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Correlates of Timing of Induced Abortion in Turkey

Introduction

THE two case studies described in appendix bring us into the complexities of abortion issues. One of these complexities in the question of the timing of abortion. Focusing on this question, in the context of the case studies, it is possible to argue that the mechanisms and dynamics affecting the timing of abortion are quite complex, involving both simultaneous and sequential operations of a considerable variety of interacting factors. These factors are the focus of attention in this paper.

Variation in the period of gestation at which the pregnancy is terminated has received considerable attention among researchers (Tietze and Henshaw. 1986; Henshaw, 1990; Anderson *et al.,* 1993; but with a few notable exceptions, it has rarely been examined in detail. As often noted, the question of available information extens to all aspects of induced abortion (Barreto *et al.,* 1992; Huntington, 1993). The timing of abortion is not an exception: one reason for the relative neglect of the studies of the timing of induced abortion is the difficulty in obtaining systematic and detailed information. Not only lacking of available data, but also substantial underreporting and misreporting are obstacles for the construction of such studies. Despite the fact that the present study in itself also carries the legacy of these measurement problems, the data used here, which are from the 1993 Turkish Demographic and Health Survey (TDHS) are considered as having a rare opportunity to explore the issue of timing of the abortion during the pregnancy.

Turkey is a particularly interesting country for such an inquiry. Firstly because of its high rate of abortion in its relatively traditional social setting, arid secondly, because legalization of abortion is of recent origin. Unlike many other Islamic countries', Turkey has had a high incidence of induced abortion since the early 1950s, and a quite liberal

* Bilkent University, Ankara-Turkey. Turgay Onalan, Hacettepe Institute of Population Studies, Ankara-Turkey [1] Among the Islamic countries, Tunisia and Turkey are the only two countries who have quite liberal abortion regulations. In these two countries, no specific reasons are required for obtaining an induced abortion. For more detailed information, see Henshaw (I990), and UN (1995).

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abortion regulation since the early 1980s. Several studies indicate that induced abortion has been widely practiced in the country for a considerable period (UNFPA, 1995: 29; Tezcan *et at.,* 1980: 3). The induced abortion ratio was quite high at round 15 induced abortions per 100 live births in the period of 1960-1980 even when the abortion was not legal. In 1983, abortion legislation in Turkey was liberalized permitting abortion on the request of pregnant women witthin 10 weeks of pregnancy. The 1993 TDHS found that the number of induced abortions per 100 live births was 26, indicating a substantial increasing trend in abortions since the early 1980s. The TDHS also found that around six in every ten abortions in Turkey took place in the first month of pregnancy, three in the second month, and one in the third or later months of pregnancy, which shows that almost more than one in every ten abortions were performed at the border of the legal period of 10 weeks or beyond the legal period[2]. Starting with this finding, in this studywe focus on the question of "what distinguishes pregnant women who elect abortion in the early period of her pregnancy from those who delay abortion to the late periods of pregnancy?"

The next section of the paper reviews existing demographic evidence relating the abortion issue in Turkey to the country's recent fertility levels and trends. We then describe the data and methods used in our bivariate and multivariate analyses. We subsequently report results from our analyses of the factors affecting the differences in the period of gestation at which the pregnancy is terminated. The paper concludes by emphasizing that our interest in these factors should not be limited to the peripheral context of the timing issue; rather, because of their very integral significance, they should speak to core concerns of wider abortion issues, including methodological aspects related to obtaining reliable abortion data.

Historical Background: Fertility Regulation and Abortion in Turkey

Turkey officially implemented a somewhat pronatalist population policy until the mid-1960s, after which an antinatalist policy was adapted (TCSV, 1983). The pronatalist approaches of Turkish governments began to change in the late 1950s, mainly due to serious health problems, especially with the realization of the existence of high infant, child and maternal mortality. High urban population growth and employment problems were also factors contributing to the new antinatalist environment.in government circles (Hancioglu, 1994: 6). The Population Planning Law was enacted in 1965, in which there was no formal attempt to control the rapid population growth, but use of modern contraceptives was promoted.

