INFLUENCING FACTORS FOR ADOLESCENT MARRIAGEIN INDIA - STUDY BASED ON THIRD NATIONAL FAMILY HEALTH SURVEY

Madhavi Lalitha V V[1], Anjaneyulu J[2], Dr. Hima Bindu K[3]

ABSTRACT

The concept of adolescent marriage, childbearing and its adverse impact has been a bothering issue to the modern world. Albeit plethora of research is being carried out to uplift the situation of this social practice, it is still prevalent in many parts of the world. The reasons for the practice of adolescent marriage differ from countries and settings. The present study is also a trial to explore such reasons that lead to adolescent marriages in Southern Part of India. For this secondary data based study, data from third round of National Family Health Survey (NFHS-3) as well as District Level Health Survey (DLHS-2) is considered. After applying the possible inclusion and exclusion criteria, data is analysed using binary logistic regression technique. Advanced statistical package SPSS 20 is considered for this analysis and the data is tested at 5% level of significance. The results inferred that along with the girl's level of education, which is deemed as a vital factor for controlling adolescent marriages, the level of education of the boys is also important. Also, the need for educational facilities is highlighted by the analysis. In addition to education, the low-income levels and the ethnic group of the family are found to be causal factors. Thus, conclusions are made by basing on the analysis and necessary policy implications are suggested for betterment of the situations.

Keywords: National Family Health Survey (NFHS), Demographic Health Survey (DHS), Early Marriage, Adolescence

I. INTRODUCTION

The adolescent population in the world is over a billion i.e., around one fifth of the total population (Bajracharya and Amin, 2012; Glasier et al., 2006; Singh, 2000). So, this group can be viewed as a vital possible human resource that can contribute to the development of a nation. According to Census 2011, the adolescent population (10-19 years) in India is 19 percent; almost an equal proportion of adolescents in reported in Andhra Pradesh in 2011. The generation entering the adolescent years is now the largest generation in human society. In addition, adolescence is perceived as a period of change from puberty to adulthood, which is vulnerable and sensitive (Bingenheimer and Stoebenau 2016; Erulkar, 2013).

During this transition period, the adolescents undergo physical, social and health changes. In addition, global and societal changes have an impact on the behavior of adolescents, which are likely to have an affect their health status. Adolescence is, thus, a period of tremendous opportunity as well as risk characterized by physical, psychological and social change (Patra, 2016; Glasier et al., 2006, Nanda, 2000). Hence, they require special attention with respect to their social and health needs. For the same reason social scientists, perceive a need for

special focus of research on adolescents.The International Conference on Population and Development (ICPD), 1994 held at Cairo, emphasized the need to pay attention towards adolescents' health, education and social needs with a belief that if the adolescents are allowed to grow without any social obligations and with required care, a nation would be strengthened with quality of life. Among the social constructs, adolescent marriage is more bothering issue. Because, the traditional marriage system in India has been strongly supporting early marriages, that too marriage for girls before puberty or immediately after puberty (Santhya, 2011;Goyal, 1988). Even today, it is a norm for girls in many countries despite laws prohibiting it. According to the prevailing laws, the minimum age at marriage for girls is 14 years. Many amendments are done to raise the legal age at marriage as 18 by keeping the level of social and reproductive development of the girls in view (Erulkar, 2013). This is because, there is a strong relationship between the age at marriage and reproductive health of the girl (Jejeebhoy et al., 2013; Bajracharya and Amin, 2012). That is, the problems related to reproductive health are high among adolescent mothers compared to that of the non-adolescent mothers.

Thus, the relation between the adolescent marriages and their impact on the reproductive health of the girl is worth exploring due to its life bearing consequences. Hence, the present study intends to study the factors that are influencing adolescent marriages the girl. For this study, data from the vast data sets NFHS (National Family Health Survey) – 3, conducted from 2005-2006 in India is considered. Because of the study limitations, the study confines to the data pertaining to South Indian states of India. The research work proceeds by reviewing the relevant literature related to adolescence, adolescent marriages and the adverse consequences on the reproductive health of the girl. The analysis of the data as well as the conclusions would be given in the subsequent sections.

II. REVIEW OF LITERATURE

Adolescence itself is a cultural construct that varies across settings and contexts. As the culture of adolescence constructed in some societies becomes more visible through its norms of conduct, dress code and language, it is easy to assume its universality and to infer its existence in every culture (Curtis, 2015; Anyanwu et al., 2013).

Recognition of Adolescence:

Though, identification of the concept of adolescence dates back to 15th century, considerable work to highlight the significance of adolescence by framing the definitions in various contexts is done by many scholars like Murray et al. (1989) and Hall's (1904). However, the definition of WHO is followed by contemporary scholars.

