

Utilization of Prenatal Care Services in Larger Townships in Israel: Should the Service be Reorganized?

Hava Palti MD MPH, Rosa Gofin MD MPH and Bella Adler MA

Braun School of Public Health and Community Medicine, Hadassah-Hebrew University Medical Center, Jerusalem, Israel

Key words: prenatal care, utilization, satisfaction, national sample, Jewish women, Arab women

Abstract

Background: In Israel, preventive services for mothers and children are provided mainly by the Ministry of Health through a network of Maternal and Child Health clinics, and partly by municipalities and health maintenance organizations. Utilization of the MCH clinics for prenatal care has declined during the last decades.

Objective: To study the utilization and satisfaction with prenatal care services following the introduction of the National Health Insurance Law.

Methods: The study population comprised a national sample of Jewish and Arab women who were interviewed by telephone regarding the following: main service utilized for prenatal care, physician and nursing visits, satisfaction with care, and demographic and other characteristics. The response rate was 92% among Jewish women and 88% among Arab women.

Results: Twenty percent of the Jewish and 52% of the Arab women selected MCH clinics as the main service for prenatal care. The great majority of the study population attended the HMO services (clinics, independent physicians, women's health centers), while 7% of the Jewish and 4% of the Arab women visited a private clinic. The predisposing factors affecting the women's choice were educational level, ethnic group, religiosity, district of residence, and type of HMO. The mean number of physician visits was more than the eight visits recommended. Forty percent of the sample visited with three or more physicians at different services. More than 40% of the women had no appointment with a nurse, mainly those who chose the services of an HMO clinic, independent physician, or private physician. Satisfaction with the physician, nurse, and physical structure of the main service chosen for prenatal care was high.

Conclusions: Since the majority of women preferred the HMO services, the merging of prenatal care with curative care provided by the HMOs has to be considered. Public health nurses should be integrated in the service, and their specific role needs to be defined.

IMAJ 2004;6:138-142

Every year about 135,000 pregnant women receive prenatal services in Israel [1]. The purpose of these clinics is to monitor the health of pregnant women and their unborn infants, diagnose high risk pregnancies and detect preventable diseases, advise, educate, support, and provide treatment where appropriate. The preventive service for mothers and children was established in Israel 85 years ago by a team of nurses and physicians sent from the United States to Palestine by Henrietta Szold, founder of the Women's Zionist Organization of America, to improve maternal nutritional status and

reduce infant mortality [2]. The service developed into a network of Maternal and Child Health clinics, and remained an independent service parallel to that of the health maintenance organizations. Preventive services at the MCH clinics are provided mainly by the Ministry of Health. The four major HMOs provide curative care to the entire population within the framework of the National Health Insurance Law, which came into effect in 1995 [3]. The HMOs also provide MCH preventive services to 20% or less of the population.

In 1978, at the Alma Ata Conference [4], it was recommended that maternal and child health preventive services be integrated with primary care. In European countries antenatal care is provided in various ways. A study of 13 countries [5] found that 6 had a dominant system (Finland, Sweden, Norway, Germany, Portugal, Denmark) while 7 had different parallel systems. In some countries curative and preventive care is provided in the same setting [6]. In 11 countries the main care provider is an obstetrician/gynecologist; Finland relies on public health nurses and Denmark on midwives [5].

During the last two decades in Israel, several committees [7] and the National Health Insurance Law [3] recommended merging the preventive and curative services within the HMOs, creating one system for all health issues relating to women and children. The merging was not implemented due to public and professional resistance.

Until the 1970s the network of Maternal and Child Health clinics was utilized for preventive care by 90% of pregnant women and children [8]. A survey carried out in Jerusalem in the 1980s indicated that 48% of Jewish women utilized the MCH services for prenatal care, but 50% of them utilized the HMO services in addition [9]. In the 1990s only 14% in the Tel Aviv district received preventive care from the MCH services [10]. Women who were better educated and from higher social strata preferred the HMO services for health surveillance during pregnancy [9,10].

During the last decade major changes occurred in Israel that may influence utilization of healthcare:

- The demography changed due to mass immigration from the former USSR.
- Subsequent to the National Health Insurance Law, all four HMOs developed preventive services linked with curative care, and women's health centers were established in the larger cities.
- The economic status of the population improved, with a trend toward privatization of healthcare.
- Knowledge on health issues increased due to publicity by the media and use of the Internet.