Since the early 1960s Turkey has witnessed a steady increase in contraceptive prevalence rate and a concomitant decrease in the fertility rates (Table 1). Contraceptive prevalence increased from 22 per cent in 1963 to 38 per cent in 1973, 51 per cent in 1983, and to 63 per cent in 1993". The country's total fertility rate (TFR) has fallen from

[2] The reported percentages on the timing of induced abortions presented in the 1993 TDHS main report (Dervisoglu and Ergor. 1994: 57) are incorrect. The percentages given in this study are the corrected ones.

around 6 in the early 1960s to less than 3 in the early 1990s. Given the level of contraceptive use and the decline in the TFR, Turkey is posited to achieve replacement level fertility in the period of 2000-2010 (SIS, 1995: 34).

As in many countries, the transition to lower rates of fertility in Turkey may partly be attributed to the relatively high incidence of abortion. Between 1963 and 1993, a series of nationally representative surveys indicated that the induced abortion ratio, which is based on the number of abortions per 100 live births, increased from 10 per 100 live births in 1963 to 15 in 1983, and to almost 26 in 1993 (Table 1). Induced abortion had undoubtedly been one of the most often used form of birth control in Turkey over the years, even when it was illegal (Tezcan *et* a/., 1980; Akadli, 1985).

TABLE 1: INDICATORS OF FERTILITY, CONTRACEPTION AND ABORTION, TURKEY, 1968-1993

Indicators	*1963*	*1973*	*1983*	*1993*
Total fertility rate	6.2	5.6	4.1	2.7
Current use contraceptive (%)	21.9	37.7	51.0	63.0
Induced abortion per 1 00 live births	10.0*	16.0	15.4	25.8

* Estimate by the authors.
Sources: Ozbay (1975). Tezcan *et al.* (1980). Ergocmen *et al. (*1995). SIS (1995). MOH *et al.* (1994). HIPS (1989).

In May 1983 the Turkish Parliament approved a law that permits induced abortion on demand within the first 10 weeks of pregnancy'. According to this new legal arrangement, after 10 weeks of pregnancy, abortion can be performed if two physicians agree that the women's health is in danger, or in cases of proved fetal malformation. This requirement is waived if the pregnancy poses an immediate risk to the woman's life or health, provided that the performing physician informs the related authorities about the operation, either prior to the procedure or within 24 hours following the abortion. According to the law, the pregnant women must consent to the abortion, and parental consent is needed if she is a minor. If the pregnant woman has a legal guardian, the consent of her legal guardian and a justice of the peace, as well as her consent, are required. In the case of married woman, spousal authorization prior to obtaining an abortion must be obtained. The consent requirements are waived, however, if the pregnancy poses immediate danger to life or to vital organs of the woman.

The 1983 legal regulation, which legalized all family planning services including abortion and sterilization in Turkey, reflects the increasing official concerns for the fertility-regulating practices in the country. Although steps towards liberalization are obvious, to some extent relatively restrictive nature of the new regulation is also visible. For instance, since the abortion law puts the requirement of pregnancy termination only by or under the supervision of gynecologists with additional training in abortion procedures, access to abortion remains quite difficult for a woman who lives at a place where medical specialists of this type are scarce or non-existent; for instance, as reported in a previous study, a

[3] For a more detailed discussion on the 1983 Population Planning Regulations, see TCSV (1983), and UN (1995: 140-142).

rural Turkish woman seeking an abortion within the limit of 10-week gestational age may not be able to obtain one (UN, 1995: 141).

While the legalization of induced abortion facilitated one dimension of women's reprouctive choice and made it one of the efficient and increasingly used method of family planning, it also constrained the logical expansion of other modern methods of family planning such as sterilization, while the reliance on traditional methods continued to be strong. It is within this context that one of the reasons for a high incidence of abortion throughout the country seems to be the common failure of family methods.