The *WHO defines adolescence* as

- Progression from appearance of secondary sex characteristics (puberty) to sexual and reproductive maturity;
- Development of adult mental processes and adult identity; and
- Transition from total socio-economic dependence to relativeindependence(WHO, 1985).

Though there is difference in the age of menarche from boys to girls, there is no such universally accepted age for both the groups. It is observed by scholars that in many countries both boys and girls are entering puberty at an early stages compared to olden days. The World Health Organization (WHO) mentions "adolescents" as individuals between 10 and 19 years, "youth" between 15 and 24 years, and "young people" between 10 and 24

years (WHO, 2015).The changes in age at menarche have profound consequences on reproductive and sexual health of adolescents.

In addition, The International Conference on Population and Development (ICPD), 1994 held at Cairo, recommended governments to pay attention towards the needs of the mammoth group of adolescents.In 1995, the World Bank submitted a report towards 'reproductive and child health approach' to Government of India. Subsequent to the Plan of Action of ICPD, the Government of India redesigned its family welfare programme in 1997,where in health of the adolescentsis given more importance. (World Bank reports, 2006). This has become a milestone for translating the ICPD agenda pertaining to health needs in India(Jejeebhoy et al., 2013; Neinstein, 2009). Thus, health needs are much vital for adolescents as the global societal changes are putting the health of the adolescents in to high risk. Therefore, in view of these situations reproductive health is undoubtedly a high priority area among all the risks that are threatening the adolescents and needs special attention (Bingenheimer and Stoebenau, 2016; Clark and Mathur, 2012).

Reproductive Health needs of Adolescents:

*"**Reproductive Health** is defined by WHO as a state of physical, mental, and social well-being in all matters relating to the reproductive system at all stages of life. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when, and how often to do so".*

However, in contrast to the definition, the prevailing conditions and situation of women and adolescents in developing countries are very poor (Bajracharya and Amin, 2012; Glasier et al., 2006). In many Asian countries, adolescent girls are suffering more from reproductive health problems than boys because adolescent girl's marriage is in practice. As a result, the early pregnancies are showing adverse impact on the reproductive health of the girl (Curtis, 2015). Early marriage not only has significant ramifications on the country's population, but also responsible for female ill -health in the country as well as maternal and child mortality (Neinstein, 2009). Though the period of adolescence is smaller compared to the whole life cycle, it is deemed as important and requires special attention, as the reproductive organs would be in formative stage and are not developed completely to rear foetus (Mandarino, 2014; Pathak and Ram, 1993).

Institution of Early Marriage in India and Theories

As per United Nations Organization demographic report (2004), marriage is "an act, ceremony or process by which the legal relationship of husband and wife is constituted. The legality of the union may be established by civil, religious or other means as recognized by the laws of each country". Marriage is a traditional and religious ceremony in Indian scenario. Nuptiality has a strong impact on reproductive health of the woman. The traditional marriage system in India, has been strongly supporting early marriages, that too marriage for girls before puberty or immediately after puberty (Maertens, 2013; Goyal, 1988). The biological difference between men and women in production and care of children and the specialized investments in markets and household skills that reinforce the biological differences, explain why the institution of marriages has been important in all societies (Lakshmanswamy, 2001).

Marriage being a societal practice, is described using many theories by researchers. The 'Beckerian theory of marriage' (Becker, 1992) argues that there are income gains to marriage and the marriage market is generally positively assertive and that there are positive returns to human capital investments. The 'Search theory' also argues that there are positive pay-offs to search in marriage market in the form of better marital Husband

(Grossbard, 2015; Lee-Rife et al., 2012). Both theories imply that, the time of female 'age at marriage' delays due to investments in human capital and search. The empirical results show that education of both males and females delay age at marriage of girls. Similarly, the search for better match also increases age at marriage, while the costs of marriage reduces age at marriage. Thus, many personal, economic, social, cultural, demographic and psychological characteristics of individual as well as societies influence age at marriage (Lakshmanswamy, 2001; Silva and Schensul, 2000).

