An Analytical Insight Into a Traditional Method: Withdrawal Use in Turkey

A Further Analysis of
1998 Turkish Demographic and Health Survey

Hacettepe University
Institute of Population Studies
Ankara, Turkey

MEASURE *DHS+*
ORC Macro
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PREFACE

Since its establishment in 1967, the Hacettepe Institute of Population Studies has been the key research and training institution in Turkey for demographic and some health related studies. The institute has conducted seven national surveys between 1968 and 1998 on a quinquennial basis. Among these surveys, the 1978 Turkish Fertility Survey was conducted in collaboration with the World Fertility Survey (WFS), and the last two surveys- 1993 and 1998 Turkey Demographic and Health Surveys – were conducted as part of the worldwide Demographic and Health Surveys (DHS) program.

Information on population dynamics and health indicators at national and geographical regions, and rural-urban levels are collected in these surveys. Thus a wealth of demographic, population and health related data is available from a series of these surveys.

This report is a further analysis of data obtained from study of the 1998 Turkey Demographic and Health Survey (TDHS-98). It provides detailed analysis on a traditional family planning method – withdrawal-, which has been exceptionally prevalent in Turkey. In spite of the gradual increase in the use of modern family planing methods in the past 20 years, not much change has been achieved in the high proportion of withdrawal use. Thus, this further analysis of data shows the patterns of withdrawal use and seeks to find out some factors that contribute to the method's ever-lasting popularity among users. This study should be viewed as an important step in providing insight into a family planning issue in Turkey. It is also hoped that the report would pave the way for future studies on socio-cultural aspects of withdrawal use and will serve as one of the important sources.

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I INTRODUCTION

I.1 Background

One of the oldest contraceptive methods used to control fertility is *coitus interruptus*, as it is referred to by the medical profession, or withdrawal, as it is more commonly known. The method's history probably goes back to the discovery that ejaculation into the vagina caused pregnancy. It is mentioned in the Book of Genesis and in Talmudic sources (IPPF, 1967). The method has been widely practiced throughout the world's history, playing an important role in controlling fertility prior to the inception of modern contraceptives.

In Turkey, couples more often adopt traditional than modern contraceptives, and 99 percent of traditional method users have used withdrawal. Among currently married women, 24 percent report current use of withdrawal. In comparison, 20 percent are relying on the IUD, the second most widely used method in Turkey (Ünalan and Koç, 1999).

Turkey's rate of withdrawal use is among the highest in the world. Only the rates in select countries in Eastern Europe such as Bulgaria at 38 percent and Romania at 35 percent surpass it. In the developing world, rates are generally substantially lower rates, with Mauritius at 16 percent and Vietnam at 11 percent having among the highest levels of withdrawal use.

Turkey's high prevalence of withdrawal use is noteworthy for a number of reasons. First, approximately two-thirds of currently married women in Turkey do not want to have any more children and an additional 14 percent would like to postpone their next birth (Ünalan and Kurtuluş, 1999). The high failure rates associated with withdrawal mean that women who seek to control childbearing by using the method will frequently experience unplanned pregnancies that often end in an induced abortion.

Among the abortions in which contraception was used immediately prior to the pregnancy, Turkish women were more likely to have been using a traditional method than a modern method. Although the proportion of abortions due to traditional method use declined in Turkey between 1993 and 1998, traditional method failure still accounts for 36 percent of all abortions (Senlet et al, 2001). Despite the high failure levels, women commonly continue to use traditional methods, primarily

withdrawal, following an abortion. According to the 1998 Demographic and Health Survey of Turkey (TDHS-98), in more than one-fourth of abortion cases, withdrawal was the choice method in the month following the pregnancy termination (Akadlı Ergöçmen et al, 1999).

The reliance on withdrawal among Turkish couples is also noteworthy because of the availability of other options. During the 1960s, Turkey adopted policies that supported the provision of temporary modern contraceptive methods and allowed couples to decide freely the number and timing of their family size. These policies were further liberalized in 1983 with the legalization of voluntary surgical contraception and induced abortion.

I.2 Reasons for Withdrawal Use

Research shows that, in countries where withdrawal use is highest, such as Turkey, Romania, Bulgaria and Mauritius, the main reasons that users give for relying on withdrawal are health concerns and fears about the side effects associated with modern contraceptives (Finger, 1996; Goldberg and Toros, 1994; Oodit, 1996). Studies looking at withdrawal use in Pakistan and Israel reach similar conclusions (Population Council, 1998; Okun, 1997). Although the concerns about the adverse effects of modern methods predominate, withdrawal users do offer some other reasons for electing to use the method, including partner preference, concern about the failure rates of other methods, and satisfaction with the method.

Santow (1995) hypotheses that the degree of sex-role differentiation within marriage and the belief that men hold the authority in reproductive decision-making are both positively associated with the use of withdrawal. Although withdrawal prevalence has dropped considerably in the latter half of the twentieth century, the method continues to be used in southern Europe. This would suggest that the method is practiced as a matter of individual preference and not because of a lack of alternative methods (Santow, 1993).

There are suggestions that religious views might play a role in the decision to adopt withdrawal in Muslim countries (Rogow and Horowitz, 1995). However, withdrawal also is popular in many countries with large Christian and Jewish populations. In fact, Turkey is the only predominantly Muslim country where withdrawal continues to be the leading method of contraception.

I.3 Research on Withdrawal

Withdrawal's advantages when compared to other contraceptive methods include that it costs nothing, requires no chemicals or devices, and is available in any situation. Also withdrawal is in theory highly effective, affording women similar protection as some barrier methods such as the diaphragm. Thus, it could be seen as a practical choice for couples who cannot or do not wish to use other contraceptives (Hatcher 1998).

Despite these potential advantages, there has been only limited study of the method. Santow (1995) points out that most demographers live in countries where withdrawal is not widely practiced, a factor which may contribute to the lack of research interest. Undoubtedly, the emergence of a wide variety of more efficient modern methods, which tend to be female-initiated, is also partially responsible for the diminished interest in this ancient method of contraception. The negative impressions many family planning professionals have about the method may be another factor limiting research on withdrawal; the family planning literature generally discredits withdrawal, questioning its use because of the high levels of unintended pregnancies and induced abortions associated with the method (Goldberg and Toros, 1994; Oodit,1996).

Finally, methodological difficulties in collecting information on withdrawal use help to explain why research on the method is scant. In some cultures, for example, withdrawal is not considered a family planning method, which leads to underreporting of its use (Potts, 1985). Withdrawal also is often used in combination with other methods (e.g., with abstinence or condoms), and such combined use may not be reported (Gray et al., 1999). In fact, it is a common practice in surveys that, when a respondent reports use of more than one method, often only the most effective method is recorded (Rogow and Horowitz, 1995).

I.4 Objectives of the Study

This study seeks to contribute to research on withdrawal by exploring patterns of use of the method in Turkey and by examining factors that contribute to the method's popularity among users. The study first reviews trends in withdrawal use starting from the late 1970s and then provides a profile of withdrawal users. Next, it explores determinants of withdrawal use. The study then examines various aspects of the dynamics of withdrawal use, specifically looking at discontinuation, failure and switching. The study also considers the potential effects on fertility of several

scenarios in which withdrawal users switch to modern methods. Finally, the study concludes with a discussion of the implications of the results of these analyses for the family planning program in Turkey today.

II. DATA AND METHODOLOGY

II.1 Data Sources

The principal source of data for the study is the *1998 Turkish Demographic and Health Survey (TDHS-98)*, which was conducted as part of the worldwide Demographic and Health Surveys (Measure *DHS+*) program.[1] The TDHS-98, which is the most recent in a series of demographic surveys carried by the Hacettepe University Institute of Population Studies (HUIPS), provides information on fertility and child mortality levels; family planning awareness, approval and use; and basic indicators of maternal and child health.

The TDHS-98 involved a nationally representative sample. A weighted multistage, stratified cluster sampling approach was used in selecting the sample. The sample was designed to ensure that estimates with reasonable precision could be provided for the country as a while, for urban and rural areas and for each of five major regions in the country. Interviews were completed in the TDHS-98 with 8,059 households and with 8,576 women ages 15-49 from these households. In addition, 1,971 husbands in a subsample of one-half of the households were interviewed in the survey.

The primary data used in this study was obtained in the interviews conducted with ever-married respondents in the TDHS-98. The individual questionnaire for ever-married women collected a broad range of data including information on background characteristics; fertility behaviour; knowledge and use of family planning; marriage; antenatal, delivery and post-natal care; health status of children under five; fertility preferences; husband's background characteristics; women's work and status, knowledge of sexually transmitted diseases and AIDS; and anthropometry (height and weight measures). The questionnaire also included a monthly calendar used to record fertility, contraception, marriage and migration histories beginning from January 1993 up to the survey month.

The study focuses on data obtained in the contraceptive components of the ever-married women questionnaire, particularly the calendar. However, results of the other interviews conducted during the survey are also used in the analyses that follow. For instance, the information on household welfare that is used during the

analysis was obtained in the household interviews. For cultural reasons never-married women were not asked about the use of contraception. However, the information that was collected on contraceptive knowledge and attitudes from never-married respondents in the TDHS-98 is used in examining the question of the future demand for the withdrawal method among this group.

The study also explores the data obtained on withdrawal use during the husband interviews. In general, the basic content of the husband questionnaire is similar to that used in the ever-married woman interviews; however, there are some differences between the two questionnaires. Perhaps of most note, the contraception section is shorter in the husband's than in the ever-married woman's questionnaire, principally because husbands are not asked to provide a calendar history of reproductive and contraceptive behaviour for the five years preceding the survey. The husband's questionnaire also includes some questions that are not in the woman's questionnaire. Of particular relevance to this study are the questions on dual method use (e.g., withdrawal and condom) and on the reasons for the reasons for using withdrawal.

Finally, along with the TDHS-98 results, data from four previous national surveys in Turkey are used to assess trends in withdrawal use during a twenty-year period between 1978 and 1998. The earliest of these surveys, *the 1978 Turkish Fertility Survey (TFS-78)*, was carried out as part of the World Fertility Survey (HUIPS, 1980). The TFS-78 had a nationally representative sample of 5,142 households and 4,431 ever-married women of reproductive age. The *1983 Turkish Fertility and Health Survey (TFHS-83)* was carried out with a nationally representative probability sample of households. In the TFHS-83, interviews were completed in 6,545 households with 5,398 ever-married women under age 50 (HUIPS, 1987). The *1988 Turkish Population and Health Survey (TPHS-88)* had a national sample that covered 6,552 households and 5,257 ever-married women under age 50. In addition, 2,264 husbands were interviewed in a sub-sample of the TPHS-88 households (HUIPS, 1989). Like the TDHS-98, the *1993 Turkish Demographic and Health Survey (TDHS-93)* was conducted as part of the Demographic and Health Surveys project. The TDHS-93 included interviews with a nationally representative sample of 8,619 households and 6,519 ever-married women less than 50 years old (Ministry of Health, HUIPS, and Macro International Inc., 1994).

[1] Detailed information on the TDHS-98 can be found in the main report for the survey (HUIPS and Macro International Inc, 1999).

II.2 Unit of analysis

In the chapters that follow, the unit of analysis varies with the topic that is being considered. For instance, in Chapter III where attention is focused on trends in withdrawal use, the unit of analysis is currently married women in reproductive ages at the time of the survey. In the first section of Chapter IV where a framework for understanding the demand for withdrawal is presented, the unit of analysis is all women in the reproductive ages regardless of their marital status. In the second section of Chapter IV, the unit of analysis is limited to women who are married, in reproductive ages, and using a contraceptive method at the time of the survey. In the third section of Chapter IV, the study focuses on husbands of currently married eligible women.[2] In Chapter V, where results of a multivariate analysis of withdrawal use are presented, the unit of analysis shifts to again women who are married, in reproductive ages, and using a contraceptive method at the time of the survey.

In Chapter VI, which examines the discontinuation, failure and switching behaviour of withdrawal users, the unit of analysis is segments of contraceptive use and nonuse reported by ever-married woman in the calendar.[3] A segment is defined as the period in which the contraceptive status (use or nonuse) of a woman remains the same. For example, an 18 month-long segment of withdrawal use is a period in which withdrawal was used for 18 months without any interruption (change) in status. For current users, the segment of use is a "censored observation" (Curtis and Hammerslough, 1995) because the period of use is not complete.

Since a segment of use ends when the user discontinues use, switches methods or becomes pregnant, women can contribute more than one segment to the calendar data set. During the analysis, each segment is considered as a separate case. For example, a woman who used two different methods during the calendar period contributes two segments (cases) to the data set. Likewise, a woman who practiced the same method at two different points in time during the calendar period also contributes two segments to the dataset.

Only segments starting in the period 3 to 62 months prior to the survey are included in the analysis. The three-month period immediately prior to the survey date is

[2] All women age 15-49 who were present in the household on the night before the interview were eligible for the survey.

[3] A segment-based data set was created by using a special programme (DYNPACK) which was developed by the Macro International for the further analysis of contraceptive use dynamics using DHS calendar data (Curtis and Hammerslough, 1995).

excluded from the observation period to reduce the bias that might be introduced into the estimation of failure rates due to unrecognised pregnancies. Segments starting before the 62-month period (left-truncated and left-censored segments) also are excluded because the starting date is unknown for most of these segments, complicating the analysis. Their exclusion has little effect on the analysis of discontinuation rates at short durations (i.e., of less than two years). However, caution is warranted in interpreting rates for long durations as these rates are more affected by the exclusion of these segments.

Table II.1 presents the percentage distribution of segments of use by selected background characteristics. For comparison purposes, the final row of table also shows the distribution of all current users according to the method currently used. The differences observed between the distributions of segments and of users are largely due to differences in continuation rates. For example, the percentages of women using the pill, condom and withdrawal at the time of the survey are lower than the percentages of segments of use of these methods found for the calendar dataset. This is consistent with the fact that periods of use of these methods are comparatively short. On the other hand, the percentages of women using IUD or other modern methods (including sterilisation) at the time of the survey are higher than the percentages of segments of use related to those methods, a pattern which is consistent with their relatively longer continuation periods.

II.3 Data quality

A number of steps were taken during the TDHS-98 data collection to ensure the quality of the data. The following reviews some of these measures and then provides an assessment of the quality of the age and calendar data from the survey.

II.3.1 Factors influencing data quality

To collect information on the use of contraceptive methods is a difficult process because topics related to contraception are both socially and personally sensitive issues. Therefore, privacy during the interview situation is regarded as a key element in ensuring honest and frank answers. During the TDHS-98, interviewers were instructed to make a special effort to be alone with the respondent. Table II.2 shows that seven out of every ten individual interviews with currently married women in the TDHS-98 were conducted alone. In cases where other persons were present during an interview, they were most likely to be children under age 10 or other women The language in which an interview is conducted can be another important

influence on data quality since, if questions must be interpreted, their meaning may change. In the TDHS-98, interviews were done in Turkish in majority of the cases. Interpreters had to be used in only 3 percent of the interviews.