As abortion has complex interaction with fertility and contraceptive use, Turkey's demographic status has been inevitably affected by the increasing practices of induced abortion. The TDHS data showed that 34 per cent of the women who had an abortion were not using any method of contraception whereas 45 per cent were using withdrawal one month before the last abortion. These figures reflect the fact that abortion is widely practiced by the Turkish women as it is perceived as a method of family planning.

Turkey is country where both the traditional and modern methods .of contraception are widely used. A high prevalence of use of tarditional methods, particularly withdrawal is evident, despite apparently widespread knowledge and availability of contraceptive methods such as pill, IUD, and condom. Among the modern methods, IUD, pill, and condom are more popular than other efficient methods such as sterilization (Goldberg and Toros, 1994). Although IUD is used widely and quite effectively in Turkey (failure rate was reported as 4.9 per cent by the 1988 Turkish Population and Health Survey), higher failure rates were prevalent for the pill (25.9 per cent)—rates that are well above the rates obtained in other countries. Failure rates for other methods such as condom, withdrawal, female scientific methods, and periodic abstinence (14.5 per cent, 13.9 per cent, 27.0 per cent, and 11.5 per cent respectively) were similar to those obtained in other countries (Kuku-Glasgow *et al.*, 1991). As a result of these failure rates, a large number of Turkish women end up conceiving a pregnancy they no longer desire and abortion is often the only way out to terminate these unwanted pregnancies.

The 1983 Turkish Population and Health Survey data showed that each year more than one in every eight pregnancies was terminated by an induced abortion. The findings from the 1993 TDHS imply that, almost one in every five pregnant women elects abortion each year. One can argue on the three possible main factors behind these high rates of abortion over the years (UNFPA, 1995: 29); the first is the high use of withdrawal as a contraceptive method; the second is the misuse of some of modefn methods of contraception, and the third is the high rates of pregnancy among women who do not use contraceptives, but nevertheless desire to control their fertility.

According to 1993 TDHS, "not wanting any more children was the main reason for about three-fifths of induced abortions performed in Turkey, and more than two-thirds of induced abortions were performed by private physicians, for whom abortions might be an important income-generating procedure. Viewed in the light of these findings on the resons for abortions and abortion providers, and of Turkey's abortion law that permits abortion within the first ten weeks of pregnancy, the issue of timing of induced abortions is a puzzling reasearch question.

Data and Methods

The data used in this paper are derived from the 1993 Turkish Demographic and Health Survey (TDHS). The TDHS is a nationally representative survey of 6519 ever-married women less than 50 years old. The survey was designed to provide information on fertility levels and trends, infant and child mortality, family planning, and maternal and child health. In the survey, women were asked how many abortions they had; and if these abortions took place since 1988 the dates were also marked on the calendar section of the woman's questionnaire. Information was also collected on the duration of the pregnancy in months before the abortion, the provider of the abortion, and the reason for the last abortion.

Data from the TDHS are used to examine the linkages between some selected abortion-related background variables and the gestational age. In our analysis, we consider all abortions reported in the five years preceding the survey. We only discuss the abortion-related variables which are relevant for our purpose. Throughout the study, the timing of the abortion during the pregnancy is the central variate, and it is classified into three groups, as the first month, the second month, and the third and later month. The selected abortion-related background variables, which are thought to be factors affecting the timing of abortion, age, type of place of residence, region of residence, education, husband's education, number of living children, marital duration, ethnic origin, and index of modernity status[4], working status, ever use of contraception, and agreement with husband on the number of children desired.

An overview of data on the variables used in the analyses given in Table 2. The table shows percentage distribution of all reported induced abortions in the five years preceding the survey by the selected characteristics of the women who had those abortions. The data indicate that the great majority of induced abortions were reported by the women who are urban residents, are not working, are between the ages of 25 and 39, and have two or more children. Overall, four in every five abortions were reported by the women who have had no or only primary schooling.

