Identifying Factors for Marriage Breakdown at Debre Birhan Town of Ethiopia: Logistic and Survival Analysis

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Abstract: Marriage breakdown is a condition in which partners of a marital union cease to live together especially due to divorce or separation. The main objective of this study is identifying factors for marriage breakdown. To achieve this sample of 576 respondents was taken using stratified random sampling method, during March 2012. From descriptive statistics we have seen that about 41.7% of the first marriage was broken in Debre Birhan town. A series of statistical analysis have done: factors for marriage breakdown were analyzed using binary logistic regression and time to marriage breakdown was analyzed by Cox proportional hazard model. From the binary logistic regression we have seen that being infertile, marry at age of 12-18 years (early marriage), sexual incompatibility, unfaithfulness, absence of discussion and illiterate husbands are exposed to the risk of marriage break down. From the Cox proportional hazard model we have seen that; spouses who are infertile, marry b/n 12-18 years for females, too low (<4 years) or too high (>10 years) age gap, having different religion, sexual incompatibility and unfaithfulness leads to the shorter survival time of first marriage. Finally we have recommend that Spouses should have a habit of discussion, specially on sexual issue, youth should insure that they have the potential to pursue marriage its responsibility before coming to the institution. Awareness creation and counseling service should have given about the effect of early marriage, the importance of legal- marriage, impact of religion difference of spouses and gender equality.

Keywords: Marriage Breakdown, Logistic Regression, Cox proportional Hazard, Debre Birhan Town

1. Introduction

1.1. Background of the Study

Marriage breakdown is a condition in which partners of a marital union cease to live together especially due to divorce or separation. Marriage and marriage breakdown are central to the study of living arrangements and family composition. Social and economic events as well as changes in cultural attitudes shape marital behavior, which then affect family life and other interactions. The increase in divorce is one of the most visible changes in family life in Western countries (McLanahan, 2004). This is not the problem not only in western countries but also in Ethiopia. In view of the complicated factors associated in the spouse's marital instability and in spite of its profound effect on their lives, studies on marriage breakdown with particular emphasis on its causative factors are rare and scarce in our country Ethiopia. Hence, this study intends to contribute and fill a certain gap in our knowledge about the basic demographic and socio-economic determinants of marriage breakdown. This study is conducted at Debre Birhan town administration, in which there is a large spread of marriage breakdown (information from Debre Birhan court).

1.2. Statements of the Problem

In Ethiopia, marriage is viewed as a normal and expected formal procedure of living an essential good associated with safely for all involved. Apart from reasoning the factors of marriage breakdown, related consequence of marital breakdown has been assessed by different researchers. Most scholars agree that divorce and separation have a negative impact not only a husband, wife and children but also in the society at large. For instance, marriage breakdown is the major component of the increase in female headed households that leads many women and children to live at or below poverty level (FSCE, 1998).

The general objective of this study is identifying factors for marriage breakdown at Debre Birhan town, Ethiopia. Specifically the paper aimed to:

- To analyze the survival time of first marriage;
- To identify the major determinant of marriage breakdown;
- To provide information on the results obtained to policy makers and researchers.

2. Method

2.1. Data Source

The type of data that was employed under this study is primary data from sampled respondents in the city who had ever married by constructing questionnaires. The data was collected by trained data collectors using a standard, structured and pre-tested questionnaire. In order to minimize the errors in data collection that may be introduced by the enumerator, training was provided for four days and the questionnaire translate into Amharic to ensure that the enumerator understood the questionnaire.

2.2. Inclusion and Exclusion Criteria

The study includes all individuals who had ever married and residing in the city, regardless of their marital status at the time of the survey with some restrictions:
- Second and above marriages were not considered.
- Indivuals who were separated or divorced and live with their parents in one house were not included.

2.3. Sample Size Determination

$$n = \dfrac{\sum_{i=1}^{k}\left(\dfrac{N_i^{\,2}p_i\left(1-p_i\right)}{W_i}\right)}{\dfrac{N^2d^2}{Z_{\alpha/2}^{\,2}} + \sum_{i=1}^{k} N_i p_i\left(1-p_i\right)} \qquad (2.1)$$

Determining the sample size for a study is a crucial component of study design. The goal is to include sufficient numbers of subjects so that statistically significant results can be detected. The sample size determination formula adopted for this study was (Cochran, 1977).