Table II.1 Percent distribution of segments of use by method according to selected background characteristics and percent distribution of current users by the method currently used, Turkey 1998

	Contraceptive Method							
	Pill	IUD	Condom	Other modern	Withdrawal	Other traditional	Total	Number
Region								
West	13,7	21,4	14,2	5,1	42,7	2,8	100,0	1788
South	10,5	28,0	13,7	6,4	39,1	2,3	100,0	608
Centre	14,7	22,5	16,5	5,7	38,7	2,0	100,0	1240
North	13,4	14,3	14,4	7,1	49,4	1,4	100,0	371
East	17,1	25,0	13,8	6,0	35,8	2,4	100,0	545
Residence								
Urban	14,1	22,9	15,9	5,9	38,6	2,5	100,0	3248
Rural	13,4	21,3	11,9	5,2	46,4	1,9	100,0	1304
Age								
15-24	12,1	17,4	17,9	1,8	48,8	1,9	100,0	1190
25-29	16,1	24,1	15,6	4,1	38,2	1,8	100,0	1372
30+	13,6	24,3	12,2	9,1	37,9	2,9	100,0	1989
Contraceptive Intention								
Spacer	14,1	17,7	18,0	1,8	45,9	2,5	100,0	1904
Limiter	14,0	25,9	12,4	8,6	36,9	2,2	100,0	2584
Missing	9,2	24,8	11,4	4,8	48,1	1,8	100,0	63
Parity								
0-1	14,7	17,1	20,2	1,3	43,8	2,8	100,0	1290
2-3	12,2	26,3	14,3	5,8	39,3	2,1	100,0	2288
4+	16,9	20,7	8,4	11,3	40,5	2,3	100,0	974
Segments of use	13,9	22,5	14,7	5,7	40,8	2,3	100,0	4552
Current users	6,9	31,0	12,8	8,5	38,2	2,7	100,0	3784

Finally, to obtain an overall although subjective assessment of the interview results, the TDHS-98 interviewer was asked for her opinion on the reliability of a respondent's answers (Table II.2). In more than three-quarters of the interviews, the interviewers considered the responses to be good or very good and in nearly in one-fifth of the interviews, the responses were regarded as moderately reliable. The reliability of responses was rated as weak in the case of only 4 percent of the interviews.

Table II.2 Percent distribution of currently married woman by selected background variables influencing the quality of data, Turkey 1998

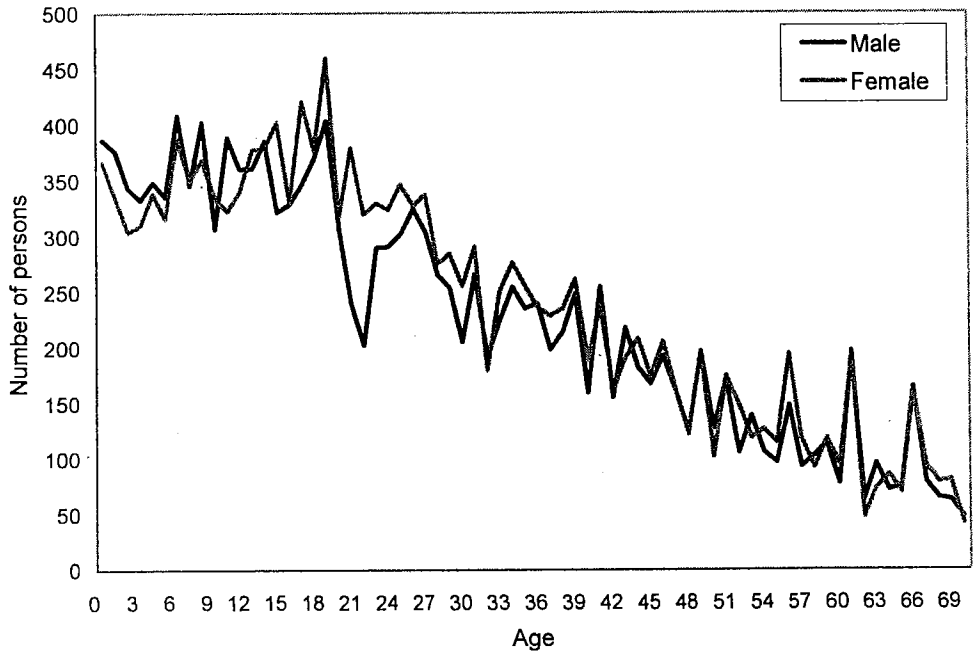
Variables	Percent
Presence of another person during the interview	
None	71,2
Children under 10	14,3
Husband	1,5
Mother-in-law	1,6
Mother	0,5
Other men	0,4
Other women	10,4
Language used in the interview	
Turkish	94,4
Kurdish	4,7
Arabic	0,5
Other	0,3
Interpreter	
Not used	96,4
Used	3,4
Interviewer assessment of reliability of answers	
Weak	3,5
Moderate	18,1
Good	46,7
Very good	31,8
Number of currently married women	5921

II.3.2 Age data

Because age was a principal criterion in determining eligibility for individual interview in the TDHS-98, it is important to look for evidence that interviewers may have systematically misreported women's ages as either under or over the age limits for eligibility in order to reduce the number of women to be interviewed (IRD/Macro International Inc., 1992).

Figure II.1 presents single-year age distributions for the male and female household populations. Both distributions show concentrations at ages ending in zero and five. This pattern is common in countries where ages are not well known. Digit preference is considerably more pronounced for men than woman in the TDHS-98 results. This may be due to the fact that the household interviews were mostly conducted with women who were more likely to give accurate information on their ages than the ages of the men in the household. In any case, the results do not indicate a systematic manipulation of age data in order to push women beyond the eligibility limits.

Figure II.1 Number of persons reported at each age by sex, 1998 Turkey Demographic and Health Survey



II.3.3 Calendar Data

It is especially important to examine the quality of the calendar data. Calendar data is a type of retrospective data, i.e., it depends on individual's ability to accurately recall and report on past events. Recall errors due to memory lapses, duration heaping and event omission (both deliberate and accidental) are common problems with retrospective data. Despite the fact that calendar data have been shown to be superior to alternative retrospective data collection techniques for longitudinal information (Goldman, Moreno and Westoff, 1989; Westoff, Goldman and Moreno, 1990; Curtis and Blanc, 1997), they are not immune from such data quality problems. The calendar places considerable demands on the respondent to report detailed information on events taking place over a relatively long period prior the survey. Consequently, recall problems are an obvious cause for concern. In particular, respondents may forget short periods of contraceptive use. Such omissions would be expected to become more common further back in time and for certain methods, such as condoms, which may be used only occasionally (Curtis and Hammerslough, 1995).

A number of relatively simple analyses provide insight into the quality of the TDHS-98 calendar data. First, current status data are believed to be more reliable than retrospectively reported data because they are not subject to recall problems. Therefore, some indication of the magnitude of underreporting of past use in the TDHS-98 calendar data can be obtained by comparing the contraceptive prevalence distribution at the time of the 1993 survey in Turkey as estimated from the current status data obtain in TDHS-93 and from the calendar data from the TDHS-98.[4]

Table II.3 shows that the contraceptive prevalence distributions for women age 15-44 from the two surveys are remarkably similar despite the high potential for recall error and omissions of segments of use in the calendar data. For the pill, IUD and the condom, the contraceptive prevalence rate estimated from the TDHS-98 calendar data is slightly higher than the rate obtained from the TDHS-93 current status data while, for withdrawal, the TDHS-98 rate is slightly lower the TDHS-93 figure. Overall, however, the differences are small, and both estimates are subject to sampling errors.

Table II.3 Percent distribution of currently married women (15-44) by the method used at the time of the 1993 survey, based on calendar data from TDHS-98 and current status data from TDHS-93

Method	TDHS 1998 Calendar Data	TDHS 1993 Current Status Data
No method	33,6	35,2
Any modern method	41,4	36,4
IUD	22,0	20,1
Condom	9,5	7,0
Pill	6,7	5,3
Other modern methods	3,2	4,0
Any traditional method	25,0	28,5
Withdrawal	23,5	26,8
Other traditional methods	1,4	1,7
Total	100,0	100,0

Surveys that ask respondents to recall retrospectively events in the past are subject not only to omissions but also to heaping on significant dates or specific time

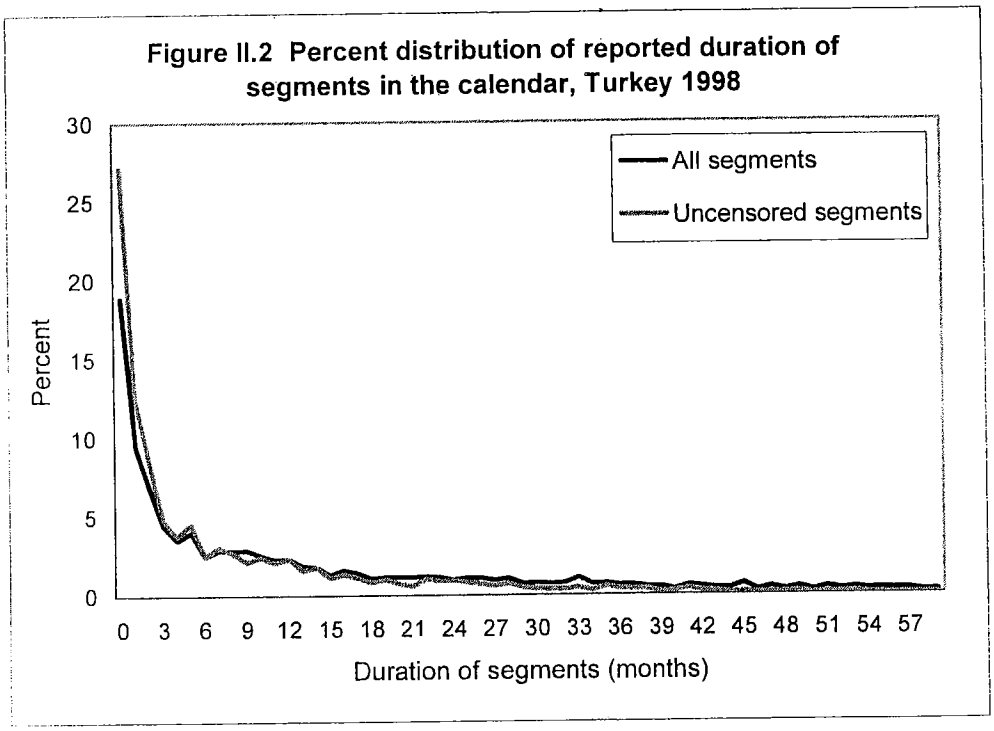
[4] The TDHS-98 data was restricted to exclude women under age 20 at the time of the TDHS-98 because these women would have been under age 15 at the time of the TDHS-93. The sample therefore corresponds to women age 15-44 at the time of the TDHS-93.

durations (e.g., 12 or 24 months). Although the calendar minimises this type of recall error by forcing some consistency, it is impossible to eliminate, especially given the long recall period. However, since life table summary rates are essentially smoothed, only extreme heaping is considered to be a concern. Table II.4 and Figure II.2 show that there exists only limited heaping in the TDHS-98 calendar data, indicating that discontinuation rates are not likely to be significantly influenced by this type of error.

Table II.4 Index of heaping on selected durations in the calendar data for all segments and for uncensored segments, Turkey 1998

Duration in months	All segments	Uncensored segments
6	0,75	0,71
12	1,09	1,17
18	0,81	0,76
24	0,86	1,07

Figure II.2 Percent distribution of reported duration of segments in the calendar, Turkey 1998



Finally, contraceptive failure rates will be underestimated if women do not report all instances when they became pregnant while using a method. Such misclassification of contraceptive failures is extremely difficult to detect but one simple approach is to

tabulate the status of women immediately after discontinuation by the stated reason for discontinuation. Table II.5 is a cross-tabulation of completed use intervals by reason for discontinuation and prevalence status in the following month. Of the 630 women who were pregnant in the month following the end of a segment of use, 437 (70 percent) reported that they had experienced a contraceptive failure.

Table II.5 Distribution of discontinued segments of use by reason for discontinuation and status in the month immediately following discontinuation and percentage of exposed women who became pregnant by reason for discontinuation, Turkey 1998

	Status in the month after discontinuation					Percent of exposed women who became pregnant
Reason for discontinuation	Pregnant	Termination	Not using a method	Using another method	Total	
Failure	437	138	0	0	575	100,0
To get pregnant	157	0	337	0	494	31,8
Other reason	36	8	300	760	1104	12,8
Total	630	146	637	760	2173	54,9

Approximately 32 percent of women who reported that they discontinued use in order to become pregnant are recorded as pregnant in the month immediately following discontinuation. This figure is only slightly over the commonly accepted monthly fecundability of 20-30 percent.[5] Looking at women who discontinued use for other reasons and who did not immediately switch to another method, 13 percent were pregnant in the month after discontinuation. Again, this figure does not suggest that failures are being misreported as discontinuations for other reasons.

II.4 Construction of variables

A number of variables are constructed from the TDHS-98 data and used in exploring of patterns of withdrawal use in the descriptive and multivariate analyses that follow. These variables can be grouped into four categories: individual, cultural, fertility, and contextual.

The ***individual*** variables include characteristics of the women and husbands that have been shown to impact on many behavioural measures including contraceptive use. These include age, educational level (woman and husband), couple education,

[5] The first-month conception probabilities appear slightly higher than might initially be expected given that fecundability is frequently quoted in the range 0.2-0-3 (Bongaarts and Potter, 1983; Wood and Weinstein, 1988). However, first-month conception probabilities should not be used as an estimate of fecundability because of reporting and sampling errors.

economic activity, work status, social security status, and migration status. Age is grouped into five-year categories in order to be able to examine behaviour of women at different stages of the reproductive life cycle. Both women and husbands are grouped into three categories according to their educational level. The first comprises women (husbands) with no education and who have not completed primary school, the second comprises women (husbands) who have completed primary school but not secondary school and the third comprises women (husbands) who have completed secondary school and higher. Couple's education which considers both the education status of the woman and the husband has four categories: both have at least some education; husband only has some education, wife never attended school; wife only has some education, husband never attended school; and both have no education.

Three of the individual variables relate to women's labour force activities. Economic activity categorizes women by their employment in the service, industrial or agriculture sectors. Work status takes into account whether the woman is self-employed and, if employed by someone else, whether the woman is paid or not. Social security takes into account whether the woman's work is covered under the social security or not.