MCH = Maternal and Child Health
HMO = health maintenance organization

This article describes utilization of and satisfaction with prenatal services selected by pregnant women for surveillance of pregnancy, and the factors affecting their choice.

Materials and Methods

The sampling frame included Israeli citizens: Jewish women who gave birth during March 2000 and lived in localities of 50,000 inhabitants or more, and Arab women who resided in localities of 25,000 inhabitants or more. A random sample of 1,100 women was chosen. During the year 2000, 52% of the total number of births occurred in these localities. Comparison of the sample with women giving birth at the above localities during the year 2000 indicated no difference by age, ethnic group for Jewish women, or year of immigration.

The women were interviewed 3 months after delivery. The interview was conducted by telephone, using a structured questionnaire in Hebrew or Arabic, and Russian when needed, and lasted 20–25 minutes. The response rate was 92% among the Jewish women and 88% among the Arab women.

Demographic characteristics

Jewish women had a higher educational level and were older than the Arab women. Sixteen percent and 36% of the Jewish and Arab women respectively were less than 24 years old ($P = 0.001$). Fourteen percent of the Jewish women had less than 11 years of schooling, and 52% had 13 or more years. The respective percentages among the Arab women were 50% and 19% ($P = 0.001$). The distribution by origin, as defined by father's place of birth, was 73% Israeli-born, 18% European or American, and 6% Asian-African. The distribution by age, origin and year of immigration of the sample was similar to the distribution of all the births during the year 2000 in the localities as defined.

Statistical analysis

Chi-square statistics, means, and logistic regressions were applied.

Categories of services

- MCH clinics of the Ministry of Health and the municipalities of two large cities, which provide preventive care only
- HMOs, which provide both preventive and curative care in three different settings: a) HMO clinics, b) independent physicians providing care at their clinics for the HMOs, c) Women's Health Centers of the HMOs
- Private physician
- Clinics run by voluntary organizations, utilized by some Arab women in East Jerusalem.

Definitions

"First visit" is self-explanatory. "The main service" refers to the service considered by the woman as the main source of care during pregnancy. "Physician visits" is the number of all visits to physicians at different services during pregnancy. "Visits to nurse" is the number of all such visits at all services utilized. "Satisfaction score" is calculated from six questions relating to satisfaction with the physician, six questions relating to the performance of the nurse,

and six questions describing the structure of the clinic. The range of answers is 1 to 4, with 4 indicating very satisfied.

Results

The first visit for prenatal care took place at 7.8 (SD 5.0) weeks gestation for Jewish women and 8.5 (SD 7.9) weeks for Arab women. Twenty percent of Jewish and 45% of Arab women attended an MCH clinic providing preventive care only for their first visit. As the main service for their prenatal care, 73% of Jewish and 50% of Arab women chose the various facilities of the HMOs, and 7% of Jewish and 4% of Arab women attended clinics of private physicians. Only 20% of Jewish and 52% of Arab women reported visiting an MCH clinic as the main service for prenatal care. The distribution of the main service chosen is shown in Table 1.

The service chosen for the first visit remained the main service for 74–93% of Jewish and 80–100% of Arab women. A logistic regression was performed to assess the factors influencing the choice of the main service for utilization. The dependant variable was MCH clinic against all other services (HMOs + private). Jewish women with lower education, of Asian-African origin, residing in the south of Israel, and insured by the largest HMO (Clalit Health Services) utilized the MCH clinics more than the better educated, Israeli or European-born women living in the central part of Israel and insured in the smaller HMOs [Table 2]. The factors affecting the choice among Arab women were religiosity, place of residence, and insurance by an HMO. Religious Arab women living outside Jerusalem and insured by the largest HMO utilized the MCH clinics more than secular women did. The educational level of Arab women had no statistically significant effect on selection of the service.

Two percent of the Jewish and 7% of the Arab women did not consult a physician during their pregnancy. The remaining women visited more than one physician during their pregnancy. Thirty-four percent of the Jewish and 25% of the Arab women visited three or more services where they consulted a physician. Women who attended MCH clinics as the main source of care visited with a larger number of physicians than those who chose an HMO service for care. Among the HMO services, those attending women's health centers visited with the least number of physicians. The average number of physician visits was 10.1 (SD 5.9) for Jewish and 9.6 (SD 6.2) for Arab women. Twenty or more visits to the physician's office were reported by 12% of Jewish women attending women's health

Table 1. The main service attended for prenatal care

Main service	Jewish women (%)	Arab women (%)
HMO clinic*	35	30
Independent physician*	24	11
Women's Health Center*	14	1
Private clinic	7	6
MCH clinic**	20	52
Total %	100	100
N	688	221

* These three types of services are administered by HMOs.