Trends of Age at Marriage:

The age at marriage varies between the states i.e., from northern and southern states; with in a state, among castes, communities and across other social stratifications. The estimates of 'mean age at marriage' from 1901 to 2011 for a period of 110 years envisage that the 'mean age at marriage' increased by 7.7 years from 13.1 to 20.8. Legislation played a limited role in increasing the age at marriage of girls in India (Patra, 2016; Bhagat, 2016). The situation remained same from NFHS-1 to NFHS-2. But, during last 15 years, there has been 33 percent decline in the adolescent fertility. According to the latest data (NFHS-3), the 'median age at first marriage' of females in rural areas is 16.4 and urban is 18.8 years in India. The Mean age at marriage of girls in India is 17.2 years (NFHS-3).
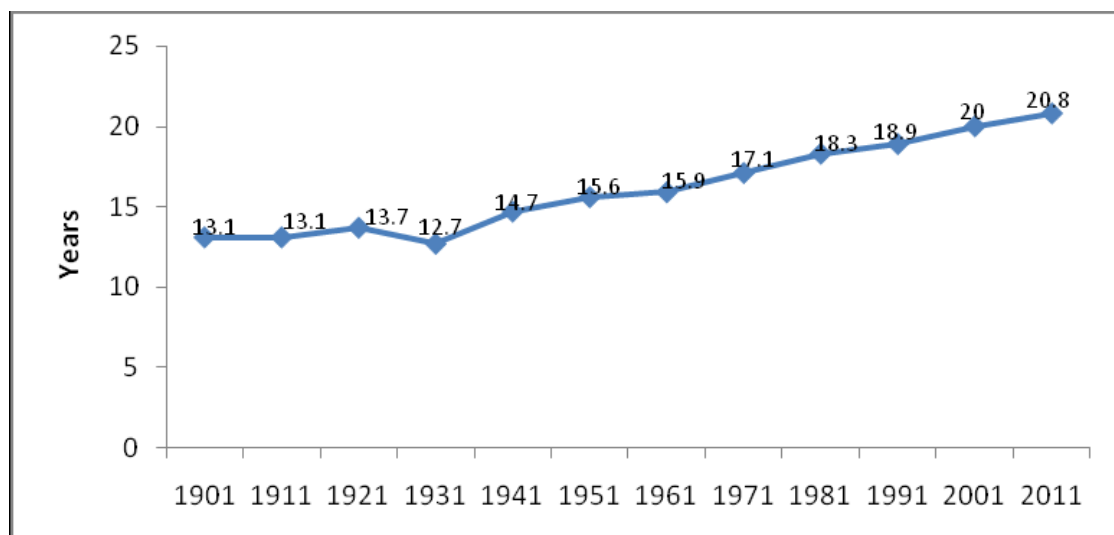

Fig :1 - Singulate Mean Age at Marriage in India 1901 to 2011

Source: IIPS Working Paper - 2016

The trend of age at marriage from 1901 to 2011 is given in the above figure-1. It can be observed from the figure that there is increase in the trend. But, it can't be deemed as a considerable change, when compared with the developmental initiatives that have been taking place in the country over the decades. Another recent study of Population Council of India, done by Jejeebhoy and Sebastian (2003) states that, the proportion of 'ever married' women in adolescence decreased only by 8 percent in 5-year duration. The percentage of women having current age 25-29 and 20-24, married by 13, 15 and 18 are listed in the following table-1:

Table - 1: Age at First Marriage of women and Men by State, India, 2005-06						
State	% Women married by 18 years			% Men married by 21 years		
	Urban	Rural	Total	Urban	Rural	Total
India	**29.7**	**53.4**	**45.6**	**14.6**	**33.9**	**26.6**
Delhi	22.6	34.7	23.4	14	33.3	15.3
Haryana	32.9	45.2	41.4	20.8	31.9	27.7
Himachal Pradesh	13.7	14.4	14.4	6.5	10.6	10.1
Jammu & Kashmir	9.2	18.6	16.1	9.8	16.3	14.4
Punjab	19.4	22.9	21.6	26.7	24	25.3
Rajasthan	**36.3**	**67.4**	**58.4**	**27.8**	**59.4**	**49.2**
Madhya Pradesh	**33.7**	**60.4**	**52.6**	**18.8**	**50.8**	**40.7**
Uttar Pradesh	**31.8**	**59.4**	**52.2**	**22.2**	**49.4**	**40.5**
Bihar	**37.8**	**68.6**	**63.7**	**18.7**	**42.3**	**36.9**
Orissa	27.8	39.5	37.5	9.5	19.7	17.7
West Bengal	31.3	62.3	53.3	11.9	30.8	24.7
Arunachal Pradesh	38.7	43	41.7	33.3	23.3	26.7
Assam	25.7	40.9	38.2	9.2	14.5	13.2
Manipur	10.9	15.5	14	7.8	13.9	11.7
Meghalaya	13.3	28.2	24.1	7.5	26.1	21.5
Mizoram	15.6	24.4	19.4	20.8	26	23.2
Nagaland	19.4	23.7	22.4	10	18.6	15.8
Sikkim	17.1	31.9	28.7	12	26.4	23
Tripura	37	42.1	41.2	7.9	12.7	12.1
Goa	14.7	7.3	11.4	5.8	4.4	5.2
Gujarat	28.2	40.9	35.4	17.5	33.5	26.8
Maharashtra	29.2	51.8	40.2	9.6	16.7	12.8
Andhra Pradesh	**43.4**	**62.9**	**56.2**	**16.5**	**36.2**	**28.9**
Karnataka	29.7	48.8	41	7.3	15.9	12.1
Kerala	12.1	20.1	17.2	1.1	2.4	2
Tamil Nadu	20.7	29.5	25.2	5.8	10.2	7.8