Regional differences are also clear; majority of the abortion occurs in the Western and Central regions. Considerable differences also exist in the distribution of the abortions, according to years since the first marriage; the highest level is in the 10-14 year group. Only less than one in every five abortion was found among the women whose modernity index refers to traditional. Indicating the ethnic diversity in the country, more than 12 per cent of the abortions belonged to non-Turkish women. Nearly 96 per cent of abortions were reported by the women having ever used any method of contraception. One-third

[4] The index of modernity was constructed using "rarity" approach by A. Hancioglu and H. Aykan at Hacctlepe University Institute of Population Studies, Ankara, Turkey, in 1995. In the calculation women are awarded modernity points according to the rarity of the modern attribute in the whole sample. The more rare the modern characteristic, the higher the score. The following variables were used to construct the index: education status, type of marriage, arrangement of marriage, attitudes to men's freedom, women's obedience to her husband, attitudes towards the idea of men's superiority, religious beliefs towards family planning, aggression and divorce, and consanguinity.

of abortions took place in a situation where there was no agreement with husband on the number of children desired.

TABLE 2: PERCENTAGE DISTRIBUTION OF WOMEN HAVING INDUCED ABORTION DURING THE LAST FIVE YEARS, TURKEY, 1993

Characteristics	Percent
Age	
15-19	0.8
20-24	9.7
25-29	22.6
30-34	29.1
35-39	23.1
40-44	10.9
45-49	3.7
Type of place of residence	
Urban	74.3
Rural	25.7
Region of residence	
West	40.8
South	14.1
Central	25.2
North	9.0
East	10.9
Level of education	
None	26.5
Primary	55.2
Secondary and above	18.2
Husband's education	
None	8.7
Primary	57.5
Secondary and above	33.8
Number of living children	
0	1.5
1	10.2
2	34.4
3	24.2
4	13.9
5+	15.7

Years since first marriage	
0-4	8.4
4-9	23.0
10-14	254
15-19	21.4
20-24	15.0
25-29	5.8
30+	1.1
Ethnic origin	
Turkish	87.9
Kurdish	7.4
Other	4.7
Modernity	
Traditional	17.3
Medium	52.1
Modem	30.6
Working status	
Networking	64.9
Working (agriculture)	18.3
Working (industry /service)	16.9
Ever use of contraceptive method	
Never used	3.9
Used only traditional	12.0
Used modem	84.0
Agreement on number of children desired	
Both want same	67.1
Husband want more	15.7
Husband want fewer	13.2
Don't know	4.0

The picture above, reflected from the distribution of all reported abortions, is quite consistent with the overall socio-demographic picture in Turkey. Therefore, it indirectly points out the reasonable level of data quality. This quality is also confirmed by MOH *et al.* (1994: 161-166). However, as noted before, data on abortion are highly vulnerable to various sources of error, such as memory errors and intentional omissions. There is no evidence that Turkish data are exception to this. As noted in several studies such as in Miller (1994: 360), collection of data on gestational age is widely recognized to be problematic. It is widely argued that survey data on abortion are not reliable sources of information because of recalling errors; although hospital and/or clinic records may provide

adequate data sets, they also carry serious problems, "because they overrepresent patients at late gestations, when complications requiring hospitalization are most likely" (Tietze and Henshaw, 1986: 77). In addition, there is another problem related to the records of gestational period: a pregnancy is assumed to begin at the date of onset of the last menstrual period, but information on this date is often difficult to obtain; differences between physicians' estimates of gestational age and those based on women's reports are obvious. The question of whether gestation is recorded in terms of completed weeks or of those months also poses an important problem for the studies of abortion. In fact, one of the important limitations of the 1993 TDHS data is that gestation is recorded in terms of months.