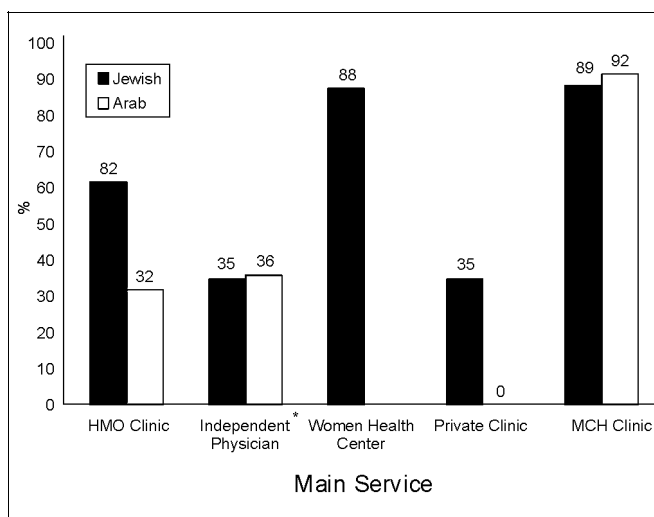
** MCH clinics are administered by the Ministry of Health, municipalities and HMOs.

Table 2. MCH clinic as the main service for prenatal care among Jewish women (n=682), by education, origin, district, and medical insurance (logistic regression)

	Odds ratio	Confidence interval	P
Education (yrs)			
≤11	2.48	4.82–1.28	
12	1.46	2.35–0.91	
≥13	1		0.021
Origin			
Asia-Africa *I+II	2.40	4.33–1.33	
Russia	2.09	4.44–0.98	
Europe-America I+II*	0.72	1.68–0.31	
Israel-Isreal	1		0.001
District			
South	4.56	11.42–1.82	
Center	2.20	5.23–0.93	
Haifa	1.94	5.64–0.67	
Tel Aviv district	0.90	2.35–0.34	
Jerusalem	0.50	1.49–0.17	
Tel Aviv city	1		0.001
HMO			
Clalit	3.96	9.36–1.67	
Meuhedet	2.42	6.32–0.93	
Maccabi	0.87	2.16–0.35	
Leumit	1		0.001

The dependent variable is utilization of MCH clinic as the main service for prenatal care/non-use of an MCH clinic. Religiosity and women's employment during pregnancy were additional variables in the model, but they had no statistically significant effect on selection of the prenatal care service.

*I + II = first + second generation.

**Figure 1.** Percent of women who had an appointment with a nurse at the main service chosen for prenatal care

centers, and by 9% of those attending the office of private physicians. Those attending other services had significantly fewer visits ($P = 0.023$). The differences among Arab women were statistically significant by service ($P = 0.001$). The pattern was different. None of those attending private physicians visited 20 times or more.

Table 3. Satisfaction with physician, nurse and structure, by main service for prenatal care among Jewish women

	Satisfaction score*		
	Physician	Nurse	Structure
HMO clinic	3.4	3.3	3.4
Independent physician	3.3	3.3	3.3
Women Health Center	3.2	3.2	3.5
Private clinic	3.7	3.3	3.7
MCH clinic	3.2	3.4	3.2
SD	0.8–0.4	0.8–0.6	0.6–0.4
P	0.002	NS	0.001

* Score from 1 to 4; the highest score was 4.

Thirty-nine percent of Jewish and 41% of Arab women reported that they had no appointment with a nurse. The percentage of women who had an appointment with a nurse is shown in Figure 1. A high percentage of those attending a private physician or independent physician had no appointments with a nurse. Only 5–10% of those attending women's health centers and MCH clinics did not have appointments with a nurse (appointment with a nurse means a clinic visit not as part of the appointment with the physician). Twenty-one percent of Jewish and 37% of Arab women reported nine or more visits with a nurse. The recommended number of nurse visits for prenatal care is 13.

