

J. biosoc. Sci. (2001) **33**, 261–270

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VARIABLES THAT EXPLAIN VARIATION IN PRENATAL CARE IN TURKEY; SOCIAL CLASS, EDUCATION AND ETHNICITY RE-VISITED

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Summary. The extent and quality of prenatal care are important for the health of women and their babies. Recent studies suggest that women lack adequate prenatal care in contemporary Turkey. This paper uses regression models to examine the major factors impacting on the access of women to prenatal care through the 1993 Turkish Demographic and Health Survey. The findings suggest that after controlling for class, ethnicity does not explain the likelihood of a woman's access to prenatal care, partly because the predominant patriarchal ideology in Turkey determines women's access to education, which in turn determines their access to prenatal care. It can be argued that unless women's socioeconomic status in the family improves, their access to health care in general and prenatal care in particular will not increase significantly.

Introduction

The literature on women's reproductive health refers to ethnicity as one of significant variables determining prenatal care access, along with other factors such as education, marital status, birth history, etc. In a review article, Edstrom (1992) suggests that health indicators such as maternal and infant mortality rates are closely associated with a range of socioeconomic determinants such as poverty and access to health care. Factors such as urbanization, female secondary education, contraceptive prevalence and fertility are defined as intermediary variables. Furthermore, York *et al.* (1996) suggest that there is an overemphasis of financial obstacles as barriers to prenatal care, and believe that even if all financial barriers were removed there would still be access problems. Both Edstrom (1992) and Gazmararian, Adam & Pamuk (1996) claim that the broader context of prenatal care has been under-researched.

In a Denver study (Meikle *et al.*, 1995), it was shown that when low-income women's antenatal care behaviours for not seeking early prenatal care were compared,

financial reasons were more decisive for White Americans whereas attitudinal reasons were more determining for Black and Hispanic Americans. The same study suggests that educational level and marital status sometimes confound each other.

Another descriptive and retrospective study, conducted in New Mexico (Higgins, Murray & Williams, 1994), examined self-esteem, social support and satisfaction levels of postpartum women. Significant differences were found in their level of education, income, insurance and ethnicity. Accordingly, women who were likely to seek prenatal care were high-school graduates whose family income was \$10,000–\$19,999 per year. This study also emphasizes the significance of education in receiving prenatal care. McCawbinns, Lagrenade & Ashley (1995), based on the Jamaica Perinatal Morbidity and Mortality Survey, also argue that older, married, middle-class women with secondary or higher education have a better chance of receiving early prenatal care than others. They emphasize wider socioeconomic needs and the role of empowerment for these women.

On the other hand, the study of Gardner *et al.* (1996) suggests that substantial differences in sources of prenatal care exist between White and minority women and between minority groups. They used the National Maternal and Infant Health Survey (1988) to examine age, income, marital status, educational level and source of funding among 21,000 women and concluded that ethnicity is a significant factor affecting prenatal care preferences and needs to be considered by policymakers.

For non-Western contexts, ethnicity is an over-theorized and under-researched topic, particularly in the Turkish case where recognizing ethnicities has been problematic for political reasons. Gender also suffers from a similar over-theorization and under-research bias.

This study is significant in its genre, being one of the first to explore the way in which ethnicity has an impact on the daily lives of women, particularly in terms of receiving prenatal care. The impact of women's birth stories, educational attainment, socioeconomic status and ethnic background on access to prenatal care is examined.

It is argued that ethnicity is not the primary variable in explaining women's access to prenatal care in Turkey, partly because the predominant patriarchal ideology determines women's access to education which in turn determines their access to prenatal care. Unless women's socioeconomic status in the family improves, their access to health care in general and prenatal care in particular will not increase significantly.

The Turkish context of this study lies in the country's ethnic diversity. Turkish population censuses have not published the ethnic distribution of the population since 1965, although this information was collected until 1990. However, the Turkish Demographic Health Survey (TDHS) data provide, to the best of the authors' knowledge, the first reliable and accurate figures on the ethnic diversity of Turkey (MH, HIPS & DHS, 1994). Through the questions on mother tongue, an estimate was made of the approximate size of populations of the ethnic groups in Turkey. There are three major ethnic groups, namely Turkish (80%), Kurdish (15%) and Arabic (2%) (see İçduygu, Romano & Sirkeci, 1999; İçduygu & Sirkeci, 1999; Sirkeci, 2000; Mutlu, 1996; and Ozsoy, Koc & Toros, 1992, for further and detailed estimations of ethnic diversity). The TDHS data enable ethnic diversity to be shown according to six different mother tongue questions, as summarized in Table 1.