TABLE 3: PERCENTAGE DISTRIBUTION OF WOMEN WHO OBTAINED ABORTIONS BY MONTHS OF GESTATION BY SELECTED CHARACTERISTICS, TURKEY 1993

Characteristics	*Period of gestation*				*Chi-square*	*Significance*
	1 month	*2 months*	*3 months and above*	*Total*		
Age					42.62	.01 1
15-19	33.0	24.0	43.0	100.0		
20-24	64.5	23.2	12.3	100.0		
25-29	64.7	28.5	6.8	100.0		
30-34	64.0	28.6	7.4	100.0		
35-39	56.3	37.0	6.7	100.0		
40-44	55.6	35.6	8.8	100.0		
45-49	52.5	31.7	15.8	100.0		
Type of place of residence					5.14	.273
Urban	62.4	29.1	8.5	100.0		
Rural	56.3	35.8	7.9	100.0		
Region of residence					36.37	.002
West	63.4	27.8	8.8	100.0		
South	60.0	32.9	7.1	100.0		
Central	62.7	32.4	5.0	100.0		
North	56.2	40.9	2.9	100.0		
East	51.8	27.7	20.4	100.0		
Level of education					19.68	.011
None	51.6	37.4	11.0	100.0		
Primary	63.6	28.6	7.8	100.0		
Secondary and above	65.9	28.0	6.1	100.0		
Husband's education					15.14	.056
None	48.2	37.9	13.9	100.0		

Primary	59.2	31.7	9.0	100.0		
Secondary and above	66.7	27.6	5.8	100.0		
Number of living children					92.93	.000
0	40.7	36.6	22.7	100.0		
1	61.9	25.8	12.3	100.0		
2	64.8	31.1	4.1	100.0		
3	65.3	27.2	7.5	100.0		
4	57.8	32.8	9.4	100.0		
5+	49.1	36.8	14.1	100.0		
Years since first marriage					35.39	.062
0-4	59.4	28.8	11.8	100.0		
4-9	63.3	29.3	7.4	100.0		
10-14	69.9	23.5	6.6	100.0		
15-19	56.5	35.9	7.7	100.0		
20-24	54.9	35.8	9.3	100.0		
25-29	49.7	35.5	14.8	100.0		
30+	33.5	58.7	7.8	100.0 .		
Ethnicprigin					32.73	.000
Turkish	63.4	29.9	7.8	100.0		
Kurdish	50.5	34.0	15.6	100.0		
Other	30.3	58.6	11.1	100.0		
Modernity					16.95	.03
Traditional	56.8	36.9	6.3	100.0		
Medium	58.9	30.2	10.9	100.0		
Modem	66.6	28.1	5.3	100.0		
Working status					18.18	.110
Networking	62.7	28.8	8.5	100.0		
Working (agriculture)	52.1	38.7	9.2	100.0		
Working (industry/service)	63.8	28.4	7.8	100.0		
Ever use of contraceptive method					55.33	.000
Never used	27.1	36.7	36.2	100.0		
Used only traditional	61.2	31.0	7.7	100.0		
Used modem	62.4	30.5	7.1	100.0		
Agreement on number of children desired					28.18	.005
Both want same	63.0	31.0	6.1	100.0		
Husband want more	56.9	28.7	14.4	100.0		
Husband want fewer	62.5	25.5	12.0	100.0		
Don't know	52.0	37.6	10.4	100.0		

The data-related questions were recognized, but this was overwhelmingly .challenged by the lack of studies on the subject. Consequently, we first carried out bivariate analyses to find out the correlates of the timing of induced abortions. Then multivariate analyses were constructed to identify some of the determinants of having an induced abortion in the third and later months of pregnancy. In order to determine a subset of the selected factors that are good predictors of the late timing of abortion, a logistic regression procedure was applied. For the model building, first, all the variables which show significant relationships with the timing of abortion were put into the procedure of the logistic regression, then with a backward stepwise selection some of the variables were removed from the model, and only four variables were found as the good predictors of the late timing of abortion.

Findings

Bivariate Relationship

A cross-tabulation of the data on the selected background variables and timing of abortion is presented in Table 3. Variation of the timing of abortions is clear when the age of women is taken into consderation (chi-square = 42.62, p = .01). More women (43 per cent) in the age group 15-19 tended to have abortions in the third and later months of their pregnancies. A similar tendency is observed for those in the relatively old age groups, such as women aged 45-59 (15.8 per cent). Apart from the high level of abortions in the third and later months of pregnancy among both the youngest and oldest women in the sample, the data show only a modest variation by age. The pattern seen in the young and old age groups might refer to the argument that "an abortion may occur relatively late if the woman is reluctant to admit her pregnancy or if she has difficulty deciding whether to have an abortion" (Anderson *et al.*, 1993: 223). In other words, reluctancy in admitting pregnancy and difficulty in deciding on abortion which may dominate the women in the young and old ages would bring late period abortions.