Migration status includes two categories: non-migrant and migrant. A woman was classified as migrant if she has been living in a place that is different from the place where she had lived when she was twelve years old.

Culture is the integrated pattern of human knowledge, belief and behaviour, which is learned and transmitted to succeeding generations. The ***cultural*** variables in this study represent factors that capture differences among respondents in the socially transmitted complex of knowledge, belief, morals and custom. They include ethnicity, religion, traditionality score, couple approval of family planning use, and couple belief that family planning is against religion.

Ethnicity defines individuals who consider themselves, or are considered by others, to share common characteristics that differentiate them from the other collectivities in a society, within which they develop distinct cultural behaviour (Marshall, 1994). This study looks at the extent to which couples share a common ethnic background with respondents grouped into the following four categories according to ethnicity: both husband and wife are Turk (Turk-Turk), both husband and wife are Kurd (Kurd-Kurd),

one partner Turk and one Kurd (Turk-Kurd/Kurd-Turk) and other ethnic combinations (Other).

Religion as a variable in the study refers to the sects of the Islam. About 99 percent of Turkey population is Muslim, the overwhelming majority adhering to general tenets of Sunni Islam. The most important group of Shia Islam is the Alawi, a sect who is made up by Turks and Kurds.

The traditional behaviour scale is composed of a set of social practices relating to marriage that are seen as conservative and traditional as opposed to modern and contemporary. The variables used in the construction of the traditional behaviour scale are: payment of brides-money, form of marriage ceremony, relationship between the woman and her husband, and arranged marriage. If the woman's family was paid dowry by the husbands' family, if the couple married in a religious ceremony, if the union is consanguineous (i.e., the couple is related), and if the marriage was arranged by the couple's family, the traditionality score would be four. Conversely, if there was no bride-price paid, the marriage ceremony was civil, the woman and husband are not related, and the marriage was the couple's choice and not arranged by the family, the traditionality score would be zero. Thus, respondents who possess all four characteristics are considered most traditional, whereas those who possess none of the characteristics are considered least traditional.

Couple approval of family planning looks at the woman's own attitude about the use of family planning and her perception of her husband's attitude. Similarly, the couple attitude regarding religious objections to family planning considers the woman's own belief that religion is against the use of family planning and her perception that her husband also has objections to family planning on religious grounds.

The ***fertility*** variables include the marriage cohort, number of living children, sex distribution of living children, first method used, and woman's contraceptive intention. The marriage cohort is defined in terms of calendar periods and marks the length of time that a woman has potentially been exposed to the risk of childbearing. The number of children ever born can be used to examine how contraceptive use patterns change with childbearing. Information on the sex distribution of children can provide evidence of whether gender preferences, particularly son preference, may be shaping contraceptive behaviour.

The first method used, which is expected to influence method choice in later segments of use, is categorised by type into modern, withdrawal and other traditional. With regard to contraceptive intention, women who are currently married and who declare that they do not want to have any more children are considered to be limiters. Women who are currently married and declare that they want to wait two or more years before having another child are regarded as spacers.

The ***contextual*** variables include region, current type of residence, and household welfare. Five regions (West, South, Central, North, and East) of Turkey were used for the analysis. Each of the regions has different geographical, climatic, cultural, social and economic characteristics. The West region is the most industrialised and the most socio-economically advanced region of Turkey. It is followed by the South, North and Central regions. The East region is considered the least developed region of the country.

Urban settlements are provincial centres, district centres and other populations larger than 10,000 regardless of administrative status. The rural settlements are all district centres, subdistricts and villages with populations less than 10,000.

Data on income from the household questionnaire is used to look at household welfare. If the household had a total income less than 100 million lira per year, it is categorised in the low-income group. Households with an income between 100 million and 300 million per year are categorised in the middle-income group. Finally, all households with an income higher than 300 million per year were categorised in the high income group.

II.5 Statistical methods

This study employs a number of statistical methods in examining the key questions relating withdrawal use. The basic question "Who uses (wants to use) withdrawal?" is answered by a descriptive analysis in which trends in withdrawal use are examined, a conceptual model of the demand for withdrawal is developed, and differentials in withdrawal use in terms of the individual, cultural, fertility and contextual variables described above are presented. Information from husbands on factors that influence withdrawal use is also explored.

Logistic regression models[6] are used to explore the second question: "What are the determinants of withdrawal use?" This multivariate analysis examines the odds of choosing withdrawal over a modern method. It is limited to the 3,684 women who were using a modern method or withdrawal. Contraceptive methods defined as modern include the IUD, the pill, the condom, injection, vaginal methods, female sterilisation and male sterilisation. The dependent variable is coded 1 if the woman (or her husband) was using withdrawal and 0 if she (or her husband) was using a modern method at the time of the survey. The model-fitting process involves four stages. The first model includes only the individual-level variables described above in the regression equation. In the second, the cultural-level variables are introduced. The third model adds the fertility-level variables into the equation. The fourth model includes the contextual variables in order to estimate the "additive effects" of the micro level and macro level variables simultaneously.

Life table methods are employed to examine contraceptive discontinuation/failure and switching behaviour. The life table breaks down duration of use into monthly intervals. For every duration, the number of users who have been using contraception that length of time is tabulated, together with both the number of discontinuations and the number of censored observations at that duration. The conditional probability of discontinuing use at each duration is calculated by dividing the number of discontinuations at each duration. The probability of continuing use at each duration is one minus the probability of discontinuing use at that duration.

For analysing the risks of different types of discontinuation, multiple-decrement life tables are used. From these tables, the conditional probability of discontinuing for each reason at each duration can be calculated. The probabilities calculated from these tables are called net discontinuation probabilities because they are the

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[6] The logistic model is similar to the linear regression model except that the dependent variable is expressed in terms of log odds (the natural logarithm of the odds, or logit) rather than a continuous measure:

$$Li = \log e\left(\frac{P(Y=1)}{1-P(Y=1)}\right)$$ Where P(Y=1) is the probability of occurrence of the dichotomous event .

The beta coefficients in the logistic regression equation represent the change in the log odds of dependent variable due to unit changes in the values of predictors (Menard, 1995; Bohrnstedt and Knoke, 1994; Demaris, 1992 and Aldrich, 1984). It is important to note that logistic regression parameters cannot be estimated using the ordinary least squares (OLS) techniques. For estimating parameter values (alpha and beta), a method called Maximum Likelihood Estimation (MLE) is used (Menard, 1995; Bohrnstedt and Knoke, 1994; Demaris, 1992 and Aldrich, 1984).

probability of discontinuing for each reason in the presence of other competing reasons for discontinuation.

Finally, the study employs a simple static model that permits an assessment of the effects that changes in contraceptive rates might have on fertility rates (Curtis and Hammerslough, 1995). For purposes of estimating pregnancy (failure) rates for use in the model, the population is divided into three groups according to their contraceptive status: not exposed, exposed and using a method, and exposed and not using a method. Those not exposed are either sexually inactive or physiologically incapable of conceiving. The model assumes that the pregnancy rate for this group of women is zero. Average annual pregnancy (failure) rates are derived empirically from life tables for the two other groups, taking into account the method used in the case of exposed population using contraception and contraceptive intention in the case of the exposed population that is not using contraception.[7]

Although this approach has drawbacks—the most important of which is that it is a static model of a dynamic process—it is useful for exploring the implications of changes in method distributions for fertility rates. In this study, the model is used to explore the changes that might be expected in the annual pregnancy rate if withdrawal and other traditional method users were to shift to other methods.

[7] The first step in that process is to obtain life-table conditional probabilities of pregnancy for each duration month, *i*, since the beginning of use (unprotected exposure). The second step in the process is to determine the distribution of the current durations in each contraceptive use and intention category. This quantity forms a weight for each of the monthly pregnancy rates. To obtain an estimate of the annual pregnancy rate, the monthly pregnancy rates are converted into annual pregnancy rates by multiplying them by 12.

III. TRENDS IN WITHDRAWAL USE

In Turkey, a pronatalist population policy was in effect until the mid-1960s. The policy was aimed at increasing the population size in response to concerns about the heavy losses of population during the wars prior to the establishment of the Republic in 1923, high mortality rates, and a perceived need for additional manpower for both the civilian economy and the national defence. Governments during this period favoured policies directed at improving national health, reducing death rates, controlling infectious diseases, and encouraging high fertility. The Turkish Penal Law defined abortion as an offence, and the import or sale of birth control devices were prohibited as well.

The high population growth rates prevailing in the late 1950s and especially the high maternal mortality caused by illegal abortions performed under unhygienic conditions brought questions about the adverse effects of rapid population growth into the political agenda. The Population Planning Law, enacted in 1965 following these debates, took a largely antenatalist approach. Tax exemptions were granted for the import of birth control devices. The notion of population planning was emphasized, and stress was placed on the roles of family planning information, training, and service delivery in providing couples with the means to avoid unwanted pregnancies. The Population Planning Law was reformulated in 1983, legalizing abortions up to the tenth week of pregnancy and voluntary surgical contraception and permitting midwives and nurse-midwives to insert the IUD.

Contraceptive practices in Turkey were inevitably influenced by these policy changes. Use of modern methods of contraception was almost non-existent prior to the 1960s. Only one-fifth of women in ages 15-44 were using any type of contraception early in that decade, and the large majority of these users were relying on traditional methods, principally withdrawal, with only about one-quarter employing a modern methods (Özbay et al., 1979). The shift to antenatalist policy, which made modern contraceptives available to the public, was followed by a steady increase in contraceptive use.

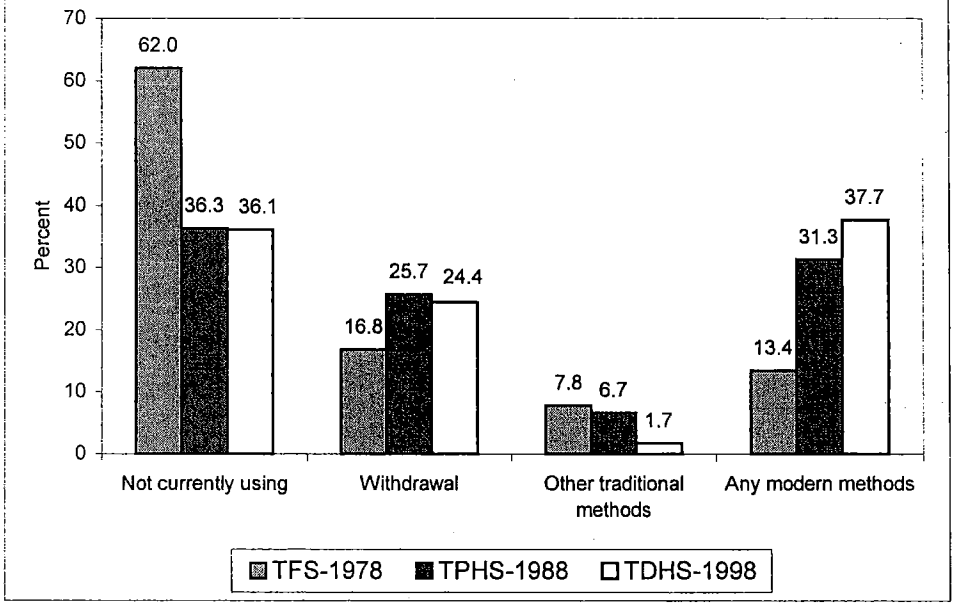
Table III.1 Percent distribution of married women by contraceptive method used, TFS-78, TFHS-83, TPHS-88, TDHS-93 and TDHS-98

Method	1978 TFS	1983 TFHS	1988 TPHS	1993 TDHS	1998 TDHS
Any method	38,0	51,0	63,7	62,6	63,9
Any modern method	13,4	22,6	31,3	34,5	37,7
Pill	6,1	7,5	6,1	4,9	4,4
IUD	3,0	7,4	14,2	18,8	19,8
Condom	3,1	4,1	7,3	6,6	8,2
Female sterilisation	0,4	1,1	1,7	2,9	4,2
Other modern methods	0,8	2,5	2,0	1,3	1,1
Any traditional method	24,6	28,4	32,4	28,1	25,5
Periodic abstinence	1,0	1,2	3,6	1,0	1,1
Withdrawal	*16,8*	*25,0*	*25,7*	*26,2*	*24,4*
Other traditional methods	6,8	2,2	3,1	0,9	0,6
Not currently using	62,0	49,0	36,3	37,4	36,1
Total percent	100,0	100,0	100,0	100,0	100,0

The series of surveys carried out between 1978 and 1998 allow an examination of the trends in the overall levels of contraceptive use and in withdrawal use in Turkey during this period. As seen in Table III.1 and Figure III.1, the proportion of married women using any method of contraceptive rose from 38 percent in 1978 to 64 percent in 1998. Most of the overall growth in use took place during the first ten years of the period, with the use rate remaining virtually unchanged between 1988 and 1998.

Regarding with the trends by type of method, in 1978, users were almost twice as likely to be relying on a traditional as on a modern method. During the period between 1978 and 1988, use of both modern and traditional methods increased. However, the growth in use of modern methods was much more rapid than the increase in use of traditional methods. As a result, by 1988, roughly similar proportions of women were using modern and traditional methods. The stagnation in the overall use rate after 1988 is due to the fact that there was only a comparatively small increase in the use of modern methods during the period, which was largely offset by a decline in the use of traditional methods.

Figure III.1 Trends in contraceptive use, 1978-1998



Looking specifically at withdrawal use, the survey results document the fact that withdrawal was by far the most widely preferred method throughout the 20-year period. Except in 1978, when 17 percent were using the method, around one-quarter of married women reported they were withdrawal users at each of the surveys prior to the TDHS-98. The rate of withdrawal use was higher than the rate of all modern methods taken together at the time of the 1978 and 1983 surveys. At the time of the TDHS-98, withdrawal users were more numerous than users of the IUD, which was the most popular modern method.

Table III.2 presents the trends in withdrawal use between the TFS-78 and the TDHS-98 according to age region, place of residence and level of education. Looking at the trend by age, a nearly "U" shaped rise is observed, with the greatest increases in withdrawal use found in the young and old age groups. The age group with the highest percentage of women using withdrawal changed during the period; in 1978 withdrawal use was highest in ages 30-39 whereas in 1998 women age 40-44 had the highest rate of use.

Table III.2 also documents variations over time in the regional patterns of withdrawal use. In 1978, withdrawal use was highest in the West and lowest in the East (24 percent and 10 percent, respectively). However, by 1998, withdrawal use was more

percent and 10 percent, respectively). However, by 1998, withdrawal use was more common in the North than elsewhere, with 31 percent of women in that region practicing withdrawal. During the twenty-year period, substantial increases in the proportion of women using withdrawal also took place in the Central and South regions (9 and 11 percentage points, respectively) while the smallest increase was observed in the West (4 percentage points). Despite a five-percentage point increase in withdrawal use in the East, that region continued to have the lowest rate of use of the method in 1998.