Table 2.1. Parameters in the Equation of Sample Size Determination.

Stratum	population proportion in main survey (w_i)	population size (N_i)	Sample size in main survey (n_i)	Proportion of marriage breakdown in pilot survey (p_i)	Number of Indivuals whose marriage was broken in pilot survey (s_i)	Sample size in pilot survey (S_i)	Point of standard normal $(Z_{\alpha/2})$	Maximum allowable difference(d)
1	0.67	13450	386	0.38	19	50	1.96	0.038
2	0.33	6520	190	0.56	14	25		

To estimate the proportions of marriage breakdown for each strata (p_i), pilot survey was conducted for each stratum, where $p_i = s_i/S_i$ where s_i is the number of Indivuals whose first marriage was broken out of the temporarily selected Indivuals (S_i) in the pilot survey. The final sampling units were selected by using stratified random sampling technique as described below. First of all the total number of married Indivuals 'N' was gained from zone finance and economy (plan and development sector) of Debre Birhan town, from which Indivuals who have house number (stratum 1) were identified. The remaining were Indivuals without house number (stratum 2). The size of the sample in each stratum was determined in proportion to the size of the population of each stratum, terms as proportional allocation. After the sample size for each stratum was determined the respondents were gained through simple random sampling (SRS) by using their house number for the first stratum. For the second stratum we have used the already selected fence in which we have taken the entire rent holder, who fulfills the included criteria of the study. Since the number of married Indivuals with house number is so larger than the number of married Indivuals without house number in Debre Birhan town, the required sample size for stratum 2 was attain until the saturation of sample size for stratum 1. And since respondents in strata 2 are inscribed in strata 1 the randomization (through house number) takes place in strata 1 was used for strata 2. This is because the two strata are uncorrelated. There was no house number assign to the service house, therefore independent randomization for stratum 2 is impossible, because coding all service houses in the town is beyond the scope of the study. This is the justification of using the same randomization for both strata. Based on the above explanation and formula with 10% non-response rate the sample size of the study (from N = 19,970) was given to 576.

2.4. Variables Considered in the Study

2.4.1. Dependent Variables

There are two dependent variables in this study: Marriage breakdown and time to marriage breakdown.

2.4.2. Independent Variables

Table 2.2. Independent Variables Included in the Analyses with their Designation, Description and Category is given as follow

Variable Designation	Description	Category
Demographic Variables		
Mig_st	Migration status	0= Migrant, 1= not migrant
Aa_fmw	Age at first marriage of females	0=12-18, 1= 19-25, 2= ≥26
Fer_st	Fertility status	0= Not fertile, 1= Fertile
Pre_mb	Pre-marital birth	0= Occur, 1= not occur
Num_cc	Number of common children	0= 0-4, 1= 5-9, 2= ≥ 10

Variable Designation	Description	Category
Sex_com	Sexual compatibility	0= Not compatible, 1= Compatible
Socio-economic Variables		
Coh_bm	Cohabitation before marriage	0= Cohabited, 1= not cohabited
Dec_tm	Decision to marry	0= Family based, 1= Self based
Kin_mar	Kind of marriage	0=Consensual marriage, 1= Legal marriage
Fam_rec	Family recognition	0= Not recognized, 1= Recognized
Rel_dif	Religion difference within spouses	0= present, 1= absent
Wif_inc	Wife income	0= <500, 1= 501-1000, 2= 1001-1500, 3 = >1500
Hus_inc	Husband income	0= <500, 1= 501-1000, 2= 1001-1500, 3 = >1500
Ed_st_wi	Educational status of wife	0=Illiterate,1=basic education 2=Elementary, 3= High school,4= College/ University
Ed_st_hu	Educational status of husband	0=Illiterate,1=basic education 2=Elementary, 3= High school, 4= College/ University
Inf_wis	Infidelity with in spouse	0= present 1= absent
Wif_occ	Wife occupation	0=No job,1=Run own business,2= Employee
Hus_occ	Husband occupation	0=No job,1=Run own business,2= Employee
Fam_inf	family influence	0= negative 1= positive
Gen_rol_at	Gender role attitude	0= negative, 1= positive
Age_gap	age difference b/n couples	0= 0-3, 1= 4-9, 2= ≥10