There was no urban-rural difference in terms of the timing of abortions (chi-square = 5.14, p = .27), but substantial differences existed in the percentages of women who reported abortions in the third and later months of pregnancies, according to region of residence (chi-square = *36.31, p* = .00). The level of late-period abortions was considerably higher in the Eastern region than that reported in the other regions (for instance, 20 per cent in the East versus 9 per cent in the West), reflecting the fact that the low socio-economic status of the region may cause a delay in access to abortion services: the Eastern region is the least developed and Kurdish dominated area in Turkey, while the Western region is considered to be the most developed region of the country. There is also evidence that Kurdish women show relatively high incidence of abortions in the late period of pregnancy (chi-square = 32.73, p = .00). Again, the low socio-economic status of the Kurdish women may play a role for the late access to abortion services.

While the survey results do not reveal any significant relationship between working status of women and timing of abortions (chi-square = 18.18, p = .11), the effect of educational level on timing of abortion seems to be significant (chi-square = 19.68, p = .01). Regarding both educational level of women and that of their husbands (chi-square = 15.14, p - .06), a steady decline in the incidence of late abortions occurs with increased years of schooling. This implies that higher education is associated with easy and early access to abortion services.

Some differences by marital duration are also apparent (chi-square = 35.39, p = .06), with both the shorter- and longer-duration women reporting a relatively high incidence of late abortion, and in-between women reporting low incidence of late abortion. The proportion of late abortions among women with no children was significantly high (23 per cent); it was first decreasing by the number of living children one (12 per cent) and two (4 per cent), then it was increasing steadily (up to 14 per cent) as the number of living children increased to five. The late abortion among women with no children reflects the difficulty in deciding whether to have an abortion when you have no children. Relatively low incidence of late abortions was reported by women who had agreement on the number of children desired (chi-square = 28.18, p = .00), implying that disagreement between women and their husbands may naturally bring a late decision on abortion. Modernity status is also associated with the timing of abortions (chi-square = 16.95, p = .03); while both traditional and modern women show similar tendency for the late abortions, women with a modernity status in-between have relatively high incidence of abortions of after the second month pregnancy. This refers to high level of indecision on abortion for this in-between group.

The level of late abortion was five times higher among women who never used contraception than those reported ever used any method of contraception (chi-square = 55.53, p = .00). It was highly likely that there were two main groups of women among those who never used contraception: one group may consist of women with a very low socio-economic status who have very limited access to the providers of both contraception and abortion; and the second group may contain women who do not use contraceptives, but also are not sure about having a child.

Multivariate Analysis

Logistic regression analysis is used to estimate relative impact of selected demographic and socio-economic variables on the probability that a pegnancy will be ended by an abortion in the third or later months of pregnancy. In the multivariate analysis, the independent variables used include those variables which seem to be significantly associated with the timing of abortion. These are age, region of residence, education, husband's education, number of living children, marital duration, ethnic origin, a modernity index, ever use of contraception, and agreement with husband on the number of children desired. If the abortion takes place in the third and later months of pregnancy, the depdendent

variables is set to be equal to one, and if it takes place in the first or second months, to be equal to zero. A backward stepwise procedure is applied, and the resulting estimation includes only the following four variables as explaining the timing of abortions: region of residence, number of living children, an modernity index, and ever use of contraception. A series of dummy variables was taken into consideration for the analysis. Table 4 presents the Beta coefficients of the independent variables in the stepwise logistic regression estimations.