With respect to the urban/rural changes, there was a reversal in the patterns of withdrawal use during the period. In 1978, withdrawal use was more common in urban areas than in rural areas (18 percent and 15 percent, respectively). However, by 1998, reliance on withdrawal was more widespread in rural areas than in urban (26 percent and 24 percent, respectively).

Table III.2 Percentage of currently married women currently using withdrawal by selected background characteristics, TFS-78 and TDHS-98

	TFS-78		TDHS-98	
Characteristics	Percentage currently using withdrawal	Number of married women	Percentage currently using withdrawal	Number of married women
Age				
15-19	6.5	338	17.3	262
20-24	13.0	792	21.6	924
25-29	18.1	824	22.9	1196
30-34	22.5	659	25.8	1090
35-39	22.4	616	27.5	1014
40-44	18.3	578	30.0	789
45-49	10.5	449	20.1	645
Region				
West	24.0	1287	27.6	2261
South	15.6	488	24.2	851
Central	13.1	1173	23.7	1426
North	19.5	472	30.9	474
East	9.8	836	14.4	909
Place of residence				
Urban	18.5	2130	23.8	3978
Rural	15.1	2126	25.5	1943
Education				
Illiterate/Primary incomplete	14.1	2620	21.1	1546
Primary complete/secondary incomplete	21.0	1300	27.3	3570
Secondary complete/higher	20.8	336	18.1	804
Total	16.8	4256	24.4	5921

In terms of educational level of women, the TFS-78 results indicated that withdrawal use was prevalent among all women, even among those with relatively higher levels of education. Around one-fifth of women with primary or more education were practising withdrawal compared to 14 percent of women who were illiterate or had not completed the primary level. In two decades that followed, there were moderate increases in the proportions of women with primary and less education using withdrawal and a small decline in withdrawal use among women with more than secondary education.

IV. CONCEPTUAL MODEL AND PROFILE OF WITHDRAWAL USERS

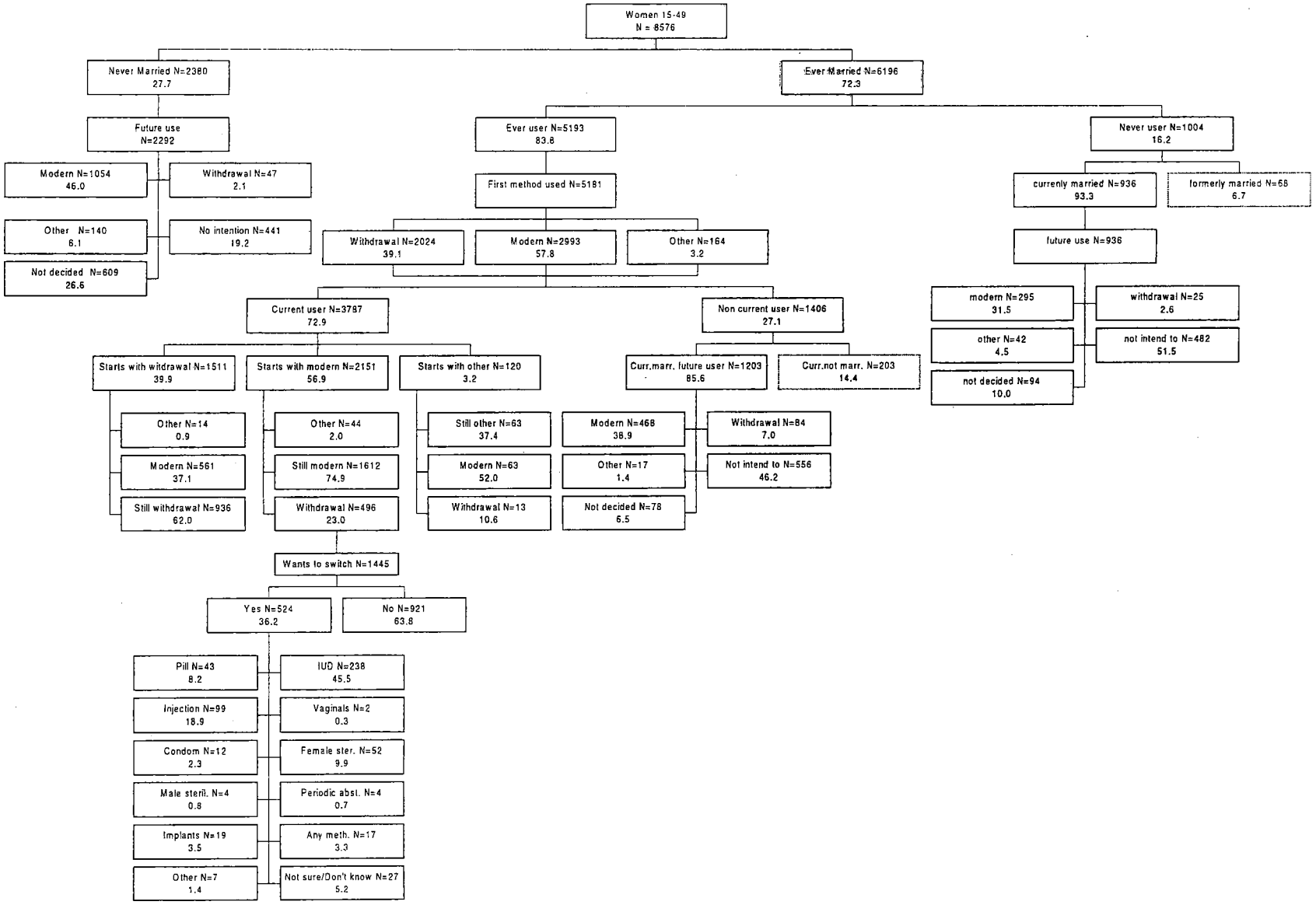
IV.1 Conceptual Model of Withdrawal Use

Fertility regulation can be seen as a dynamic process, where the three states—non-use, use of an effective method, use of an ineffective method—are in continuous transition. Some women will remain in a single state throughout their reproductive lives but most will switch from one state to another, with the number and timing of these transitions usually bound up with the individual's characteristics and conditions. In developing an understanding of withdrawal use in Turkey, it is important to take the transitory nature of the fertility regulation process into account. Thus, the conceptual model presented in Figure IV.1.1 considers not only the current use of withdrawal in assessing the demand for the method but also at past use of the method and the intention to use withdrawal in the future. Specifically, for ever-married women, the model takes into account information on the first method used (if any), the current method (if any) and future intentions to understand the nature of the demand for withdrawal. For never-married women, the framework considers what future intentions indicate about the potential interest in withdrawal among this group.

Information on the first method used provides an indication of the demand for withdrawal that existed among the TDHS-98 respondents at the point at which they first seek to regulate their fertility. The findings show that the majority of ever-users (58 percent) resorted to modern family planning methods initially. Nonetheless, a substantial proportions -almost four out of every ten ever users- elected withdrawal in the initial stage of the fertility regulation cycle.

It is also useful to consider what changes in method choice occur as women move through the fertility regulation cycle. To provide some insight into this issue, the framework compares the method current users are relying on at the time of the survey with the method they first adopted. For the majority of current users, the first and current methods are the same, reflecting in part the fact that many current users are first-time users. However, for a substantial number of ever users, the first and current methods are different.

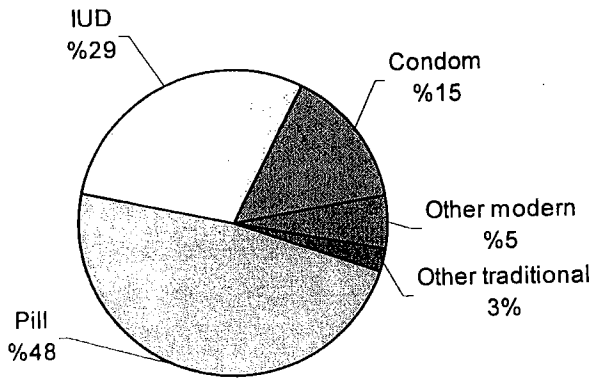
Figure IV.1.1
CONCEPTUAL MODEL FOR WITHDRAWAL DEMAND IN TURKEY 1998 (%)



Looking in more detail at the transitions from other methods to withdrawal, 23 percent of current users who started use with a modern method were using withdrawal at the survey time. Nearly half of these users had used the pill when initiating use for the first time while around 30 percent had initiated use with the IUD (Figure IV.1.2). Among the small number of current users who used a traditional method other than withdrawal at first use, comparatively few were using withdrawal at the time of the survey (11 percent), with the majority relying on modern methods (52 percent).

There were also transitions from withdrawal use to use of other methods. Among ever users for whom withdrawal was the first method, thirty-eight percent were using another method—almost always a modern method—at the time of the survey.

Figure IV.1.2 Percentage distribution of withdrawal users who reported using a different method initially by the first method used

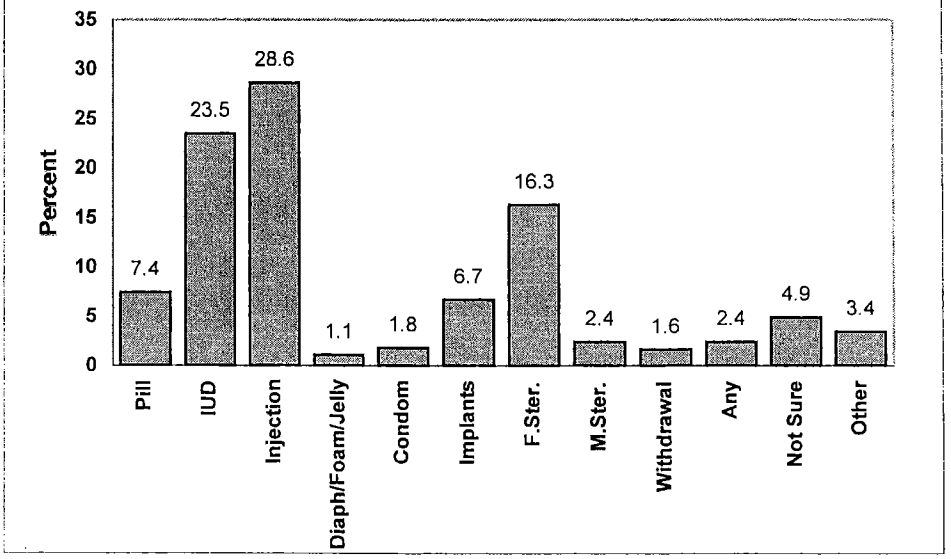


Finally, information obtained from current users in the TDHS-98 with regard to whether they plan to continue using their current method can provide some added insight into the extent to which users are content with the method. Satisfaction with a method is clearly a subjective phenomenon, and there are a wide range of reasons for changing methods, depending on an individual user's characteristics and circumstances. In some cases, accessibility is in the forefront; in other cases, individual choice takes on more importance; and sometimes it is the lack of alternatives that underlies the apparent contentment.

Whatever the underlying reasons, 64 percent of the withdrawal users do not want to change the method they are using. Among those withdrawal users who want to switch to another method, the majority are inclined towards effective family planning methods. IUD, injection and female sterilisation are the three methods most frequently preferred by withdrawal users who would like to change to another method (46 percent, 19 percent, and 10 percent, respectively).

Considering modern method users, 73 percent indicated that they planned to continue to use their current method. Among those wanting to change, the majority preferred another modern method (88 percent) and only 2 percent of modern method users mentioned withdrawal as a preferred method (Figure IV.1.2).

Figure IV.1.3 Percent distribution of modern method users by the method they would prefer to use



Ever-married women not currently using a family planning method were also asked whether they thought they would use a method to delay or avoid pregnancy at any time in the future. More than half of these women say that they do not intend to use any method in the future. Those who do plan to use are mainly inclined toward modern methods. There is little interest in withdrawal among either past users or never users (7 percent and 3 percent, respectively).

Finally, information obtained from never-married women on their intentions to use contraception offers additional insight into interest in withdrawal use in Turkey. To

obtain this data in the TDHS-98, never-married respondents who knew at least one family planning method were asked whether or not they planned to use a method to delay or avoid pregnancy after they have got married and, if they intended to use, about their preferred method. A majority of these never-married women (96 percent) plan to use a method in the future. With respect to method preferences, almost half of these women mentioned modern methods. In contrast, relatively few never-married women (2.1 percent) who intended to use mentioned withdrawal as their preferred method. This apparent lack of interest in withdrawal may in part be due to the fact many never-married women were not sure about what method they preferred. More than one-fourth of the never married women planning to use did not specify a preferred method, either because they were embarrassed to talk the subjects or because they actually did not yet have a preference. It also is worth noting that, while 89 percent of married women and 84 percent of husbands know about withdrawal, only 47 percent of never-married women are aware of the method (Unalan and Koc, 1999).

IV.2 Differentials in Choice of Withdrawal

In Turkey as a whole, 24 percent of married women—38 percent of all family planning users—practice withdrawal. However, there are wide variations in the proportions using the method according to various characteristics. An examination of these differentials contributes to the understanding of the demand for withdrawal.

Table IV.1 presents differentials in the current use according to the individual-level variables described earlier. The table reveals an almost 'U'-shaped pattern to the relationship between withdrawal use and women's *age*. There is widespread use of withdrawal at younger ages, then a decline is observed between the ages of 25-39, where there is a shift to modern methods, and ultimately the level of withdrawal use increases again among women above age 40.

As it is in most cases of questions about family planning behaviour, the *level of education* is an important variable in looking at withdrawal use. Women with secondary and higher education are considerably less likely to be using withdrawal than less educated women. Likewise, withdrawal use is least common among women whose husbands have a secondary or higher education. Looking at the percentages using withdrawal by the couple's education, it is evident that the husband's education level is more important than that of the woman's. Regardless of the wife's level, more than half of the couples rely on withdrawal if the husband is not

educated. In turn, the proportions of couples using withdrawal are lower for couples where both are educated or the husband is educated and the wife not.