Table 1. Population distribution of Turkey by mother tongue questions

Language	Mother tongue answers (%)					
	Respondent	Mother	Father	Husband	Husband's mother	Husband's father
Turkish	81.58	79.48	79.22	80.56	78.81	78.58
Kurdish	15.21	15.94	16.32	15.40	16.03	15.97
Arabic	1.91	2.18	2.17	2.39	2.49	2.58
Other	1.30	2.40	2.29	1.66	2.67	2.83
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>N</i>	31,908	31,911	31,899	31,899	31,924	31,904

Source: İçduygu & Sirkeci (1999).

Data and methods

The study of Turkish ethnic groups remains difficult because of a lack of information (Courbage, 1998). The term ethnicity is self-explanatory, indicating a minority population within the boundaries of a nation-state. Under present political conditions in Turkey, information registration, censuses, counts, surveys etc. tend to be manipulated for or against particular minorities. Another difficulty lies in the problem of defining ethnicity. There is no commonly adopted definition of ethnicity, except partial components such as language and common culture (Hutchinson & Smith, 1993; Hirschman, 1993).

Data availability is a problem in Turkey. Information on ethnic origin in terms of mother language was gathered in the national censuses until 1990 but the results were not published after 1965. However, data on ethnicity have been collected in many surveys conducted in Turkey (for example the TOBB Report (Turkish Chambers and Bar Associations, 1995); Aksit & Akcay, 1999; Ilkcaracan & Ilkcaracan, 1999; and several other civil societal associations). The second problem, referred to above, still remains inherent to any study on ethnic groups. In this study, ethnicity is determined by using data on mother tongue in the 1993 TDHS.

The TDHS, which is a part of the worldwide Demographic and Health Surveys (DHS) programme, was based on a nationally representative sample of 8619 households and 6519 ever-married women less than 50 years old. Two main types of questionnaires were used in the TDHS: the household questionnaire and the individual questionnaire. The individual questionnaire, which was applied to the sampled ever-married women, provides detailed information on levels and trends of fertility, infant and child mortality, family planning, and maternal and child health. The household questionnaire includes demographic and social information on all members of the household.

Information is also available on household living arrangements and material circumstances, including water supply, sanitation, flooring material and ownership of consumer goods.

This study uses TDHS data for analysis of the possible relations between the number of prenatal care visits, ethnicity, socioeconomic background, educational background, type of place of residence and number of births given.

For the purpose of this analysis, the individual dataset is used, which includes information about whether the women received prenatal care for each of her children. The number of prenatal care visits is counted as the total for all births (range 0 to 4) (actually, there are only nine cases achieving 4 as the number of prenatal care visits). Prenatal care is defined in terms of visits to, and assistance provided, by a doctor, nurse, midwife or birth attendant.

The independent variables affecting the number of prenatal care visits are: educational attainment, total number of pregnancies, type of place of residence, ethnicity and welfare status. The variable that seems to be most positively related to prenatal care visits is level of educational attainment, categorized in five levels ranging from no formal education to higher education. The total number of pregnancies ranges from 0 to 23 with a median of 3 and mean of 3.9. The type of place of residence determines access to health care facilities. The fourth variable considered is ethnicity, of which there are eight groups recorded in Turkey. Ethnicity is analysed in four categories (Turks, Kurds, Arabs and Other; because of the small numbers of most ethnicities, the Others constitute only 1.5% of the sample). The last variable is welfare status, which is measured by an index scored through information on housing facilities, household goods and literacy. The women are categorized in four classes: lowest, lower middle, upper middle and highest. (A variable for women's welfare status was recorded through an index computed by housing facilities and household goods in the households in which these women lived and their literacy status.)

Statistical model

In this study, it is suggested that ethnicity is not effective in explaining women's access to prenatal care. Statistical analysis shows that while ethnicity does not have an effect on prenatal care, the total number of pregnancies, educational attainment, type of place of residence and welfare status are all determinant values in explaining women's access to prenatal care.

In the statistical analysis, multiple regression analysis is used to test the model: total number of pregnancies, educational attainment, welfare status, type of place of residence and ethnicity are the independent variables and the amount of prenatal care is the dependent variable. The variables are: Y =number of prenatal care visits; X_1 =educational attainment; X_2 =total number of pregnancies; X_3 =type of place of residence; X_4 =ethnicity; X_5 =welfare status.