2.5. Methods of Statistical Analysis

2.5.1. Logistic Regression

Logistic regression analysis extends the techniques of multiple regression analysis to research situations in which the outcome variable is categorical. When we assume that Y is dichotomous, taking on values of 1 (that is, positive outcome, or success) and 0 (that is, negative outcome, or failure). Then the conditional probability that the respondents marriage is breakdown given the X set of predictor variables is denoted by Prob $(Y_i = 1 \mid X) = P_i$. The expression P_i has the form:

$$P_i = \frac{e^{(\beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \cdots + \beta_r x_{ri})}}{1 + e^{(\beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \cdots + \beta_r x_{ri})}} = \frac{e^{x'\beta}}{1 + e^{x'\beta}} \qquad (2.2)$$

P_i = the probability of the marriage of respondent i being breakdown

Y_i = the observed marital status of household i

β is a vector of unknown coefficients. Maximum likelihood estimation method is appropriate for estimating the logistic model parameters due to this less restrictive nature of the underlying assumptions (Hosmer – Lemeshow, 1989). Hence, in this study the maximum likelihood estimation technique was applied to estimate parameters of the model. Consider the logistic model $P_i = \frac{e^{x'\beta}}{1 + e^{x'\beta}}$, since observed values of Y say, y_i's (i=1, 2, 3…., n) are independently distributed as binomial with parameter P_i, the maximum likelihood function of Y is given by:

$$L(\beta \mid Y) = \prod_{i=1}^{n} P(y_i \mid X_{i1}, X_{i2}, ..., X_{im}) = \prod_{i=1}^{n} \left[\frac{e^{x'\beta}}{1 + e^{x'\beta}}\right]^{y_i} \left[\frac{1}{1 + e^{x'\beta}}\right]^{(1-y)} \qquad (2.3)$$

Where, $\beta' = (\beta_1, \beta_2, \ , \ , \beta_r)$

The objective of stating likelihood function is to get an estimator $\hat{\beta} = (\hat{\beta}_0, \hat{\beta}, ..., \hat{\beta}_r)$ of β which maximizes the likelihood function expressed in equation (2.3).

Assumptions one should consider for the efficient use of logistic regression are:

- The logistic regression coefficients must be coded meaningfully by giving the codes 0 for the dependent class of lower interest and 1 for the dependent class of greatest interest.
- The dependent variable must be categorical.
- The independent variables need not be interval, nor normally distributed, nor linearly related, nor of equal variance within each group.
- Linearity in the logit regression equation should have a linear relationship with the logit form of the dependent variable.
- All relevant variables must be included and all irrelevant variables must be excluded.
- Absence of Multicolliniarity. As with multiple regressions, multi co linearity is a potential source of confusing or misleading results and needs to be assessed. Multicolliniarity occurs when there are high inter correlations among some set of predictor variables.
- The sample size must be large in order to make the Logistic regression accurate.
- Error terms are assumed to be independent (independent sampling).

2.5.2. Survival Analysis

Survival analysis is the phrase used to describe the analysis of data that correspond to the time from a well-defined time origin until the occurrence of some particular event or end-point. One of the features of survival data that renders standard methods inappropriate is that is that survival times are frequently censored. The survival time of an individual is said to be censored when the end-point of interest has not been observed for that individual. Survivor function and hazard function are the two functions of central interest in summarizing survival data. The actual survival time of an individual, t, can be regarded as the value of a random variable T, this can take any non-negative value. The different values that T can take have a probability distribution, and we call T the random variable associated with the survival time. When the random variable T has a probability distribution with underlying probability density function f(t), the distribution function of T is then given by; $F(t) = P(T < t)$, and represents the probability that the survival time is less than some value t. The survivor function, S(t), is defined to

be the probability that the survival time is greater than or equal to t and represented as

$$S(t) = P\,(T > t) = 1 - F\,(t) \qquad (2.4)$$

The survivor function can, therefore, be used to represent the probability that an individual dies at time t, conditional on having survived to that time. That is, the function represents the instantaneous death rate for an individual surviving to time t. Thus, the hazard function, h (t), is defined as;

$$h_t = \lim_{\delta_t \to 0} \left\{ P\, \frac{t \le T < t + \delta_t / T \ge t}{\delta_t} \right\} \qquad (2.5)$$