Table IV.1 Percentage of currently married women currently using contraception by the method used according to selected individual-level variables, Turkey 1998

	Current contraceptive method				
Characteristics	Modern	With-drawal	Other traditional	Total	Number
Age of women					
<20	46,9	51,6	1,5	100,0	88
20-24	58,3	40,8	0,9	100,0	489
25-29	64,6	34,2	1,2	100,0	801
30-34	63,6	34,7	1,7	100,0	810
35-39	61,1	36,0	2,9	100,0	774
40+	49,1	44,7	6,2	100,0	819
Educational level of women					
No education/Primary incomplete.	55,4	41,9	2,7	100,0	779
Primary completed/Secondary Incomplete.	57,5	40,6	1,9	100,0	2397
Secondary completed/higher	70,1	24,0	6,0	100,0	606
Educational level of husband					
No education/Primary incomplete	44,5	53,6	1,9	100,0	235
Primary completed/Secondary Incomplete	58,4	39,4	2,2	100,0	3069
Secondary completed +	71,2	22,1	6,7	100,0	468
Couple's education					
Both educated	60,5	36,7	2,8	100,0	2920
Wife educated, husband not	44,6	54,0	1,4	100,0	78
Wife not, husband educated	58,1	39,0	2,8	100,0	617
Both not educated	44,4	53,4	2,2	100,0	157
Economic activity					
Not working	60,2	37,8	1,9	100,0	2399
Service	69,0	23,2	7,7	100,0	391
Industry	60,1	38,3	1,5	100,0	298
Agriculture	48,8	48,2	3,0	100,0	687
Work status					
Not working	60,2	37,8	1,9	100,0	2399
Paid-worker	64,3	29,8	5,8	100,0	507
Self-employed	65,0	31,4	3,6	100,0	300
Unpaid-worker	46,7	50,6	2,7	100,0	563
Social security status					
Working with social security	67,5	23,6	8,8	100,0	362
Working without social security	53,2	44,4	2,4	100,0	1004
Not working	60,2	37,8	1,9	100,0	2399
Migration status					
Non-migrant	59,6	38,1	2,4	100,0	2467
Migrant	57,8	38,8	3,4	100,0	1245
Total	59,1	38,2	2,7	100,0	3781

The differentials by woman's economic activity reveal that the practice of withdrawal is most prevalent among women taking part in agricultural activities, a sector linked with lower education and unpaid family work. Unpaid family work is related to withdrawal use; half of the women who are unpaid workers are using withdrawal,

followed by women who are not employed. Coverage under *social security* for women is also related to withdrawal use. Less than one-fourth of women working under social security use rely on withdrawal, whereas women who work without social security have the highest percentage of withdrawal use (44 percent), even higher than women who are not working at all (38 percent).

Table IV.2 Percentage of currently married women currently using contraception by the method used according to selected cultural-level variables, Turkey 1998

	Current contraceptive method				
	Modern	With-drawal	Other traditional	Total	Number
Ethnicity					
Turk-Turk	59,6	7,8	2,7	100,0	3294
Kurd-Kurd	58,2	41,1	0,7	100,0	275
Turk-Kurd/Kurd-Turk	55,7	38,6	5,7	100,0	88
Other	50,3	43,7	6,0	100,0	124
Traditionality score					
0	62,4	33,6	4,1	100,0	1163
1	59,3	39,1	1,6	100,0	1551
2	55,5	41,5	3,0	100,0	817
3	57,1	40,5	2,5	100,0	218
4	*	*		*	17
Religion					
Sunni	60,1	37,1	2,8	100,0	1886
Alawi	61,2	36,4	2,5	100,0	165
Muslim	58,5	38,5	3,0	100,0	1404
Other	*	*		100,0	21
Unanswered	54,0	44,7	1,3	100,0	298
Couple approval of family planning					
Both approve	61,5	35,9	2,6	100,0	3245
Wife approves, husband not	46,0	49,0	5,0	100,0	177
Husband approves, wife not	(46,6)	(53,4)		100,0	33
Both disapprove	39,0	61,0		100,0	55
No opinion	43,2	53,2	3,5	100,0	266
Family planning against religion: Couple attitude					
Both agree against	53,5	44,5	2,0	100,0	401
Women says against, Husband says not	51,7	46,8	1,5	100,0	68
Husband says against, wife says not	60,4	37,2	2,4	100,0	100
Both say not against	61,0	36,1	2,9	100,0	2826
Other	51,6	46,1	2,3	100,0	386
Total	59,1	38,2	2,7	100,0	3781

Note: Parentheses indicate that a figure is based on 25-49 cases. An asterisk indicates a figure based on less than 25 cases.

No difference is observed in withdrawal according to the *migration status* of women. This is most probably due to that fact that the variable provides only a very gross measure of the woman's lifetime migration experience.

The relationship between withdrawal use and cultural variables is explored in Table IV.2. With regard to ethnicity, couples where both spouses are Kurds have somewhat higher reliance on withdrawal compared to the couples where either both spouses are Turk, or one of the spouses is Turk. The proportions of women who use withdrawal rise with the traditionality score although the differences between the categories are not large. Except for women who do not have any of the traditional attributes, around four out of every ten women use withdrawal.

Differences in sect of religion do not indicate a differentiating behaviour in the method use. In general, 4 of every 10 women use withdrawal regardless of the sect. It is also noticeable that 8 percent of the currently married women using contraception at the time of the survey did not answer the question about religion.

Couple approval of family planning and *family planning against religion: couple attitudes* are two other variables that appear to play a role in the choice of withdrawal. If the both the woman and husband approve of family planning as a concept, they are least likely to be using withdrawal (36 percent). In contrast, among the small number of couples where both disapprove of family planning, reliance on withdrawal reaches a level of more than 60 percent. The extent to which religion is perceived as being opposed to family planning use also is related to withdrawal use. The percentage using withdrawal is greatest among couples where the woman but not the husband thinks there are religious objections to using family planning or where both the woman and husband believe that religion is against family planning.

Table IV.3 considers the differentials in withdrawal use according to the various fertility-related variables. Looking at the woman's marriage cohort, the proportions using withdrawal are highest in the cohorts of the 60s and 70s, i.e., among those married for the longest period. It is interesting that, compared to other marriage cohorts, women who were married in the 80s has the lowest percentage relying on withdrawal and the highest proportion using modern methods. Presumably these women, who are still in the middle of their fecund years, have achieved the desired level of fertility and, thus, are more in need of effective contraceptive methods than women in earlier and later marriage cohorts. The cohorts that married in the 60s and 70s may be more willing to use withdrawal than women married in the 80s in part because of the perception that declining fecundity reduces their risk of getting pregnant and also because they may be less open to the idea of modern

contraception. On the other hand, women belonging to the youngest cohort may be more willing to use withdrawal than women who married in the 80s because they are in the early years of their marital life and have not yet achieved their desired number of children.

As Table IV.3 indicates, the differentiation in the percentages using withdrawal is less pronounced according to number of living children than in the case of the marriage cohort. Women who either do not have any living child or have only one living child, and women with more than four living children, are more likely to be using withdrawal than women with two or three living children. Again this may be related to the fact that women in the former group are at the beginning of their fertility and less in need of effective contraception while the latter group may prefer withdrawal because of the perception of low fecundity close to the end of reproductive years. Women with higher parity also tend to have other characteristics such as low levels of education, unpaid family work, and so forth that are associated with higher levels of withdrawal use.

Women who have only sons or possibly only daughters might be expected to be somewhat more ambivalent about having another child and, thus, be more likely to use withdrawal than more effective modern methods than women who have children of both sexes. The results in Table IV.3 reveal that there is only minor variation in the level of withdrawal use according to the gender with the sex of the woman's living children.

Using withdrawal as the first method is very common. Six out of every ten couple who use withdrawal at the time of the survey used this method as the first family planning method. Unfortunately almost one fourth of the women who used a modern method as their first family planning method reported withdrawal at the time of the survey as their current method.

The TDHS-98 data show that withdrawal use is more common for the purpose of spacing births rather than limiting (44 percent and 37 percent, respectively). Again this is likely due to the fact that spacers are more willing to use a less effective method with the greater risk of an accidental pregnancy than are women who want no more children.

Table IV.3 Percentage of currently married women currently using contraception by the method used according to selected fertility-level variables, Turkey 1998

	Current contraceptive method				
	Modern	With-drawal	Other traditional	Total	Number
Marriage cohort					
60-69	36,2	57,2	6,5	100,0	138
70-79	53,1	42,2	4,7	100,0	998
80-89	65,1	32,7	2,2	100,0	1463
90-98	59,3	39,5	1,2	100,0	1182
Total	59,1	38,2	2,7	100,0	3781
Number of children ever born					
0-1	55,5	41,4	3,2	100,0	745
2	63,5	34,0	2,5	100,0	1298
3	59,1	38,9	2,0	100,0	768
4+	55,9	40,9	3,2	100,0	971
Sex of living children					
No living child	52,1	45,3	2,6	100,0	108
Only sons	59,8	37,1	3,1	100,0	905
Only daughters	58,1	39,1	2,9	100,0	641
Both sexes	59,4	38,1	2,5	100,0	2128
First method used					
Modern	74,9	23,1	2,0	100,0	2146
Withdrawal	37,1	62,0	0,9	100,0	1511
Other traditional	52,0	10,6	37,4	100,0	120
Contraceptive intention					
To space	55,0	43,5	1,5	100,0	844
To limit	60,3	36,7	3,0	100,0	2937
Total	59,0	38,2	2,7	100,0	3777

As seen in Table IV.4, the expected differences are observed as regards withdrawal use and contextual-level variables like region and urban-rural residence. Among regions, the North has the highest percentage using withdrawal (46 percent) while the Central and East have the lowest percentages (35 percent, and 34 percent, respectively). Women living in rural areas have a higher percentage using withdrawal use than their urban counterparts (44 percent and 36 percent, respectively).

Table IV.4 also shows that there is negative correlation between the level of household welfare and withdrawal use. The proportion of women using withdrawal declines sharply as welfare level of the household increases. Four out of every ten women living in houses with low income prefer to rely on withdrawal as a family planning method while it is used by only one fourth of women living in houses with high income.

Table IV.4 Percentage of currently married women currently using contraception by the method used according to selected contextual-level variables, Turkey 1998

	Current contraceptive method				
	Modern	With-drawal	Other traditional	Total	Number
Region					
West	57,4	39,1	3,5	100,0	1595
South	58,1	40,1	1,7	100,0	513
Central	62,7	34,6	2,7	100,0	974
North	52,5	46,1	1,4	100,0	318
East	63,6	34,4	2,0	100,0	382
Type of place of residence					
Urban	61,2	35,8	3,0	100,0	2653
Rural	54,0	44,0	2,0	100,0	1128
Welfare of household					
Low income	56,9	41,1	2,0	100,0	2257
Middle income	62,3	34,8	2,9	100,0	1220
High income	67,7	24,5	7,7	100,0	214
Total	59,3	38,1	2,6	100,0	3690

IV.3 Withdrawal Use from the Husband's Perspective

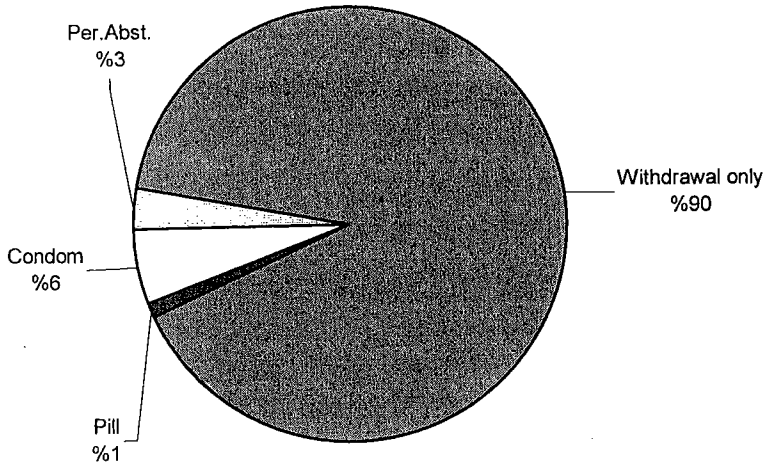
As noted earlier, husbands of eligible currently married women were interviewed in a sub-sample of the TDHS-98 households. Information obtained from the husbands on withdrawal use, including the main reasons for using the method, provide a male perspective on the demand for the method.

With regard to level of withdrawal use, 18 percent of the husbands interviewed in the survey declared that they were practicing withdrawal at the time of the survey. Although it is thought that couples often use withdrawal in combination with another method, the findings from the husband interviews do not support this belief. Among withdrawal users, 90 percent use were using withdrawal alone, 6 percent were using it in combination with the condom, and 3 percent in combination with periodic abstinence (Figure IV.3.1). Interestingly, 1 percent of the husbands mentioned using withdrawal in combination with pill.

The husband interviews also provide information on how the decision to use withdrawal is made by couples. The results confirm the assumption that most Turkish couples discuss their family planning preferences and, thus, decide together on the choice of method. In nearly three-fourths of cases where the husband reported withdrawal use, both spouses preferred the method in the husband's view (Figure IV.3.2). Among the remaining couples, the husband appeared to be largely

responsible for the decision to use withdrawal; according to around one-fourth of the husbands, they themselves preferred withdrawal while only 1 percent said that the wife had preferred to the method.

Figure IV.3.1 Percent distribution of husbands by additional method used with withdrawal



The results of the interviews with women support that there is spousal communication about contraceptive decisions, with 84 percent of women who were using a method saying that they discussed the method they use with their husbands before they start using (not shown in table). The proportion reporting discussion is somewhat lower among withdrawal users; nevertheless, more than three-fourths of women who were relying on withdrawal (77 percent) at the time of the survey had talked about the method with their husbands before they started using. Once they start using a method, however, discussion seems to be somewhat less common among couples. Among withdrawal users, 69 percent discussed the method with their husbands after they started using.

Finally, according to the TDHS-98, husbands have generally positive attitudes towards this male-controlled method. The majority of husbands using withdrawal consider it to be an effective method (71 percent), and more than half of the husbands think that it is an easy method to use (57 percent) (not shown in table). As seen in Figure IV.3.3, the belief that withdrawal is a healthy method and the problems

experienced with other methods are among the main reasons husbands have for preferring withdrawal to any other method (27 percent and 24 percent, respectively).

