

Prenatal Care in Israel: A Doctor – Nurse Dual Model

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Abstract

Background: Studies have shown significantly lower risk of complications during labor following prenatal care, allowing early detection, promoting normal pregnancy and birth. In May 2013 Maccabi Health Services launched "prenatal personal care" - a dual gynecologist and nurse follow up model. Our goals were to Preserve and promote physical and mental condition of pregnant women and conduct early identification of high risk situations and intervention.

Methods: The model is based on periodic visits provided by 150 designated nurses and 200 gynecologists working in collaboration. The follow up consists of 4-6 visits through pregnancy period. Additional visits provided according to woman's health state. The intervention includes information on recommended tests, abnormal conditions, preliminary screening for depression during pregnancy (Edinburgh questionnaire) and counseling. Various communication services such as Facebook, email, phone, app and personal meetings are available.

The model maintains interfaces with other health care providers such as dieticians, pelvic floor physical therapists, social workers and others. A designated computerized record was developed allowing generate and transparent follow up.

Results: Prenatal care was given to 22% of pregnant women. 58% of them were vaccinated for pertussis compared to 22% in standard care. Depression screening found 0.4% positive answers to tendency for suicide, 11.5% were suspected for depression. In addition, 85.6% performed GCT test versus 74.3% with standard care.

Conclusion: The model contributes to higher health outcomes and higher satisfaction among doctors, nurses and pregnant women. The service will be expanded to telehealth prenatal care allowing broader availability and accessibility for service nationwide.

Background

Pregnancy is characterized by physiological and psychological changes. Prenatal care allows early detection of health problems that may occur during this period thereby increasing the chances of normal pregnancy and birth of a healthy newborn. Prenatal care is a key preventive health service used in developed countries around the world. By providing expectant mothers with regular health evaluations and information about the course of the pregnancy, labor, birth, and parenthood, prenatal care aims to reduce the risk of unfavorable pregnancy and birth outcome [1].

Studies have shown that the risk of complications during labor and birth outcomes were significantly lower among women who were followed by prenatal care coordination compared to those who were under medical supervision only [2]. In the U.S., the American College of Obstetricians and Gynecologists (ACOG) recommends a uniform prenatal visit schedule comprised of approximately 14 visits: every four weeks up to 28-32 weeks of gestation, then every two weeks up to 36 weeks, and finally weekly until birth [3].

Reasons for reduced satisfaction are unclear. Sikorski et al. found patients receiving a reduced schedule were less likely to feel listened to and more likely to want more time to talk at visits [4].

Novick's qualitative assessment of women's preferences for prenatal care included continuity of care, flexibility, comprehensiveness of care (including access to group discussions with other pregnant women), developing meaningful relationships with professionals, and becoming more active participants in care [5].

Some investigators suggest that the effectiveness of prenatal care should not be defined solely in terms of risk assessments and number of prenatal office visits, but rather in terms of the content of the care [6,7]. The purpose of this study was to determine the effectiveness of a new model of prenatal care based on a dual gynecologist and nurse follow up.

Developing a new model of care

In May 2013, members of the women's health department in Maccabi Healthcare Services developed a new model of care for low risk pregnancies based on a dual follow up by the gynecologist and a designated nurse.

This prenatal care program was to be based on proactive and scheduled visits giving the pregnant woman the emotional support and clinical evaluation throughout the pregnancy. The model relied on evidence based medicine and worldwide guidelines. The rationale to launch this model was to detect and prevent complications at early phase of pregnancy, to raise the awareness and knowledge of the pregnant women, promote self-care health behaviors, raise satisfaction and finally decrease risk management.

Methods and Design

Study design

There are approximately 170,000 pregnant women in Israel each year. In Maccabi health care service we treat annually 32,000 pregnant women. Until 2013 the prenatal care was conducted by gynecologist only while the nurse provided blood pressure and weight follow up. The new model based on gynecologist and nurse periodic visits, includes at least 5-6 visits throughout the pregnancy. Additional visits are provided by the nurse according to necessity. The follow up starts before week 18 to identify potential risks and to allow quality medical practice (Figure 1).



Figure 1: Prenatal care set up versus standard care.

Setting

The service is provided in 80 cities nationwide by 150 designated nurses and 200 gynecologists (out of 350) working in collaboration.

The women receive information on how to manage a successful pregnancy and emotional support based on Edinburgh questionnaire - a preliminary screening for depression. The women receive a folder which contains all the necessary information such as recommended tests and abnormal and urgent conditions that require immediate attention (for instance low fetal movement).

Online services enable a variety of means of communication such as Facebook, e-mail, phone, cell phone application and personal meetings. The nurse works in collaboration with other health care providers such as dieticians, pelvic floor physical therapists, social workers and others. The nurse also uses community and health resources in her geographic area like natural childbirth classes and the Smoking cessation online call center for woman who agree to stop smoking.

Computerized medical record

A designated computerized medical record was developed to support the model and ensure transparency. The record relied on evidence based medicine and enables analyzing and generating statistical and qualitative report.

In addition, at the end of the pregnancy the data is given to the pregnant woman and is also shown for hospital staff before labor and allows continuum of information. The nurse performs obstetric anamnesis, various assessments (smoking, peripheral edema), clinical evaluation (based on blood test, GCT), psychosocial evaluation (violence inquiry, supporting environment), standard measures (BP, weight), designated check list and patient education for each trimester.