From this definition the relationship between the survivor and hazard function, can be expressed as;

$$h\,(t) = \frac{f(t)}{s(t)} = -\frac{d}{dt}\left\{ \log\left(s(t)\right) \right\}, \qquad (2.6)$$

where, f (t) is the probability density function of T.

The survival and hazard functions are estimated using the Kaplan-Meier method as a preliminary analysis. This method is non-parametric or distribution-free, since it does not require specific assumption to be made about the underlying distribution of the survival times. To apply the Kaplan-Meier method suppose that there are n independent individuals in a random sample with observed survival times $t_1, t_2, \ldots, t_n$. The distinct ordered failure times observed among the n individuals are $t_1, t_2, \ldots, t_r$, r < n as there are more than one individual with the same observed survival time and some of the observations may be right-censored, i.e., the survival status of the individual might not be known at the time of the analysis. The probability of survival at time t_j, P (t_j) is then estimated by

$$P(t_j) = \frac{(n_{j-d_j})}{n_j} \qquad (2.7)$$

where n_j is the number of individuals who are alive just before time d (j) and d_j is the number who die at this time. Consequently, the estimated probability of surviving beyond t_j, S (t) is

$$\hat{S}(t) = \prod_{t(i) \le t} \frac{n_i - d_i}{n_i} \qquad (2.8)$$

with the approximated standard error given by

$$s.e\left\{ \hat{s}(t) \right\} = \hat{s}(t) \left\{ \sum_{j=1}^{k} \frac{d_j}{\left(n_{j-n_j} \right)} \right\}^{\frac{1}{2}} \qquad (2.9)$$

For, $t_{(k)} \le t < t_{(k+1)}$

Cox Proportional Hazards Model

Kaplan-Meier and log-rank methods described are useful in the analysis of a single sample of survival data, or in the comparison of two or more groups of survival times. However, in most studies which give rise to survival data, supplementary information will also be recorded on each individual who are referred to as explanatory variables. The basic model to be considered here is the proportional hazards model. The assumption of proportional hazards is that the hazard of death at any given time for an individual in one group is proportional to the hazard at that time for an individual in the other group. The hazard function for the individual can then be written as:

$$h_i(t) = h_0(t) \exp\,(\beta'X) \qquad (2.10)$$

where β is a p x l vector of regression coefficients. Suppose that data are available for individuals, amongst whom there are r distinct failure times and n - r right-censored survival times so that there are no ties in the data. The r ordered death times will be denoted by t(1) <t(2)<….< t(r), so that t(j) is the jth ordered death time.

The relative likelihood function for the proportional hazards model is given by

$$L(\beta) = \prod_{i=1}^{r} \frac{\exp(\beta'X_i)}{\sum_{l \varepsilon R(t(j))} \exp(\beta'X_i)} \qquad (2.11)$$

3. Result and Discussion

The main aim of this study was to identify factors that have an association with marriage breakdown and statistically analyze time to marriage breakdown at Debre Birhan town based on data obtained from sampled respondents in this town during March 2012. The study population is ever married indivual at Debre Birhan town. The sample size determined with 10% non response rate was 576. Respondents are either husbands or wives available during survey. Statistical Package for Social Science (SPSS) version 16 was used for analysis.

Logistic regression analysis was run to assess the relationship between each predictor variable with marriage breakdown while controlling the other predictor variables. Cox regression was used to analyze the effect of different demographic and socioeconomic variables to the survival time of first marriage.

3.1. Result and Discussion for Binary Logistic Regression Analysis

From the nominated 15 variables for multiple covariate logistic regression, about 11 of them pass the filtration of forward stepwise LR of logistic regression. Namely, fertility status, age at first marriage of women, decision to marriage, kind of marriage, gender role attitude, family influence, sexual compatibility, infidelity within spouse, habit of discussion and educational status of husband and wife have a significant effect on marriage breakdown (α=0.05). Contrarily variables such as wife occupation, age gap between spouse, religious difference and husband and wife income have less effect on marriage breakdown.