Figure IV.3.2 Percent distribution of husbands using withdrawal by their response about who prefers withdrawal

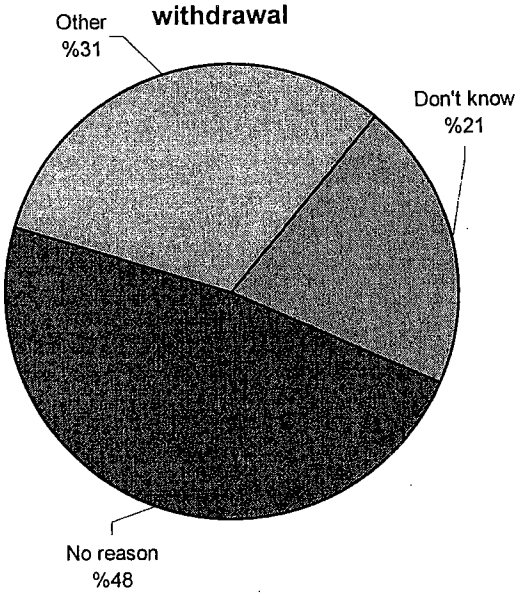
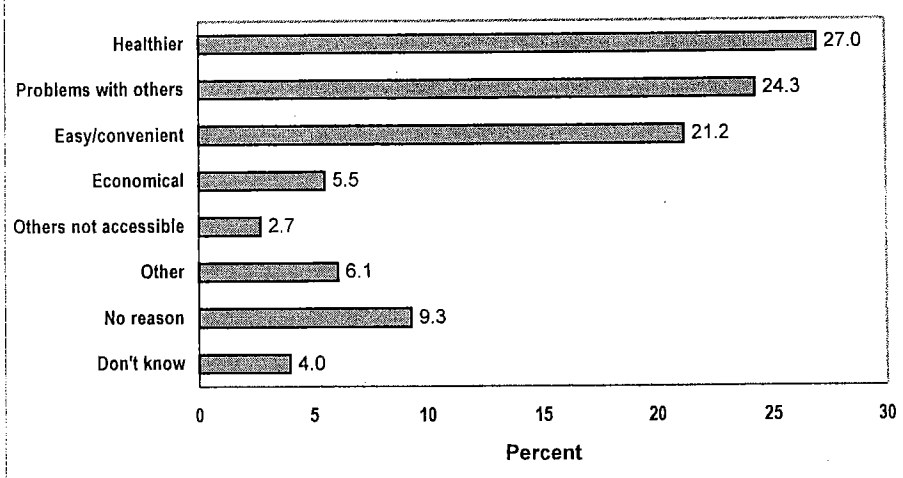


Figure IV.3.3 Percent distribution of husbands using withdrawal by main reason for preferring withdrawal to other methods



V. DETERMINANTS OF WITHDRAWAL USE

This section of the study considers the question of the determinants of withdrawal use. Table V.1 presents the results of logistic regression analyses that examined the effects of various explanatory variables on the odds of choosing withdrawal over modern methods.[8]

V.1 Model 1: Individual-level analysis

The first model examines the extent to which the individual-level variables described earlier predict the use of withdrawal. Age is shown to be a strong and significant predictor, with the odds of withdrawal use significantly decreasing as the age of the woman increases. Women age 30 and older are 15 to 33 percent less likely to use withdrawal than women age 25-29. These findings may reflect the increasing need for effective contraception among the older women since they are more likely than younger women to have reached their desired family size. In this regard, when contraceptive intention is added in Model 3, the age effects actually become slightly stronger, and they remain strong after the contextual variables are added in Model 4.

Education is usually expected to change a person's attitudes and, as a consequence, their behaviour. In the context of family planning, it has been hypothesised and generally observed empirically that higher education increases the likelihood of the use of modern contraceptive methods. In line with these expectations, Model 1 shows that higher education (for both a woman and her husband) significantly reduces the probability of withdrawal use. The relative odds of withdrawal use are 63 percent higher among uneducated couples than they are among educated couples. Further, it appears that the husband's education is especially important; the odds of withdrawal use decrease if the husband is educated, regardless of the woman's educational status. The size of effect of the couple education variable on the odds ratios is reduced the introduction of the cultural-level variables in Model 2. However, when the fertility-level variables are introduced, the education effects become stronger and they remain strong with the introduction of contextual level variables in Model 4.

[8] Non-users and the few users of other traditional methods are excluded from the analysis.

Table V.1 Results of stepwise logistic regression showing odds ratios for characteristics predicting withdrawal use

	MODELS			
	Individual-level variables	Cultural-level variables	Fertility-level variables	Contextual-level variables
Independent variables	**MODEL 1**	**MODEL 2**	**MODEL3**	**MODEL 4**
Individual-level variables				
Women's age				
<20	1,4712*	1,2915**	1,2451**	1,2174**
20-24	1,3008*	1,2834**	1,2682**	1,1741**
25-29	1,0000	1,0000	1,0000	1,0000
30-34	0,8505**	0,8529*	0,6574*	0,6560*
35-39	0,6334*	0,6279*	0,5665*	0,5563*
>40	0,6271**	0,6212**	0,4961*	0,4900*
Couple education				
Both educated	1,0000	1,0000	1,0000	1,0000
Wife educated, husband not	1,7390*	1,6409*	2,1921*	2,1999*
Husband educated, wife not	0,9466	0,8399	0,9318	0,9499
Both uneducated	1,6327*	1,3280**	1,5144**	1,6047**
Working status				
Working under social security	1,0000	1,0000	1,0000	1,0000
Working without social security	2,5232*	2,2336*	2,0041*	1,9296**
Not working	1,8462**	1,6749**	1,6326**	1,3640**
Migration status				
Migrant	1,0000	1,0000	(X)	(X)
Non-migrant	0,8778**	0,8970**	(X)	(X)
Cultural-level variables				
Ethnicity				
Turk-Turk	NA	1,0000	1,0000	1,0000
Kurd-Kurd	NA	1,3032**	1,4120**	1,7592*
Turk-Kurd/Kurd-Turk	NA	1,0791	1,0462	1,0920
Traditionality score				
0	NA	1,0000	1,0000	1,0000
1	NA	1,0998	1,1819	1,1639
2	NA	1,1361**	1,2107*	1,2013**
3	NA	1,2044*	1,2631*	1,2102**
4	NA	1,6833*	1,6847*	1,6253*
Religious sect				
Sunni	NA	1,0000	1,0000	
Alawi	NA	1,0554	0,9236	
Muslim	NA	1,0036	1,0289	(X)
Unanswered	NA	0.7612*	0,8631**	(X)
Couple approval of family planning				
Both approve	NA	1,0000	1,0000	1,0000
Wife approves	NA	1,2812**	1,6130*	1,6371*
Husband approves	NA	1,7473*	1,5433**	1,5059**
Both disapprove	NA	2,2063*	1,8307*	1,7397*
Family planning against religion: couple attitude				
Both against	NA	1,7631*	1,3101*	1,2867*
Women against	NA	1,1056	1,0436	1,0095
Husband against	NA	1,2229**	1,1028**	1,0933**
Both not against	NA	1,0000	1,0000	1,0000

Table V.1 Continued

	MODELS			
	Individual-level variables	Cultural-level variables	Fertility-level variables	Contextual-level variables
Independent variables	**MODEL 1**	**MODEL 2**	**MODEL3**	**MODEL 4**
Fertility-level variables				
Number of living children				
0-1	NA	NA	1,4957*	1,5420*
2	NA	NA	1,0339	0,9853
3	NA	NA	1,0065	1,0998
4+	NA	NA	1,0000	1,0000
Sex of living children				
No child	NA	NA	1,5734*	1,7763*
Male only	NA	NA	0,9859	0,9941
Female only	NA	NA	1,3350*	1,2943**
Both sexes	NA	NA	1,0000	1,0000
First method used				
Modern methods	NA	NA	1,0000	1,0000
Withdrawal	NA	NA	5,8129*	5,7784*
Other traditional methods	NA	NA	1,7207*	1,2334**
Contraceptive intention				
Spacing	NA	NA	1,4217*	1,6733*
Limiting	NA	NA	1,0000	1,0000
Contextual-level variables				
Region				
West	NA	NA	NA	1,0000
South	NA	NA	NA	0,9802
Central	NA	NA	NA	0,8611
North	NA	NA	NA	1,4782*
East	NA	NA	NA	1,3668*
Type of residence				
Urban	NA	NA	NA	1,0000
Rural	NA	NA	NA	1,2668**
Welfare status				
Low	NA	NA	NA	1,2890**
Middle	NA	NA	NA	1,1179
High	NA	NA	NA	1,0000
Constant	-0,7347*	-0,6994*	-1,6446*	-1,8402*
-2 x log likelihood	4712,9	4621,9	4048,5	3926,6
X^2	101,1*	147,7*	718,1*	721,2
Df	11	30	38	45

Women who work in a job that is under the social security system are expected to be more exposed to modernising influences through their employment, including the family planning program, than other women. They are also expected to have a higher educational level. Thus, these women are theoretically more likely to use modern methods of contraception than those working without social security coverage or those who are not in the labour force. The odds ratios in all four models conform to these expectations. In Model 4, women working without social security are 93 percent more likely to be using withdrawal and women who are out of labour force are 36 percent more likely to be withdrawal users.

With regard to the effects of the woman's migration status, the first two models suggest that the odds of choosing withdrawal are significantly lower among non-migrant women. However, although non-migrant women continue to be more likely to choose withdrawal than migrant women, the difference between these two groups is no longer significant after controlling for fertility and contextual level variables.

V.2 Model 2: Cultural-level analysis

The second model in Table V.1 takes into account the cultural-level variables. Considering ethnicity, the odds of choosing withdrawal are 1.3 times higher among Kurdish couples than Turkish couples. In addition, the odds of choosing withdrawal among Kurdish couples increases, once the fertility-level (Model 3) and contextual-level (Model 4) variables are incorporated into the equation. The odds of using withdrawal are greater for mixed couples in all models, but these differences are statistically insignificant. This finding indicates that marriage to a Kurd does not increase the likelihood of using withdrawal for a Turkish man or woman.

The odds of selecting withdrawal as a family planning method increase with the traditionality score of the woman. The odds are highest among the most traditional women (women with four traditional characteristics), who are significantly more likely to use withdrawal than those in the reference group. In all three models, there is a lack of significant difference in the level of withdrawal use between non-traditional women and women with only one traditional characteristic. This may be due to the widespread practice of having a religious ceremony. A large majority of the Turkish population has both a religious ceremony as well as a civil one so as to make the marriage both legitimate and religiously acceptable (Hancıoglu and Akadlı, 1992).

Looking at effects of religious sect, there is only a small insignificant difference in the odds of using withdrawal between Sunni and Alawi women. In Model 2, women who did not report a sect were less likely to use withdrawal than those in the reference group (the Sunnis). However, after the contextual variables are introduced in the Model 4, the religious sect variable is not in the regression equation.

Couples where both partners approve the use of family planning to avoid getting pregnant, are less likely to use withdrawal when compared to all of the other couples (i.e., when one partner or both partners disapprove). After the contextual-level variables are included into the model, the odds of choosing withdrawal are 74 percent higher among couples where both partners disapprove of contraceptive use

to delay or limit the childbearing. This somewhat contradictory result may be due to the fact that withdrawal is not considered a "family planning method" in many minds.

A similar result is obtained from the analysis of the effects of the belief that family planning use is against religion. Couples where the husband or where both the husband and the wife believe that religion is against family planning use are more likely to use withdrawal. It is worth noting that the effect on withdrawal use is greater where the husband believes that religion is opposed to family planning than when the woman has the same belief.

V.3 Model 3: Fertility level analysis

In relation to the number of living children, the third model shows that the odds of choosing withdrawal decrease with the number of living children. After all variables are controlled for, couples with fewer than two children are 54 percent more likely to choose withdrawal than those with two or more children.

The third model also yields particularly interesting results with regard to the sex of the living children and method choice. Couples with only daughters are 34 percent more likely to use withdrawal than couples who have at least one son and one daughter. The difference in withdrawal use between couples with both sexes and those with sons only is statistically insignificant, even after controlling for contextual variables. The higher level of withdrawal choice among women with daughters is likely related to the desire for a son.

The first method used by current users is among the most important predictors of the method choice in Turkey. Women whose contraceptive history started with withdrawal are 5.8 times more likely to select withdrawal as a current method, compared to women whose first contraceptive method was a modern method. It is important to recognize, however, that the strength of this association may be overstated. Many women, especially younger women, are still on their first episode of use, i.e., their current method is their first method. These women may switch to a modern method later.

As expected, women using contraception for spacing are more likely to use withdrawal than women using contraceptive methods for limiting purposes. The odds of using withdrawal is 1.4 times higher among women using contraception for spacing than those using contraception for limiting. After controlling for contextual-

level variables, the odds of using withdrawal increases for women whose contraceptive intention is spacing the childbearing relative to women whose contraceptive intention is limiting the childbearing. These results confirm that withdrawal is more commonly used for spacing rather than limiting the fertility.

V.4 Model 4: Contextual level analysis

The fourth model in Table V.1 shows the pattern of method choice once the variables of region, type of settlement and household welfare are added into the regression equation. In terms of region, the odds of choosing withdrawal are 48 percent and 37 percent higher among couples living in the North and the East respectively than among those living in the West. On the other hand, the level of withdrawal use among women living in the South and the Central regions is similar to the level among women living in the western part of the country.

As expected, the type of settlement is a highly effective predictor of method choice: The odds of choosing withdrawal are 26 percent higher among rural couples than among urban couples. Also as expected, the results with respect to household's welfare status indicate that women living in low-income households have a greater tendency to use withdrawal than those living in the high-income households. Women in the middle-income households are also more likely to select withdrawal than those in high-income households; however, the difference between the latter two groups is statistically insignificant.

VI. DISCONTINUATION, FAILURE AND SWITCHING BEHAVIOUR OF WITHDRAWAL USERS

In this section, contraceptive discontinuation, failure and switching rates are for the most widely used methods in Turkey: the pill, IUD, condom and withdrawal. Of all current users, approximately 90 percent were using one of these reversible methods at the time of the survey. The discussion focuses on how the discontinuation patterns for withdrawal compare to that of other widely used methods in Turkey. Differences in discontinuation patterns by contraceptive intent also are explored, since the propensity to discontinue use of a contraceptive method is expected to vary with the contraceptive intention of the user.

The demographic impacts of contraceptive use depend not only on its prevalence but also on the duration and effectiveness of use. In countries like Turkey where desired family size has declined and contraceptive prevalence has risen, contraceptive effectiveness becomes an increasingly important determinant of fertility. In addition to its demographic impact, the analysis of contraceptive discontinuation is important because it aids policy makers and health professionals in their efforts to improve service delivery. This can highlight program areas that require development, as well as groups of users who have particular concerns that need to be addressed.

For instance, the rate at which women discontinue use of a method due to experiencing side effects may indicate that counselling needs improvement and that information about the method needs to be communicated more effectively. High levels of discontinuation due to access or availability problems suggest that supply and/or distribution mechanisms need examination. Settings in which women frequently discontinue one method and switch to another have usually been thought to indicate some level of dissatisfaction with methods or services or perhaps responses to actual or feared side effects. High levels of discontinuation due to failure can affect induced abortion rates and, depending on the level of induced abortion may mean that contraceptive use has a diminished impact on fertility. In addition, unplanned pregnancies may have serious implications for women's quality of life and that of their children.