Satisfaction with the main service utilized for prenatal care was high [Table 3]. Private physicians received the highest score. There were no statistically significant differences in the satisfaction score for nursing care by the different services. The structure of the MCH clinic received the lowest score. The satisfaction scores of Arab women were similar to those of the Jewish women except for somewhat less satisfaction with the structure of the MCH clinics.

Discussion

The utilization of the MCH clinics, providing preventive care only, has declined gradually during the last two decades and reached the lowest in this national study.

The National Health Insurance Law [3] provides health insurance to all citizens of Israel and a free choice among the four HMOs. Recently all four HMOs have developed preventive prenatal care services linked with the curative services, mainly in larger towns. It enables women in these localities to choose an HMO for preventive and curative care. This led to a further decline in attendance at the MCH clinics where only preventive care is provided.

Jewish women with a higher educational level and of European-American origin were more likely to use services provided by the HMOs, or private physicians. This may be a consequence of the organization and staffing of the MCH clinics, where surveillance is given mainly by nurses, and physicians attend the clinic only periodically. At the HMOs, supervision of pregnancy is provided mostly by an obstetrician/gynecologist. Probably the HMOs are considered by the better educated women to be more qualified for prenatal surveillance since physicians provide the care, and screening tests and new technologies for detection of abnormalities of the fetus are mostly available and accessible on site. In European

countries antenatal care is provided mostly by an obstetrician/gynecologist, except for the UK where care is provided mostly by a general practitioner or midwife, and Norway where midwife-based care received statutory emphasis [5].

Arab women utilized the MCH clinics to a greater extent than the Jewish women, and only two Arab women chose a women's health center as the main source of care. The choice of an MCH clinic by Arab women may indicate less availability and accessibility of an HMO service providing combined preventive and curative care in smaller localities. Arab women with a low educational level and living in a traditional society may have a conservative attitude. There may be less openness toward new organizational frameworks and trends in healthcare, as well as preference for a service where the provider is a female, a nurse, and where generations of women have received care. The preference of religious Arab women may be associated with lack of interest in new technologies to detect fetal abnormalities, since abortion is prohibited by religious law [11].

The type of insurance is one of the contributing factors to explain the use of the MCH clinic or an HMO. Though there is equal accessibility to health insurance at the four HMOs since the National Health Insurance Law came into effect, historically there is an over-representation of working class members in the largest HMO (Clalit Health Services) [9]. Their members utilized the MCH clinics more than those insured by the smaller HMOs. The underlying factor is probably socioeconomic status.

In the 1920s a fixed pattern of prenatal visits was introduced in England and Wales, including 15 visits during pregnancy; but since then the number of visits has declined [12]. In Sweden, a woman with an uncomplicated pregnancy sees the midwife eight times and the doctor once [13]. The recommendation of the Israel Ministry of Health is 8 visits to the physician, based on the recommendation of the American Academy of Obstetrics and Gynecology [14], and 13 visits to the public health nurse. In the present study the mean number of physician visits was higher than that recommended. Women are motivated to utilize prenatal services by the desire to reduce abnormalities and increase the chance of an optimal outcome. A high percentage of the sample consulted several physicians at different services for routine visits, a second opinion, ultrasound examination, total body screening of the fetus, and genetic screening.

The average number of contacts with the nurse was far below the recommended number due to lack of nursing staff in the services of independent and private physicians. The nurse's role in some HMO clinics is not defined as a separate role for surveillance, and appointments are planned with physicians only. Almost all women attending the MCH clinics had appointments with a nurse since the service is based on nurses. The absence of nursing input in some of the services providing prenatal care is an important deficiency. Physicians focus on the care of the fetus and the physiologic changes in the pregnant woman. They do not have the time or the skills to provide counseling on preventive issues such as nutrition, promotion of breast-feeding and prevention of smoking. It is the role of the nurse to provide social and psychological support and health education. The positive effect of social and psychological support during pregnancy on anxiety regarding birth, unhappiness

during pregnancy, attendance at prenatal classes, and negative feelings about the oncoming birth, was shown in a review of 15 studies [15].