Table 3.1: shows that the result for fertility status, after adjusting for other covariates, indicates that spouses, who were infertile, are 14.132 times more likely to break their marriage than the reference category (fertile). Our result is in harmony with the result of Desta (2011) and Yakob (1991). Age at first marriage of women was grouped into three categories. The odds of breakdown of first marriage for age group 12-18 years and age group 19-25 years was found to be 8.641 and 1.721 times more likely to break their marriage than that of in the age group ≥ 26 years (Ref.), respectively. This implies that early marriage (occur in 12-18 years) may lead to marriage breakdown. Females under age group 19-25 years during marriage exhibited a lower chance to break their marriage as compared to the females in the 12-18 years age group. This finding is comparable with earlier studies of Desta (2011), Etsehiwot (2010), Belinda et al. (2008). It has been indicated that the occurrence of marriage breakdown

varies by type of marriage. The odds of being breakdown for respondents having consensual marriage are 2.867 times more likely than those respondents having legal marriage (ref.) and its effect was statistically significant. The result is in harmony with the results of Desta (2011), Kumilachew (2001) and Goldman (1998). The odds of marriage breakdown for spouses who were not compatible on sexual intercourse are 16.765 times that of sexually compatible one. It is in harmony with the result of Belinda (2008). Looking for infidelity, the odds of marriage breakdown for spouses who have infidelity (unfaithfulness) is 6.197 times that of spouses who trust each other. The result is identical with the result of Paul R. (2003). Spouses who have no a habit of discussion are 44.607 times more likely break their first marriage than that of spouses who have a habit of discussion on every activity in the home. This finding is synonyms with the result of Belinda (2008).

Table 3.1. *Parameter Estimates, Standard Error and Odds Ratio for the Final Logistic Regression of Marriage Breakdown (Debre Birhan Town, May, 2012)*

Covariates	Category	$\hat{\beta}$	S.E$(\hat{\beta})$	Wald	d.f.	P-value	Exp$(\hat{\beta})$	95.0% C I for EXP(B)	
								Lower	Upper
Fertility status	Not Fertile	2.648	.523	25.654	1	.000	14.132	5.071	39.380
	Fertile (Ref.)	-	-	-	-	-	-	-	-
Age at first marriage of women				17.629	2	.000			
	12-18	2.157	.884	5.955	1	.015	8.641	1.529	48.837
	19-25	.543	.925	.344	1	.557	1.721	.281	10.537
	≥ 26 (Ref.)	-	-	-	-	-	-	-	-
Decision to marriage	Family based	2.019	.406	24.726	1	.000	7.529	3.398	16.684
	Self based (Ref.)	-	-	-	-	-	-	-	-
Kind of marriage	Consensual marriage	1.053	.439	5.760	1	.016	2.867	1.213	6.775
	Legal marriage (Ref.)	-	-	-	-	-	-	-	-
Gender role attitude	negative	1.235	.418	8.726	1	.003	3.440	1.515	7.808
	Positive (Ref.)	-	-	-	-	-	-	-	-
Family influence	negative	2.462	.533	21.359	1	.000	11.730	4.129	33.324
	Positive (Ref.)	-	-	-	-	-	-	-	-
Sexual compatibility	Not compatible	2.819	.473	35.542	1	.000	16.765	6.635	42.358
	Compatible (Ref.)	-	-	-	-	-	-	-	-
Infidelity with in spouse	present	1.824	.477	14.618	1	.000	6.197	2.433	15.786
	Absent (Ref.)	-	-	-	-	-	-	-	-
Habit of discussion	absent	3.798	.715	28.208	1	.000	44.607	10.983	181.169
	Present (Ref.)	-	-	-	-	-	-	-	-
Educational status of wife				39.028	3	.000			
	Illiterates	-4.742	1.140	17.302	1	.000	.009	.001	.081
	Elementary	-3.750	1.039	13.032	1	.000	.024	.003	.180
	High school	-.049	1.025	.002	1	.962	.952	.128	7.099
	College/ university (Ref.)	-	-	-	-	-	-	-	-
Educational status of husband				14.014	3	.003			
	Illiterates	3.158	.981	10.352	1	.001	24.512	3.435	160.929
	Elementary	3.197	.857	13.908	1	.000	23.471	4.559	131.360
	High school	2.442	.857	8.115	1	.004	11.497	2.142	61.704
	College/ university (Ref.)	-	-	-	-	-	-	-	-