VI.1. Discontinuation behaviour

Figure 3.1 illustrates the percentage of users continuing to use at each month following initiation for the pill, IUD, condom and withdrawal. With respect to

withdrawal, discontinuation is rapid in the early months following adoption and then levels off somewhat after 18 months of use. Discontinuation for the condom and the pill exhibit a similar pattern to that for withdrawal; the rate of discontinuation for the pill is higher than that for withdrawal or the condom at all durations. Discontinuation of the IUD is both markedly lower and somewhat more evenly spread out over the period than the pattern for the other methods.

Figure VI.1 Percentage of users still using selected methods at each duration

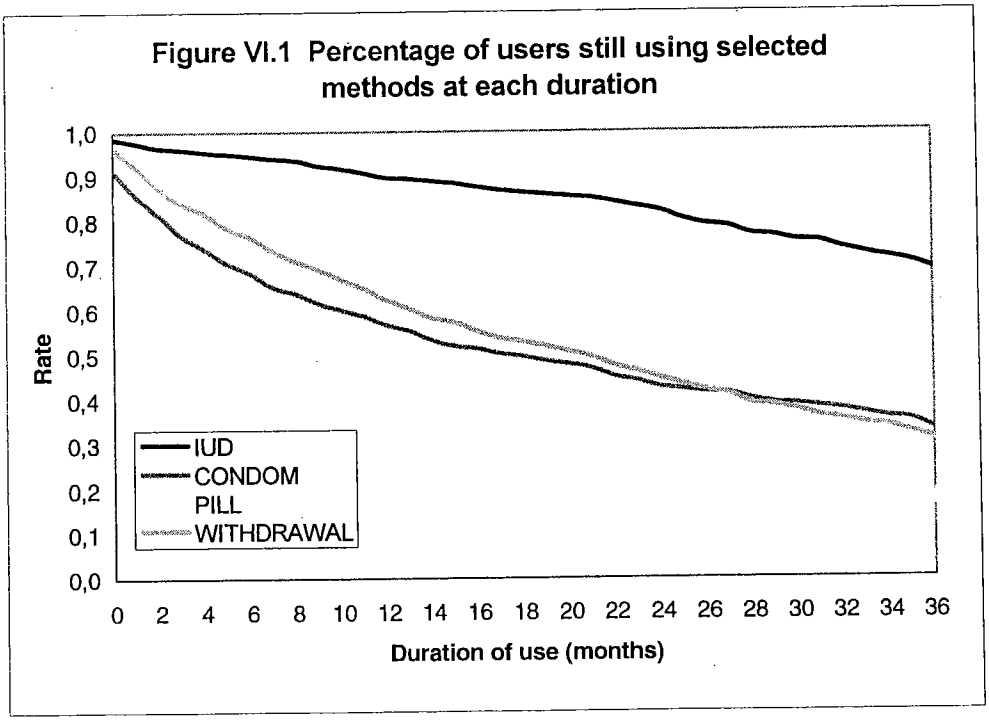


Table VI.1 presents the 12- and 24-month discontinuation rates and the median duration of use by contraceptive intention for all methods, all reversible methods, and separately for the pill, IUD, condom, and withdrawal. Overall, the results indicate that one in three reversible method users stop using a contraceptive method within a year of starting use. In terms of specific methods, discontinuation rates for the most frequently used method, withdrawal, are significantly lower than those for the pill and condom. Somewhat more than one-third of withdrawal users discontinue within a year compared to 41 percent of condom users and 55 percent of pill users. Reflecting these differences, the median duration of withdrawal use (22 months) is much longer than those of pill use (9 months) and condom use (19 months). In contrast, the discontinuation rates for the IUD are very low, with only 9 percent of users terminating within a year of initiating use, and median duration of use of 53 months.

Table VI.1 Life table 12-month and 24-month discontinuation rates and median duration of use by contraceptive method and intention, Turkey 1998

Method/ Intent	12-month discontinuation rate	24-month discontinuation rate	Median duration of use (months)	Number of segments of use
Spacer				
Pill	60,8	77,9	7,1	255
IUD	12,4	26,0	37,5	343
Condom	54,3	70,7	9,6	338
Withdrawal	44,7	67,9	14,1	830
Total[1]	43,2	62,1	15,3	1850
Total[2]	43,2	62,1	15,3	1850
Limiter				
Pill	50,7	64,5	11,4	361
IUD	6,4	10,9	>60,0	640
Condom	26,8	39,6	18,2	344
Withdrawal	26,0	40,4	34,2	956
Total[1]	23,9	34,9	43,1	2576
Total[2]	25,2	36,6	40,8	2438
All				
Pill	55,3	70,5	8,8	621
IUD	9,1	16,9	53,2	998
Condom	41,2	55,8	18,5	687
Withdrawal	35.1	53.6	21.6	1812
Total[1]	32,5	46,9	26,4	4486
Total[2]	33,4	48,1	25,3	4348

[1] All methods including sterilization
[2] All reversible methods, i.e., excluding sterilization

Discontinuation rates for all methods are higher at both 12- and 24-months of use for spacers than limiters. This is consistent with the hypothesis that users who do not wish to have any more children are more likely to be motivated to avoid pregnancy than those who are trying to space their childbearing and may discontinue use in order to get pregnant. The discontinuation rate is lower among spacers using withdrawal than among spacers using the pill but roughly similar to the level among spacers relying on the condom. Women using withdrawal to limit the childbearing are as likely to discontinue use within 24 months of initiating use as women using the condom to limit childbearing. Limiters using either method are substantially less likely to have discontinued within 24 months than limiters using the pill.

VI.2 Failure and Other Reasons for Discontinuation

The examination of discontinuation rates provides useful insights into both the overall level and differences in contraceptive discontinuation. However, from a policy perspective, it is often equally important to understand why users discontinue use. To explore this question, Table VI.2 shows differences in 12-month discontinuation rates by method and reason. For purposes of this analysis, the reasons for discontinuation collected in the TDHS-98 calendar were divided into five mutually exclusive and exhaustive groups. The groups are: contraceptive failure, desire to get pregnant, side effects or health concerns, other method-related reasons (partner disapproved, availability, want a more effective method, inconvenient to use and cost), and other reasons (infrequent sex, separated/widowed, fatalistic, do not know, subfecund and other).

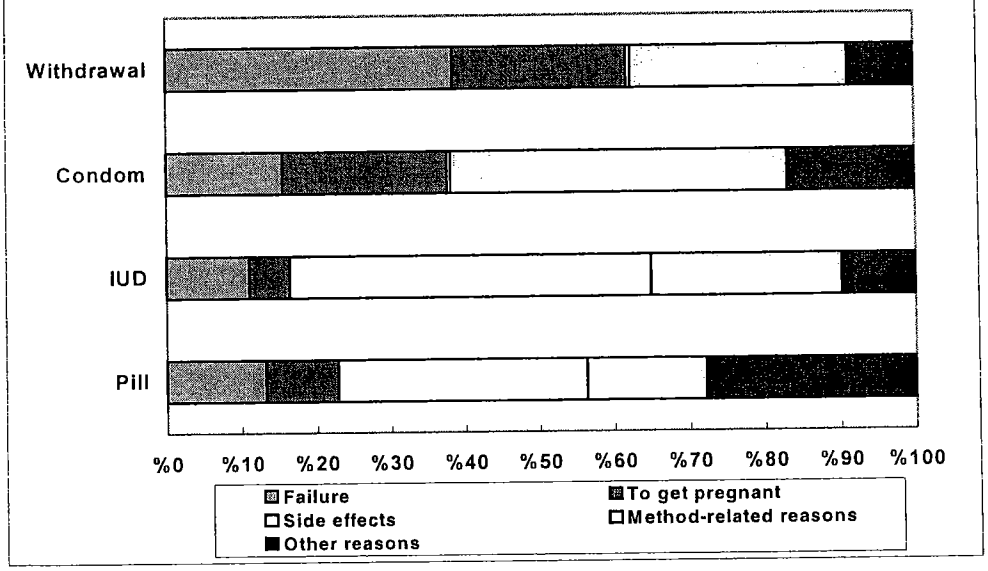
Table VI.2 Life table 12-month discontinuation rates by reason for discontinuation by contraceptive methods and intention, Turkey 1998

Method/ Intent	Contraceptive failure	Desire to get pregnant	Side effects/ Health concerns	Method-related reasons	Other reasons	Total
Spacer						
Pill	9,1	11,9	22,8	8,3	8,6	60,8
IUD	2,0	1,4	6,1	2,9	0,0	12,4
Condom	7,7	17,9	0,0	20,1	8,8	54,3
Withdrawal	16,2	16,4	0,0	9,2	3,0	44,7
Total[1]	10,8	13,3	4,8	10,1	4,2	43,2
Total[2]	10,8	13,3	4,8	10,1	4,2	43,2
Limiter						
Pill	6,1	0,3	14,5	9,3	20,5	50,7
IUD	0,6	0,0	3,6	1,7	0,6	6,4
Condom	5,3	0,0	0,5	16,9	4,2	26,8
Withdrawal	11,3	0,5	0,5	10,9	2,9	26,0
Total[1]	6,2	0,2	3,5	8,5	5,5	23,9
Total[2]	6,5	0,2	3,7	8,9	5,8	25,2
All						
Pill	7.3	5.3	18.5	8.8	15.4	55.3
IUD	1.0	0.5	4.4	2.3	0,9	9.1
Condom	6.4	9.1	0.2	18.5	7.0	41.2
Withdrawal	13.5	8.2	0.2	10.1	3.1	35.1
Total[1]	8.2	5.8	4.1	9.2	5.2	32.5
Total[2]	8.4	6.0	4.2	9.4	5.4	33.4

[1] All methods including sterilization.
[2] All reversible methods, i.e., excluding sterilization

Looking at the patterns for withdrawal, the 12-month discontinuation rate due to failure of the method is particularly high (14 percent). As Figure VI.2 illustrates, the failure rates for the pill and condom are around half that for withdrawal, while the rate for the IUD is 1 percent. The results also indicate that, for withdrawal users, the desire to get pregnant is one the main reasons for discontinuation as it is for condom users. This is consistent with the findings presented in Chapter IV that male methods are practiced more often to space childbearing.

Figure VI.2 Percent distribution of 12-month discontinuation rates by reason for discontinuation according to method, Turkey 1998



As expected, the percentage of withdrawal users discontinuing because of aide effects or health concerns is negligible. In contrast, this is the principal reason for discontinuation among pill and IUD users (18 percent and 4 percent, respectively). Interestingly, the discontinuation rates due to other method-related reasons are comparatively high for withdrawal users (10 percent) although lower that for condom users (19 percent). A more detailed examination shows that the main other method-related reason for discontinuing withdrawal is desire for a more effective method. For condom, on the other hand, it is partner's disapproval. This finding regarding withdrawal is consistent with the relatively high level of switching to modern methods among withdrawal users seen in the next section.

Table VI.2 also examines differences in the 12-month reason-specific discontinuation for the selected reversible methods by contraceptive intention. Looking at the

patterns for withdrawal users, failure accounts for a significant portion of the termination of use for both spacers and limiters. Interestingly, the discontinuation of use due to contraceptive failure among limiters is substantially higher for withdrawal users than for other users. This again shows the low reliability of withdrawal as a family planning method. Among spacers, the results in Table VI.2 indicate that the desire to get pregnant is a strong motivation for discontinuation among withdrawal users as it is for pill and condom users.

VI.3 Switching behaviour

Contraceptive discontinuation and switching behaviour are closely related. In fact, the ultimate impact of contraceptive discontinuation on fertility levels largely depends on the extent of switching behaviour. For example, when a woman discontinues use of a method due to side effects, and does not initiate another method of contraception immediately, she is exposed to risk of an unwanted pregnancy. Hence, the discontinuation of her original method has implications both for the woman's personal life and for fertility levels in the society. If a woman does not switch to another method, it may reflect that family planning services are not successfully meeting her needs. In contrast, if the woman switches to another method immediately, the fertility implications are much less serious, although there may be an increased risk of unwanted pregnancy if her new method has higher failure rates than her original method. Indeed, the fact that she switches to another method may be an indication of success for the family planning services in providing her with a range of contraceptive options. Hence, from the perspective of designing and evaluating family planning policies, what women do after discontinuing a contraceptive method is equally as important as understanding the reasons they discontinue.

In order to examine switching behaviour, the contraceptive status of the women in the month after discontinuation is classified into one of the five categories: failure, reduced need for contraception, switch to modern method, switch to traditional and abandon use. The category "reduced need for contraception" includes users who discontinued use for one of the following reasons: want to get pregnant, infrequent sex, separation/widowed, and infecund/menopause. Users who discontinued for reasons other than those listed above are considered to still be in need of contraception. Those who are using another method in the month following discontinuation are divided into those who switched to a modern method and those who switched to a traditional method. Those who are not using any method are considered as having abandoned use.

Table VI.3 presents the 12-month switching rates for the selected reversible methods according to a woman's contraceptive intention. Overall, users are only somewhat more likely to terminate use than they are to switch to another method. Looking specifically at the pattern for withdrawal users, however, the rate of terminating use due to failure or reduced need is more than twice the rate of switching. Pill, condom, and IUD users are more likely to switch methods than they are to terminate use due to failure or reduced need.