The model is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

$$Y = 0.778221 + 0.047328X_1 - 0.048392X_2 + 0.069770X_3 + 0.010425X_4 - 0.065131X_5$$

(6.438) (16.529) (3.877) (1.350) (4.440)

where $R^2 = 0.07$ and $F = 94.28$ ($p = 0.00$).

Table 2. Correlation matrix

<i>Correlation Significance</i>	No. prenatal care visits	Education	No. of pregnancies	Type of residence	Ethnicity	Welfare status
No. prenatal care visits	1.000	0.162	-0.252	0.076	-0.005	0.050
Education	0.162	1.000	-0.385	0.273	-0.135	0.508
No. of pregnancies	-0.252	-0.385	1.000	0.118	0.052	-0.207
Type of place of residence	0.076	0.273	0.118	1.000	0.034	0.440
Ethnicity	-0.005	-0.135	0.052	0.034	1.000	-0.071
Welfare status	0.050	0.508	-0.207	0.440	-0.071	1.000

Total number of cases: 6026.

Education, welfare status, ethnicity and prenatal care

When the nature of the relationship between education, welfare status, ethnicity and prenatal care is examined, at first glance it appears that the ethnic origin of women might influence their chance of receiving prenatal care. However, further analysis of the data suggests otherwise. Analysis by regression considers welfare status, education, number of pregnancies and type of place of residence among the possible variables *vis-à-vis* ethnicity. This regression is not significant ($p=0.1771$). However the other four variables reach significance ($p<0.05$) in explaining the number of prenatal care visits. The overall model explains 7% ($R^2=0.07$) of changes in number of prenatal care visits. When the level of education increases the number of prenatal care visits also increases. However, when the total number of pregnancies and welfare status increase the number of prenatal care visits decreases. In addition, the number of prenatal care visits is higher among women in urban areas than in rural areas.

As summarized in Table 2, the educational levels of women are significant in determining the number of prenatal care visits. Table 3 breaks down the educational variable into sub-categories and shows the relation between different educational attainment levels and number of prenatal care visits. Accordingly it is obvious that women with secondary or higher education are more likely to receive prenatal care than those with no or little formal education. More than 80% of non-educated women and women with incomplete primary education made no prenatal care visits, while this proportion is about 50% for women with secondary or higher education.

Birth histories of women suggest that as the number of pregnancies rises the number of prenatal care visits decreases (Table 4). On the other hand, urban dwellers tend to have more prenatal care than their rural counterparts. Sixty-five per cent of

Table 3. Number of prenatal visits, by educational attainment

<i>Number</i> <i>Row percentage</i> <i>Column percentage</i>	Total number of prenatal care visits				
	0	1	2	3-4	Total
No education	1370	242	74	8	1694
	80.9	14.3	4.4	0.5	28
	33.3	15.8	20.5	26.1	
Incomplete primary	330	61	18	2	411
	80.2	14.9	4.4	0.4	6.8
	8	4	5	5.6	
Complete primary	1860	821	210	17	2908
	64	28.2	7.2	0.6	48.1
	45.2	53.5	57.8	55.2	
Incomplete secondary	250	162	27	2	440
	56.8	36.8	6.1	0.4	7.3
	6.1	10.5	7.4	5.7	
Complete secondary	185	174	26	2	387
	47.7	45	6.7	0.6	6.4
	4.5	11.4	7.2	7.4	
Higher	117	74	8		200
	58.9	37.2	3.9		3.3
	2.9	4.8	2.1		
Total	4112	1534	363	31	6041
	68.1	25.4	6	0.5	100

urban women have no prenatal care whereas this proportion is 74% for rural women (Table 5).

The relationship between ethnicity of women and their prenatal care visits is not significant, as indicated by the regression model (with 0.347 significance) in Table 2. However, there are apparent differences among women from different ethnic groups: 68% of Turkish women, 71% of Kurdish women and 53% of Arabic women have no prenatal care visits in their lifetimes (see Table 6).

As summarized in Table 7, women with higher welfare status have more prenatal care visits than their lower status counterparts.

Discussion

This research shows that education, socioeconomic status, place of residence and number of pregnancies are significant variables in determining women's access to and use of prenatal care in contemporary Turkey, corroborating current literature on the topic. It is also concluded that, based on the 1993 TDHS, ethnicity itself does not play a significant role in women's access to and use of prenatal care.