Ref. => stands for reference category

Unexpectedly educational status of wife has direct relation with the event of marriage breakdown. Women whose educational status is illiterate, elementary and high school are 0.009, 0.024 and 0.952 times more likely break their first marriage than that of women whose educational status is

collage/university level, respectively. The result matches with the result of Desta (2011) and Belinda (2008). The justification is, when educational status of women increase they know more about their right and responsibility at this time they act equally with their husband. But husbands do not accept such an act,

because they always think that females are dependent on males. In addition there may be intellectual incompatibility between spouses. The other justification may be, when women are highly educated they become expensive in labour market. In this case they can get many alternatives that under quotation their marriage. At this time they prefer to escape the bad home situation marriage.

3.2. Results and Discussion for Survival Analysis

Table 3.2 presents Cox regression results as hazard ratio of the determinants of marriage breakdown. After controlling for numerous socio - economic and demographic factors that were typically related to the survival of marriage, the hazard ratio of age at first marriage of women in the age category 12-18 is 3.924 higher than in the case of ≥26 years. Whereas the hazard ratio of age at first marriage of women in the age

category 19-25 is 3.190 higher than in the case of ≥26 years (reference category).

The risk of marriage breakdown is 1.688 times higher in those spouses who had different religion than spouses having the same religion (Ref.). There was also evidence of a strong detrimental effect of educational status of wife on the hazard ratio of marriage breakdown. The relative risk of illiterate wives is 52.2% lower than the reference group (college/university completed). Elementary completed have a lower risk (31.8%) than college/university completed. Wives that high school completed have a lower risk (12.3%) than the reference category (college/university completed). the justification is the same as in the previous result (marriage breakdown).The hazard of non fertile spouse is 1.412 higher than that of fertile spouse (Ref.). The result is in harmony with the result of Desta (2011) and Belinda (2008).

Table 3.2. *Parameter Estimates, Standard Errors and Hazard Ratios of Cox Proportional Hazards Model of Time to Marriage Breakdown (Debre Birhan Town, May, 2012).*

Covariates	Category	$\hat{\beta}$	S.E($\hat{\beta}$)	Wald	d.f.	P-value	H.R	95.0% CI for H.R	
								Lower	Upper
Fertility status	Not Fertile	.345	.153	5.061	1	.024	1.412	1.045	1.907
	Fertile (Ref.)	-	-	-	-	-	-	-	-
				6.334	2	.013			
Age at first marriage of women	12-18	1.367	.597	5.249	1	.022	3.924	1.218	12.640
	19-25	1.160	.605	3.676	1	.055	3.190	.975	10.443
	≥ 26 (Ref.)	-	-	-	-	-	-	-	-
Decision to marriage	Family based	.809	.196	16.979	1	.000	2.245	1.528	3.298
	Self based (Ref.)	-	-	-	-	-	-	-	-
				14.501	2	.001			
Age gap between spouse	0-4	.568	.220	6.641	1	.010	1.764	1.146	2.716
	5-9	-.071	.230	.096	1	.757	.931	.594	1.461
	≥10 (Ref.)	-	-	-	-	-	-	-	-
Religious difference	Present	.524	.148	12.550	1	.000	1.688	1.264	2.255
	Absent (Ref.)	-	-	-	-	-	-	-	-
Gender role attitude	negative	.464	.154	9.046	1	.003	1.591	1.176	2.153
	Positive (Ref.)	-	-	-	-	-	-	-	-
				9.795	3	.020			
Educational status of wife	Illiterates	-.738	.279	6.977	1	.008	.478	.277	.827
	Elementary	-.382	.246	2.406	1	.121	.682	.421	1.106
	High school	-.131	.264	.247	1	.619	.877	.523	1.471
	College/ university(Ref.)	-	-	-	-	-	-	-	-
Ethnic difference	absent	-.574	.168	11.737	1	.001	.563	.406	.782
	present	-	-	-	-	-	-	-	-
Sexual compatibility	Not compatible	.497	.181	7.576	1	.006	1.644	1.154	2.342
	Compatible (Ref.)	-	-	-	-	-	-	-	-
Infidelity with in spouse	present	1.391	.181	58.858	1	.000	4.018	2.817	5.733
	Absent (Ref.)	-	-	-	-	-	-	-	-
				10.240	2	.004			
Number of common children	0-3	.412	.461	.798	1	.372	1.509	.612	3.722
	4-7	-.192	.491	.152	1	.696	.826	.316	2.161
	≥8	-	-	-	-	-	-	-	-