Table VI.3 Life table 12-month discontinuation rates by status after discontinuation according to contraceptive method and intention, Turkey 1998

Method	No need for contraception		Switch to modern method	Switch to traditional method	Abandon use	Total[2]
	Contraceptive failure	Reduced need[1]				
Spacer						
Pill	9,1	14,8	11,8	16,7	8,4	60,8
IUD	2,0	1,4	2,8	3,4	2,7	12,4
Condom	7,7	19,5	10,6	11,0	5,5	54,3
Withdrawal	16,2	17,9	8,9	0,0	1,7	44,7
Total[3]	10,8	14,8	8,6	5,4	3,6	43,2
Total[4]	10,8	14,8	8,6	5,4	3,6	43,2
Limiter						
Pill	6,1	8,7	13,4	12,7	9,8	50,7
IUD	0,6	0,1	2,1	2,0	1,7	6,4
Condom	5,3	0,4	13,3	5,7	2,1	26,8
Withdrawal	11,3	2,2	10,8	0,3	1,4	26,0
Total[3]	6,2	2,1	9,4	3,4	2,9	23,9
Total[4]	6,5	2,3	9,8	3,5	3,0	25,2
All						
Pill	7,3	11,4	12.9	14.2	9.5	55.3
IUD	1,0	1,2	2.3	2.4	2.2	9.1
Condom	6,4	10,4	11.9	8.4	4.1	41.2
Withdrawal	13,5	10,0	9.9	0.1	1,6	35.1
Total[3]	8,2	7,7	9.0	4.2	3.3	32.5
Total[4]	8,4	8,0	9.3	4.3	3.4	33.4

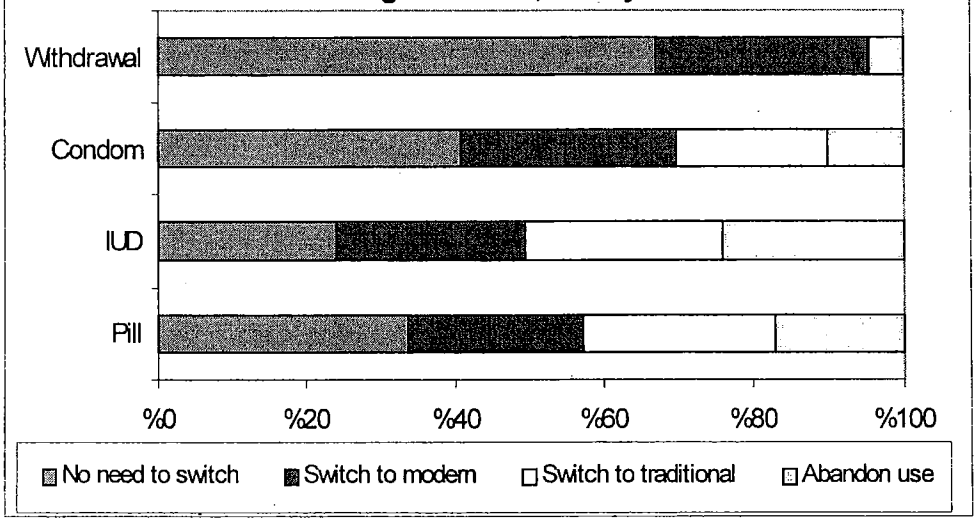
[1] This category refers one of the following reasons: infrequent sex, separation/ widowed, infecund/ menopause and the desire to get pregnant.
[2] The column totals in Table V.3 are slightly different from the total discontinuation rates in Table V.1 due to differences in the number of "missing cases".
[3] All methods including sterilization.
[4] All reversible methods, i.e., excluding sterilization.

As noted earlier, the women who switch to traditional methods or abandon use while still in need of contraception are of most concern since these women are at greater risk of pregnancy than women who switch to modern methods. Figure VI.3 illustrates the breakdown of the overall discontinuation rate by the status after discontinuation.

The figure shows that abandonment of all contraception represents a much larger percentage of discontinuation for the pill, IUD and condom, compared to withdrawal.

The figure also shows that withdrawal users who switch almost always adopt a modern method. In contrast, many pill, condom and IUD users who discontinue use turn to traditional methods (presumably larger to withdrawal) rather than to other modern methods.

Figure VI.3 Percent distribution of 12-month discontinuation rates by status after discontinuation according to method, Turkey 1998



Finally, Table VI.3 provides insight into the how switching behaviour varies between limiters and spacers. Spacers are more likely than limiters to have reduced need for contraception after discontinuation of use due to the fact that when they are 'discontinuing' they are often doing so to become pregnant. The results in Table VI.3 conform to this expectation in the case of withdrawal users as well as users of the other methods. With regard to switching behaviour, both withdrawal users and users of other methods who expressed a desire to limit childbearing were more likely those concerned with spacing to have switched methods.

VI.4 Fertility effects of contraceptive use

In this section, a static model of the current prevalence structure and the pregnancy rate that results from that model[9] is used to estimate the fertility-reducing effects of

[9] The model is described in Chapter II.5.

changes in withdrawal use among Turkish couples. The first two columns of Table VI.4 shows that the annual pregnancy rate given the contraceptive prevalence distribution prevailing at the time of the TDHS-98 was 12 percent. For reversible method users, the annual pregnancy rate ranges from a high of 18 percent among women using withdrawal to a low of 2 percent among IUD users. Pregnancy rates are significantly higher for nonusers exposed to the risk of pregnancy. Exposed nonusers who want no more children have an annual pregnancy rate of 28 percent. Not surprisingly, 9 out of 10 exposed nonusers who want more births become pregnant each year.

Table VI.4 Scenarios of contraceptive prevalence in Turkey

Prevalence category	Current Prevalence in population (%)	Annual pregnancy rate (%)	Prevalence scenario 1 (%)	Prevalence scenario 2 (%)
Not exposed	40,1	0,0	40,1	40,1
Exposed, using				
Pill	3,0	10,4	11,7	10,6
IUD	13,6	1,6	13,6	21,2
Sterilisation	2,9	0,0	2,9	10,5
Condom	5,5	8,3	14,2	0,0
Withdrawal	16,2	17,7	0,0	0,0
Other modern (*)	0,6	17,0	0,6	0,6
Other traditional (**)	1,1	16,3	0,0	0,0
Exposed, not using				
Wants more within 2 yrs	4,7	91,7	4,7	4,7
Wants no more	8,8	27,5	8,8	8,8
Intention undetermined	3,5	27,5	3,5	3,5
Total	100,0	-	100,0	100,0
Total pregnancy rate		11,8	10,4	9,2
Pregnancy rate to exposed		19,7	17,3	15,4

Scenario 1 ("Improved reversible method"): Periodic abstinence and withdrawal: half to condom, half to pill.
Scenario 2 ("All coitus-dependent methods users switch to coitus-independent methods"): Periodic abstinence, withdrawal and condom: distributed over pill, IUD and sterilisation.

(*) Other modern includes injection and vaginals.
(**) Other traditional includes periodic abstinence and other traditional methods.

The final two columns in Table VI.4 show the impact on the annual pregnancy rates of two alternative prevalence distributions. Both scenarios illustrate that there exists considerable potential for fertility reduction in Turkey from shifting users away from

withdrawal and other-coitus dependent methods to more efficient methods. In Scenario 1, users of withdrawal and periodic abstinence switch equally to the condom and the pill. The annual pregnancy rate falls to 10 percent, a 12 percent decline, largely because withdrawal users are a major source of unintended pregnancies. Scenario 2 goes further and posits a shift by users of coitus-dependent methods (condom, periodic abstinence and withdrawal) to coitus-independent methods (IUD and sterilisation). In this scenario, the pregnancy rate would decline to 9 percent, a drop of 22 percent.

VII. DISCUSSION AND CONCLUSION

VII.1 Key Determinants of Withdrawal Use

The decision to use withdrawal is influenced by many factors. Societal, cultural, and political influences can affect an individual's choice to use withdrawal. This study identified the following factors as highly related to withdrawal use in Turkey:

- Fear of side effects associated with modern contraceptives;
- Withdrawal first method used;
- Age of the woman;
- Lack of education among men;
- Male influence on a couple's decision to use withdrawal;
- Sex distribution of child(ren);
- Women working without social security.

In Turkey, while some concerns about modern method side effects are warranted, there seems to be an exaggerated fear amongst contraceptive users in regard to modern contraceptives. It is one of the main factors leading couples to use withdrawal. There are a number of possible reasons for the fears. First, couples may be receiving misinformation through interpersonal communication about method's side effects among friends, neighbours, and communities. Second, provider bias can hinder a woman's ability to receive appropriate family planning counselling.

For many women, withdrawal is the first method used. When withdrawal is the first method used by a woman, there is a tendency for couples turn to withdrawal in subsequent episodes of use rather than switching to a modern method. The decision to use withdrawal initially could stem from a lack of knowledge of modern methods and/or how to access them or, as noted above, misconceptions about the side effects associated with modern method use. The TDHS-98 results suggest that husbands and wives do discuss contraceptive choices. However, the quality of their communication may be affected by the fact that they are embarrassed to talk with each other in any depth about contraceptive choices or to consult a health provider for advice about effective contraception.

Age has an important association with withdrawal use, with users under age 20 and over age 40 being more likely to have adopted withdrawal than other users. This

relationship reflects the fact that as a couple's fertility preferences and/or exposure to pregnancy risk change throughout their lifetime so does the likelihood that they will be interested in withdrawal as a method. Thus, among young women, the greater tendency to choose withdrawal is likely related to the fact that these women have not reached their desired family size and, thus, are more willing to use a less effective method. Among the older women, the greater reliance on withdrawal is also not surprising since these women may be having less frequent sex and also lower fecundity levels.

The study confirms that men have an important influence on contraceptive choice. For example, when the husband is not educated, the couple is more likely to use withdrawal, regardless of the woman's educational level. As the study also points out, men who use withdrawal have generally positive attitudes toward the method; they find withdrawal to be effective, easier to use, healthier and associated with fewer problems than other methods. These results provide a clear indication of the crucial importance of taking men's needs and concerns into account in family planning program efforts.

Gender preference appears to have a role in contraceptive choice. Families that have only female children are more likely to use withdrawal than families that have only male children. In other words, couples are more willing to use withdrawal and risk contraceptive failure if they do not have a male child. This suggests that, in some families, a male child has greater worth than a female child. This is not a surprising finding and one that is not exclusive to Turkey.

A woman's work status is another predictor of withdrawal use. Women working under social security show lower levels of withdrawal use than those who do not work under social security. There are a number of explanations for this relationship. First, women in jobs covered by social security are more likely to be exposed to modern ideas that support the use of modern contraceptives. Additionally, women employed in such positions are part of a community (at least at work) where such ideas are acceptable and where acceptance from peers within one's community supports the adoption of similar behaviours including the use of modern contraceptives.

VII.2 Other Influences

The study shows that ethnicity, traditionality and region are related to a couple's decision to use withdrawal. Kurdish couples are more likely to use withdrawal than Turkish couples. Women who score high on an index of traditionality are more likely to use withdrawal than women who exhibit less traditional behaviour. Finally, women living in the North and the East are more likely to use withdrawal with their partners than women living in other regions of Turkey.

VII.3 Discontinuation/Switching Behaviour

The study found that slightly more than one-third of withdrawal users discontinue use by the end of the first year of use, and half have stopped use by the end of the second year. Contraceptive failure is responsible for almost two in five discontinuations during the first year of use; the failure rate for withdrawal is around twice the rate for the pill and condom.

Surprisingly, 37 percent of limiters are willing to risk failure by using withdrawal. This seems disproportionately high for women who indicated they do not want any more children. It would be interesting to investigate whether or not withdrawal users return to the method following an unplanned pregnancy or switch to a modern method. Unfortunately, that question is beyond the scope of this study. However, the study does show that, for non-pregnant women discontinuing withdrawal use, the majority will switch to a modern method if they do not want another birth.

VII.4 Program Implications

Turkey has made great strides in the past ten years to afford couples with more contraceptive choices. However, as the data shows withdrawal is still the number one choice among couples as a means to prevent pregnancy. In considering the high level of withdrawal use, it should be kept keep in mind that, while withdrawal is not as effective as modern contraceptives in preventing pregnancy, its use does have some impact. Withdrawal use will prevent more pregnancies than if no method is used at all. Therefore, couples who are aware of the risks and alternatives and use withdrawal effectively should be supported in their decision to use withdrawal.

Perhaps the most important finding from the study is that many Turkish couples risk contraceptive failure using withdrawal due to concerns about the side effects of modern contraceptives. Clearly, the widespread availability and acceptability of abortion is a factor that supports the continued high levels of withdrawal use by

providing couples with an option in the event of unplanned pregnancy. However, it is clear that, if withdrawal levels are to be reduced, couples must have the information that they need to accurately assess the risks of alternative contraceptive methods and to make the reproductive choices that are appropriate for them.

All men and women are entitled to contraceptive services that will provide them with safe and effective methods. Well-planned programs that target different segments of contraceptive market are needed to help couples make appropriate contraceptive choices. Turkey can make greater strides toward increasing the use of modern contraceptives by improving counselling, diversifying family planning education, and expanding programmatic efforts beyond couples to adolescents, young adults (both men and women) as well as to special communities (i.e., military personnel, university students, etc.).

Providing couples with quality family planning services including counselling that are accessible is essential. Efforts should be addressed in all regions to improving the counselling skills of family planning providers so that all women and men seeking care are given appropriate and correct advice that will meet their needs should be addressed in all regions. Misinformation about specific methods leads to quicker discontinuation of use, especially if side effects are not addressed that may occur with use. Additionally, training providers to recognize what their clients want and need will improve services.

Focusing on ensuring men and women have the correct knowledge of both modern and traditional contraceptive methods that can lead to positive behaviour changes is part of the process. As contraceptive needs change throughout a couple's life so will the methods that are most appropriate in meeting those needs. Programs must be sensitive to providing what their clients want and at the same time making sure that all options are explained thoroughly. This includes speaking honestly about the benefits and limitations not only of the pill, IUD, condoms, injectables, sterilization and vasectomy but also of withdrawal.

Although improving counselling for clients is essential, not all men and women will seek traditional family planning care. As a result, they will not have the opportunity to learn about the full range of contraceptive methods from a trained provider and may be more likely to be misinformed about modern methods. Improving knowledge for these couples will require special strategies.

Withdrawal users who would not seek traditional family planning services may come into contact with reproductive health service providers when they are seeking abortion services. This is an opportune time to provide these users with family planning counselling that they would not otherwise receive. In the last ten years Turkey has successfully linked postabortion services with family planning, which has helped to reduce the number of unwanted pregnancies and abortions. (Senlet et al, 2001)

Another way to reach couples who would not typically seek family planning advice is to target these men and women through communication strategies. The communication efforts should target appropriate messages specifically to different segments of the population. These messages should be designed to address the needs of men, adolescents, young unmarried women and men, young married couples, and couples who have reached their desired family size.

Ideally, these messages would start in the home or community. The perception of having familial or community support can reduce the embarrassment an individual might have about asking questions regarding contraception. However, it is clear at this time that policy makers and family planning professionals cannot always depend on these messages to come from the home or the community, particularly when the audience is young. Targeting information about contraceptive methods and other reproductive health messages to young women and men is, therefore, a smart step. It will allow young people to think about what is best for them before they need to make a choice.

Clearly men cannot be forgotten in any educational campaigns or program initiatives. Men are a unique audience from that of women. Thus, messages about family planning targeted towards men need to be addressed appropriately. Understanding the needs of men and designing programs that will suit their needs will be an important step to changing people's behaviours.

Finally, this study has analysed quantitative data from a standard DHS survey in order to gain a better understanding of withdrawal use in Turkey. However, the subject would benefit from the additional research of a qualitative nature. A qualitative could explore who withdrawal users are and what determines their use

more deeply and, thus, provide a more complete picture of the withdrawal use in Turkey. The qualitative research could address:

- Couples perceptions of the risks and benefits of modern methods and withdrawal use;
- Couples perceptions of the consequences of contraceptive failure/ unintended pregnancy with regard to both modern methods and withdrawal use;
- Couples perceptions of abortion in regard to contraceptive failure/ unintended pregnancy and;
- The role of health services versus personal influences in shaping couples views.

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