TABLE 4: COEFFICIENTS OF LOGISTIC REGRESSION FOR DETERMINANTS OF REPORTED INCIDENCE OF INDUCED ABORTIONS IN THE THIRD AND LATER MONTHS OF PREGNANCY AMONG EVER MARRIED WOMEN, TURKEY, 1993

Characteristics	*B-value*	Exp(β)
Region of residence	**	
West	.433	1.541
South	-.067	.936
Central	-.327	.721
North	-.905	.405
East	-.865***	2.375
Number of living children	**	
0	.028	1.029
1	.374	1.453
2	-.829**	.436
3	-.230	.794
4	-.007	.993
5+	-.067*	1.945
Modernity Index	*	
Traditional	-.490+	.612
Medium	.537**	1.711
Modern	-.046	.955
Ever use of contraceptive method	***	
Never used	1.222***	3.394
Used only traditional	-.599*	.549
Used modern	-.623**	.536
Parameters Constant	-2.266***	
Log likelihood	467.6	
(N)	(929)	

+$p < .10$ *$p < .05$, **$p < .01$, ***$> < .001$

Contraceptive use is found to be significantly related to timing of abortion. The lack of use of contraceptive appears to have significantly increased the relative risk of having a late induced abortion. Women who never used contraception are 3.4 times more likely to have an abortion in the third and later months of pregnancy ($p < .001$). Women who used modern methods of contraception and those who used only traditional methods have less likelihood of having a late abortion. This finding implies that women who are more conscious about birth control may take easy and early decision about abortion and may have easy access to abortion providers.

It is seen from the table that having two, three, or four living children is associated with decreasing risk of having an induced abortion in the third or later months of pregnancy ($p < .01$ for women with two living children). On the other hand, women having five or more living children are almost two times likely to have a late induced abortion ($p < .05$ for women with five or more living children). Similarly, women who have no living children or women with only one living children are at higher risks of having a late induced abortion. Keeping the fact that two-child family norm gains commonality in Turkey (Integration, 1995: 42), one can claim that when a Turkish woman with two children realizes that she is pregnant she prefers to have an abortion without any delay.

Significant differences are found by the region of residence as well. Women from the Eastern region ($p < .001$), and to a lesser extent those from the Western region, are more likely to have abortion in the third and later months of pregnancy. Women in the East are at 2.4 times greater likelihood of having a late induced abortion compared.to women in other regions. Women living in the North, Central, and Southern regions are less likely to have late abortion. One of the implications of this finding is that, as argued earlier, the low socio-economic status of the region may significantly cause a delay in access to-abortion services. Particularly, in view of the late abortion is associated with low socio-economic status of the region preventing the early access to abortion services, the findings related to the Western and Northern regions were contrary to expectations, and suggest that other abortion-related mechanisms are at work. But one must also note that the level of significance for both of these regions is extremely weak.

Although the bivariate analysis of the modernity status of women reveals a significant association with the timing of abortions, in the context of its dummy variables no statistically significant pattern is found except for those with medium scores ($p < .01$). Women with medium modernity scores are found to have 1.7 times greater likelihood of having an induced abortion in the third or later months of pregnancy. It seems that this in-between status in modernity cause a situation where women have difficulty in deciding on abortion.

Conclusions

This study is the first of its kind, that used survey data on abortion in Trukey to examine the factors affecting the differences in the gestational age at which abortion occurs. Two cautionary points should be made with regard to the data used. First, as theoretically discussed in the related literature, is that survey data are hardly reliable sources of

information because a long time might elapse between an abortion and the survey; and the second is that, when period of gestation is recorded in terms of months, not of weeks, it will be difficult to construct a more detailed analysis of the timing of abortion.