The relative risk of marriage breakdown for Indivuals interred in their first marriage with the decision of their parent is 2.245 times higher than that of Indivuals interred in their first marriage by their own decision (Ref.). Looking for age gap between spouses, the hazard of spouses whose age gap was ≥10 is 1.764 times higher than that of spouses whose age gap was less or equal to four (Ref.). Meaning the chance of marriage breakdown for spouses with age gap ≥10 was 76.4% higher than that of age gaped less or equal to four (Ref.). In contrary to this spouses whose age gap was in the interval 5-9 have 6.9% lower risk than those whose age gap was less or equal to four (Ref.). This is because females are

so alert in their thinking than males, they can think equally with male whose age exceed by five year (some psychology books). Because of this it is not advisable to marry with equal and approximately equal age (from the experience). In other case the biological activity of females saturate before males. Because of these reasons there must be a balanced age gap between spouses.

The relative risk for spouses who are sexually not compatible is 1.644 times higher than that of the compatible one (Ref.). Infidelity is one of the most determinant factor for marriage breakdown, in which spouse who have infidelity in their marriage have 4.018 times higher risk than that of

spouses who were faithful to their partner. The relative risk for Indivuals, who have a negative attitude on gender issue (believe on inequality of male and female) is 1.591 times higher than Indivuals with positive attitude (Ref.). Finally the relative risk of spouses who have children <3 and 4-7 was 1.509 and 0.826 times that of spouses who have more than eight children (Ref.), respectively. This indicates that small number of children is simple to escape a bad home situation. In other case too high number of children faces lack of resource to share. Therefore balanced number of children is advisable for the marriage stay intact. The summarized result is presented in the following Table.

4. Conclusions

The main objective of this study was identifying factors for marriage breakdown at Debre Birhan town by using logistic regression. In addition to that time to marriage breakdown was analyzed through Cox proportional hazard model. From the result we have seen that being infertile, marry at age of 12-18 years, engaged in marriage with family decision, having consensual marriage, negative attitude of gender, negative family influence, sexual incompatibility, unfaithfulness, absence of discussion, highly educated wives and illiterate husbands are exposed to the risk of marriage break down. It is evident that spouses who are infertile, females engaged in marriage at age 12-18 years, marry with family decision, too low (<4 years) or too high (>10 years) age gap, having different religion, having negative attitude towards gender, highly educated wife, sexual incompatibility and unfaithfulness leads to the shorter survival time of first marriage.

Recommendations

Based on the result:
- Spouses should have a habit of discussion, spatially on sexual issue.
- Spouses should have trust on each other.
- Youth should insure that they have the potential to pursue marriage and its responsibility before coming to the institution.
- Too high (>10 years) and too law (<4 years) age gap between spouse is not recommended.
- Husbands should know and respect the right of his wife before she defends him.
- Spouses who have a role model marriage should share experience for unmarried Indivuals.
- As infertility is not a kind of factor that is due to failure

of a partner, spouses should tolerate each other to keep their marriage intact.
- Awareness creation and counseling service should have given about the effect of early marriage, the importance of legal-marriage, impact of religion difference of spouses and about gender equality.
- Since marriage is basic institution for a society, further studies might be necessary on different parts of the country so that the factors that affect marriage breakdown be well identified.

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