The women in the present study selected a service for the first prenatal care visit. Their choice was not incidental but a decision reached after considering the alternative services available. Seventy-four to 100% of these women remained for subsequent care in the service of the first visit. Persistence of utilization of the same service and the high mean scores on the satisfaction scale support their selection of the service. Our results indicate that when alternate types of preventive care are available and there are no organizational barriers, selection of the preferred service depends mainly on characteristics of the women, though locality of residence and type of HMO also have an effect. The great majority of women preferred the service of an HMO where a gynecologist and tests are available at the clinic and the clinic is open in the afternoon.

In view of women's preference of the HMOs, the integration of preventive prenatal care with curative care provided by the HMOs must be considered. The HMOs have to develop an infrastructure that will include female physicians for the religious consumers, and public health nurses. The role of the nurses has to be defined to include guidance and social and psychological support. The merging of preventive and curative care for prenatal care will lead to one dominant service, as already elected by the majority of pregnant women.

Addendum

The preventive care for infants was also studied (in publication). The conclusions based on utilization of preventive care in infancy differ from those reported for pregnant women, since close to 100% of mothers utilize the MCH clinics for health surveillance.

Acknowledgments. We thank the Central Bureau of Statistics; Naama Rotem, head of the Health Division for the collection of data; and Tal Shoshan for assistance in the analysis of data.

The research was supported at its initial phase by the Israel Center for disease Control, and subsequently by the Israel National Institute for Health Policy and Health Service Research.

References

1. Ben Arie A, Tzionit J, Beenstock-Rivlin Z, eds. A State of the Child in Israel: A Statistical Abstract. Jerusalem: Israel National Council of the Child, 2000:9.
2. Wasserman M. For mother and child health in the Holy Land 1913-1993. *N Y Acad Med Library* 1993(Winter):251-74.
3. The National Health Insurance Law - 1994; pp. 175-6, 208.
4. World Health Organization and United Nations Children Fund. Primary Health Care. International Conference on Primary Health Care, Alma Ata, USSR, 1978.
5. Hemminki E, Blondel B. Antenatal care in Europe: varying ways of providing high coverage services. *Eur J Obstet Gynecol Reprod Biol* 2001;94:145-8.
6. Williams BC, Miller CA. Preventive Health Care for Children: Findings from a Ten Country Study and Directions for US Policy. Arlington, VA: National Center for Clinical Infant Programs, 1989.
7. National Commission for Evaluation of Effectiveness and Efficiency of the Israeli Health Services. Opinion of the Majority. Jerusalem: Government Publisher, 1990:219-24.

Original Articles

8. Taustein J, Halevi HS, Mundel G. Infant feeding practices in Israel. *Pediatrics* 1960;26:321–30.
9. Ellenzweig A, Palti H, Newmark Y, Donchin M. Factors affecting utilization of prenatal services in Jerusalem. *J Community Health* 1993;18:109–19.
10. Palti H, Bar-Am N, Palmon M, Mendel M. Evaluation of the Prenatal and Infant Preventive Services in the Tel Aviv District. Publication No. 3001. Tel Hashomer: Israel Center for Disease Control, 1999.
11. Jaber L, Dolfen T, Halpern GJ, Reish O, Feijin M. Prenatal diagnosis for detecting congenital malformations: acceptance among Arab women. *IMAJ* 2000;2:346–50.
12. Petrou S, Kupek E, Vause S, Maresh M. Clinical provider and socioeconomic determinants of the number of antenatal visits in England and Wales. *Soc Sci Med* 2001;52:1123–34.
13. Hildingsson I, Waldenstrom U, Radestad I. Women's expectations on antenatal care as assessed in early pregnancy: number of visits, continuity of caregiver and general content. *Acta Obstet Gynecol Scand* 2002;81:118–23.
14. Cunningham FG, Gant NF, Leveno KJ, Gilstrap LC, Hauth JC, Wenstrom KD. Williams Obstetrics. 21st edn. New York: McGraw-Hill, 2000:208–45.
15. Elbourne D, Oakley A, Chalmers I. Social and psychological support during pregnancy. In: Chalmers I, Murray E, Kierse MJNC, eds. *Effective Care in Pregnancy and Childbirth*. Vol. 1. Oxford: Oxford University Press, 1989:221–36.

Correspondence: Dr. H. Palti, Braun School of Public Health and Community Medicine, Hebrew University-Hadassah Medical School, P.O. Box 12000, Jerusalem 91120, Israel.

Phone: (972-2) 652-4738

Fax: (972-2) 652-4207

email: hpalti@vms.huji.ac.il