Notwithstanding data-related problems, it was worthwhile to make use of the 1993 TDHS data not only to show what we could learn about the issue of the timing of abortions but also to explore what we could not learn about it. Using bivariate and multivariate analyses, we documented some of the factors affecjing the differences in the period of gestation at which the pregnancy is terminated. Our analyses suggest the presence of a more complex picture of linkages between various factors and the timing of abortions. Variations in the timing of abortions are found to be related with age, region of residence, education, husband's education, number of living children, marital duration, ethnic origin, an index of modernity status, ever use of contraception, and. agreement with husband on the number of children desired. Among these various factors, four variables indicate statistically significant associations with these timing of abortions performed in the third and later months of pregnancy: region of residence, number of living children, an index of modernity status, and ever use of contraception. We found an answer lo the question of who was more likely to have an abortion in the late period, the third and later months, of pregnancy: a woman from the Eastern region, a women with two living children, a woman who is neither traditional nor modern, and a woman who never used contraception.

We argue that while the data problems exist and while the research topic is certainly complex, the partial explanations above alone cannot account for the factors affecting timing of abortions in Turkey. For instance, the fact of regional differences and its influence on early access to abortion services probably serves to some explanations on the differences in the timing of abortion, but the question of why and how urban-rural differences and working status, and to a lesser extent why and how age, education, husband's education, marital duration, and ethnic origin do not reveal much more significant impacts on the timing of abortion, also requires clear answers, from the survey data.

Further studies of differences in timing of abortion have to explore the effects of both individual- and community-level factors separately, and the effects of the linkages between these two levels, which are not considered here. Our analyses here suggest that these two types of factors and their relationship are to be considered for a better understanding of the timing of induced abortions. However, it is unlikely that much further progress can be made with the TDHS-type data. Future work have to make use of both qualitative and quantitative types of information, within the context of some specifically designed projects in which various aspects of abortion are examined. Efforts should be made to integrate the issue of the timing of abortions into the wider context of abortion issues.

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Appendix

Two Case Studies*

Case 1:

In 1963 Sabahat was a 38-year-old woman living with her husband and four children in a small city, which is 250 km away from the capital city, Ankara (Turkey). She was a housewife. She had completed five years of schooling, and had been married for about 15 years. . . Sabahat reported that she and her husband had tried applying withdrawal and douche for birth control. . . When she found out that she was pregnant, she told herself "I cannot afford another child". After her decision to have an abortion, Sabahat asked her husband, who was a worker, for help and support. Her husband replied her saying that "to have an abortion is a big sin according to Islam, and it is not all right", but he continued "we cannot carry the burden of another child, so you must find a way of getting rid of it". . .

Sabahat's husband told her that "Okay, you can have an abortion if you want, but you should pay for the cost of it, selling some of your jewellry, because 1 don't want to contribute into this sin". . .

Sabahat said that it was not easy to find a place to have abortion in those days (1963), when abortion was illegal. But she wanted to have it as soon as possible. Sabahat asked a friend for advice, and then sold her jewellry for the cost of abortion. The friend took her to a private clinic in Ankara, where the abortion was performed. Sabahat reported that the abortion took place in the fifth week of her pregnancy. . .

Cast 2:

In 1986, Nuray was a 21-year-old newly married woman living with her husband in Ankara. She was a lawyer. Although she was using birth control pills, she suspected that she was pregnant when her period was two weeks late. . .

When Nuray and her husband, who was also a lawyer, realized that she was pregnant, both of them came to the conclusion "no, we don't want any baby at the first year of our marriage". . . Nuray reported that it was extremely difficult to take a decision about abortion... She and her husband consulted their doctor promptly, and he said '-'whenever you are ready for it I can do it, it will be an easy operation". . .

When they decided to have an abortion, it was already in the fifth month of the pregnancy, The doctor told them this was beyond the legal period of abortion in Turkey (10 weeks of pregnancy), but he terminated the pregnancy. . . •

* These case studies were drawn from the transcript of interviews with Turkish women in a study of the "Consequences of International Migration tbrthose Who Remained Behind" conducted by L.H. Day and A. Icduygu, in Turkey in 1992. Although that study did not primarily focus on the abortion issues, it touched upon several questions related to women, fertility, abortion, and contraception. Consequently, considerably rich indepth information was collected on these issues, including various aspects of abortion. For a more detailed description of that study, see Day and Icduygu (1995). To preserve the anonymity of interviewed women, the names used in these case studies are fictitious names, not their own.