It can safely be argued that education directly affects women's sense of empowerment and control over their bodies, which may result in more demand for

Table 4. Number of prenatal visits, by number of pregnancies

<i>Number</i> <i>Row percentage</i> <i>Column percentage</i>	Total number of prenatal care visits				
	0	1	2	3-4	Total
1	304 35.4 7.4	549 64 35.8	5 0.5 1.3	1 0.1 3.3	858 14.2
2	643 56.6 15.6	344 30.3 22.4	146 12.8 40.1	3 0.3 11.1	1136 18.8
3	705 68 17.2	235 22.7 15.3	84 8.1 23.2	12 1.1 37.4	1037 17.2
4-5	1097 77.4 26.7	231 16.3 15	80 5.6 21.9	10 0.7 31.3	1417 23.5
6-7	682 84 16.6	95 11.7 6.2	32 4 8.9	2 0.3 7.3	812 13.4
8-10	475 85.9 11.5	63 11.5 4.1	13 2.4 3.7	1 0.2 3.3	553 9.1
11+	206 90.4 5	17 7.4 1.1	3 1.3 0.8	2 0.9 6.4	228 3.8
Total	4112 68.1	1534 25.4	363 6	31 0.5	6041 100

health care during pregnancy. The effect of socioeconomic status on women's access to health care can be explained by welfare differentials, such that only those who can afford to spend time and money receive care. On the other hand, the fact that place of residence makes a difference to prenatal care utilization may be the result of uneven distribution of health care facilities in these settings. It is no surprise that women in rural areas do not utilize health care services to the same extent as their urban counterparts. As the number of pregnancies increases, women's likelihood of receiving and utilizing prenatal care decreases, and this can be explained by the fact that the more pregnancies a woman experiences, the more knowledgeable she becomes and she may therefore need less medical attention.

The analysis also suggests that in Turkey a woman's ethnic background is not decisive in determining her behaviour in the utilization of prenatal care. Rather, urban women, with secondary education and with higher welfare status, have more chance of using prenatal care than rural women with no education and poor welfare status, regardless of their ethnic background. For policymakers, the findings of this study propose the improvement of women's socioeconomic environment, through

Table 5. Number of prenatal visits, by place of residence

<i>Number</i> <i>Row percentage</i> <i>Column percentage</i>	Total number of prenatal care visits				
	0	1	2	3-4	Total
Urban	2510 64.9	1091 28.2	246 6.3	21 0.5	3868 64
Rural	61 1602 73.7	71.1 443 20.4	67.6 118 5.4	67.7 10 0.5	2173 36
Total	39 4112 68.1	28.9 1534 25.4	32.4 363 6	32.3 31 0.5	6041 100

Table 6. Number of prenatal visits, by ethnicity

<i>Number</i> <i>Row percentage</i> <i>Column percentage</i>	Total number of prenatal care visits				
	0	1	2	3-4	Total
Turkish	3505 67.8	1342 26	300 5.8	21 0.4	5169 85.6
Kurdish	85.3 513 71.1	87.5 147 20.4	82.7 52 7.2	67.9 9 1.2	721 11.9
Arabic	12.5 41 53.4	9.6 28 36.3	14.3 8 10.3	28.1	76 1.3
Other	1 52 71.4	1.8 17 22.9	2.2 3 4	1 1.7	73 1.2
Total	1.3 4112 68.1	1.1 1534 25.4	0.8 363 6	4 31 0.5	6041 100

better education, better housing facilities, and better health care facilities. These improvements might empower women, and increase their use of available health care services.

Acknowledgments

The authors would like to extend their gratitude to both the Demographic Health Surveys and Hacettepe Institute of Population Studies for their permission to use

Table 7. Number of prenatal visits, by welfare status

Number Row percentage Column percentage	Total number of prenatal care visits				
	0	1	2	3-4	Total
Lowest	168	34	6	3	211
	79.8	16.1	2.7	1.4	3.5
	4.1	2.2	1.6	9.7	
Lower middle	1059	288	91	8	1447
	73.2	19.9	6.3	0.6	24
	25.8	18.8	25.1	26.3	
Upper middle	2487	1034	240	19	3780
	65.8	27.4	6.4	0.5	62.7
	60.6	67.5	66.5	60	
Highest	388	175	25	1	589
	65.9	29.7	4.2	0.2	9.8
	9.5	11.4	6.9	4	
Total	4102	1531	362	31	6026
	68.1	25.4	6	0.5	100

the 1993 TDHS data. They would also like to acknowledge the statistical assistance of Ms Banu Yucel (Hacettepe Institute of Population Studies, Ankara, Turkey) and Dr Gulnur Muradoglu (University of Manchester, UK).

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