Results

Participants' recruitment

As part of the follow up, we examined several outcomes, referring primarily to the number of women who joined the program. From year to year the number of women participating increased significantly. The main reason for this was increased referrals from the gynecologists who acknowledge the importance of the program. The large part of the women were in their first pregnancy, when there is a great need for information and answers to questions regarding the pregnancy (Figure 2).



Figure 2: Participants' recruitment.

Pertussis vaccine among pregnant women

The health basket in Israel is a full range of services, treatments, drugs and medical devices that every patient is entitled to receive according to the mandatory health insurance law. Pertussis vaccine was included in the "basket of healthcare services" covered by national health in 2015 and recommended for all pregnant women.

Before the vaccine was included in the basket of services, the vaccine was given to 10% of the pregnant woman in 2014. After entering the health basket we see rising percentage of vaccination to 60% - suggesting the high awareness among the healthcare team.

Nonetheless, we found no difference between the percentages of Immunization rates between standard care and prenatal care nurses (Table 1).

2015	% women vaccinated
Standard care	58%
Prenatal care	64%
Total	60%

Table 1: Pertussis vaccination.

Depression during pregnancy

Women can develop anxiety and depression during pregnancy that may affect their quality of life after birth and that of the baby and the rest of the family. The added value in this model was the emotional guidance throughout the pregnancy. With standard care, women are not screened for depression and with prenatal care women are screened at week 28 for depression with the Edinburgh questionnaire. Depression screening found 0.4% positive answers to tendency for suicide, 11.5% were suspected for depression.

After detection the women receive comprehensive intervention from various health care services such as the mental health clinics and social workers.

Nurse referrals and test

Women who were under prenatal care had more screening tests like GCT and were referred more often to the dietician and social worker (Figure 3).

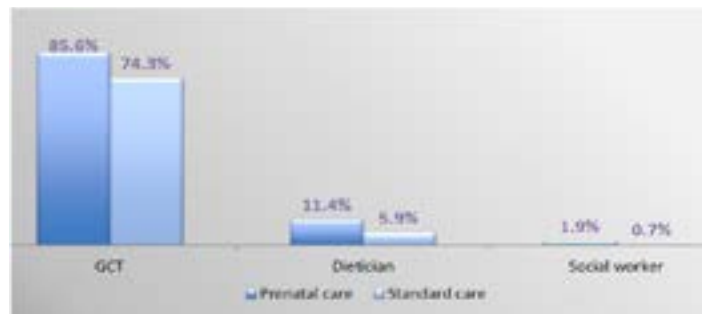


Figure 3: Nurse Referrals and test.

Customer satisfaction survey

In 2014 we conducted a customer satisfaction survey for nurses, doctors and women who participated in the program. A high level of patient satisfaction was found. The women perceived the service as important and significant and felt they have someone who listens to them (Figure 4). The women felt that the gynecologist and the nurse speak the same language and they didn't find contradictions between the medical recommendations of the two professions (Figure 5).

And though the women feel secure and satisfied, the nurses were pleased with their professional development and the doctors reported peace

of mind during follow up, having another colleague who manages the pregnancy.

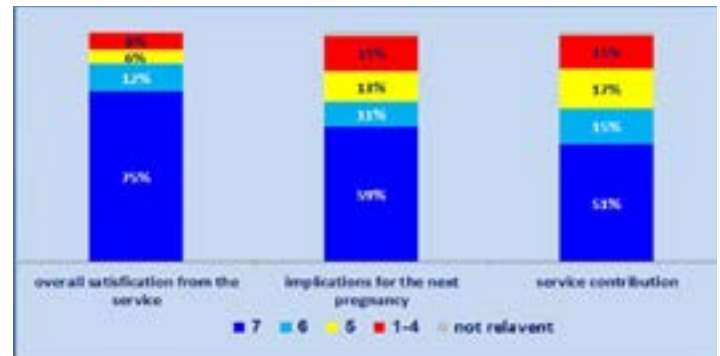


Figure 4: Customer satisfaction survey.



Figure 5: Customer satisfaction survey.

GIS - Geographic information system

A computerized information system was developed to enable management, retrieval and analysis of geographic information by combining content from several layers of data, such as the Central Bureau of Statistics in ISRAEL.

The system helps query and analysis of spatial information and allows managers an overall picture of services, conservation of resources and efficiency. The map allows display the gynecologist's clinics and the concentration of pregnant women in a given geographic area. This system allows understanding where it will be wise to establish prenatal care service according to the concentration of pregnant women and location of gynecologist clinics.

Discussion

The model contributes to higher health outcomes and higher satisfaction among doctors, nurses and pregnant women. The model seems to produce a state of a WIN-WIN situation. The service has been expanded to include a prenatal on-line call center, allowing broader availability and accessibility for service nationwide. Nevertheless, we still have quite a few challenges ahead of us: The service is given today to 22% of the pregnant population in Maccabi. We need to reach out to a broader population of pregnant women.

In addition, our country is characterized by a variety of cultures such as Ultraorthodox Jews, Arabs, and immigrants from Ethiopia etc. Thus, cultural adaptations are needed in follow up during pregnancy.

As part of the follow-up we were exposed to women who have experienced loss of pregnancy and it was not possible to identify them through standard care. It became necessary to provide an appropriate treatment plan. We must implement the emotional guidance to women who receive standard care and not prenatal care. And finally we believe that we need continuum of care aimed at post natal women nationwide.

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