Source : NFHS-3, India

The percentage of women and men in India and its states, who have married below the legal age at marriage, is presented in the above table by basing on NFHS-3 data. Despite various legal and social efforts to increase the marriage age, this data reveals a depressing situation. Still in 21st century, nearly half of the girls and one quarter of boys are still marrying before the stipulated legal age at marriage in India (Jejeebhoy et al., 2013; Santhya et. al., 2010). It is also mentioned by recent works that, in spite the legal sanctions, men but more women continue to marry early, mostly below the legal age at marriage (Erulkar, 2013). In the case of boys marrying before legal

age at marriage, highest percentage of boys marrying in rural areas is reported in Rajasthan (59.4), and Arunachal Pradesh (33.3) reported highest for urban boys. The scenario in Andhra Pradesh, boys marrying before legal age at marriage,though slightly better than BIMARU states in both rural and urban areas, the situation is depressing when compared with national scenario.

Socio-economic and developmental factors associated with age at marriage:

Impact of Socio-economic variables:

Studies have shown that, socio-economic factors have impact on age at marriage. Lower the economic status of the family, higher the chances for the parents to marry of their daughter as early as possible, because they think that having an unmarried girl is burden to family(Padma, 2005; Pachauri, 2003). Several studies in India show that, women belonging to the scheduled castes who are illiterate and have no working experience before marriage, get married much earlier than others (Bhat, 2002; Audinarayana and Thenmozhi, 1992). In addition, low parental and maternal education has an impact on low age at marriage of girls (Santhya andJejeebhoy, 2003; Mensch and Lloyd, 1998). Various studies have reiterated a positive correlation between higher levels of education and improved maternal health care in terms of nutritional care during pregnancy and personal hygiene. Negative correlation is observed between the level of educational attainment and 'infant and child mortality rate' (Das, IIPS). Practice of consanguineous marriage is one of the reasons for lower age at marriage in South India.

According to the United Nations Secretary General, Kofi Annan, at a Global Health Campaign, March-2005, "the world has no chance of achieving many of the ambitious health, social and development targets it has set for itself without achieving gender equality for girls in education". So, education *per se* is perceived as an important factor to control age at marriage.

Impact of Developmental Variables:

The World Bank (2006) reiterated that better the development of a region,the opportunities for women would increase, there by improves her status. In addition, if a woman's employability increases particularly in rural setting, it would have an influence on her ability to decide (Grossbard, 2015). Acknowledging the change in information revolution and better management of information exchange, the information technology can uplift the situations by providing transportation provision to remote or poorly connected areas and regions, which in turn escalates the level of awareness among the people. This can increase the aspirations for better standard of living of the weaker sections like girls, which can postpone the age at marriage (Grieco, 2002).

Impact of Media related Variables:

It is also understood that the level of media exposure increases the outlook of the people and enhances their knowledge regarding the developments that are going around the world(Bhat, 2002; Bott and Jejeebhoy, 2000). Since the inception of the media, the awareness of the people about the health related issues has increased very much, globally. Studies also showed that the publicity about the government plans and programmes, educational campaigns by NGO's are creating awareness in people (Santhya et al., 2010; Dasand Dey, 1998). Various Demographic and Health surveys brought out a clear association between exposure to media by woman and delayed age at marriage and improved access to health care (Mandarino, 2104; Masaki and Bina, 2000).

Impact of Geographic Variables:

The geographical location like place of residence also influences the age at marriage, i.e., the urban-rural differences are showing an impact on age at marriage (Clark and Mathur, 2012). In addition, the place where the girl

is reared has strong impact on the brought up of the girl and it hence it also has bearing on the age at marriage of the girl. The geographic situation where a girl is placed, i.e. whether a girl belongs to a rural or urban area, influences age at marriage (Alexander and Garda, 2009). The District Level Household Survey (DLHS) conducted by IIPS brought out that the age at marriage of adolescent girls and age at child bearing varies with place of residence of girls both before and after marriage (Goli et al., 2015; Barbara and Cynthia, 1998). The following graph (figure – 2), plotted using NFHS-3 data depicts the urban rural difference in the percentage of married women by age 18 years. It is clear from the graph that considerable amount of variation exists between the percentage of women married by age 18 years among urban and rural areas in each state.
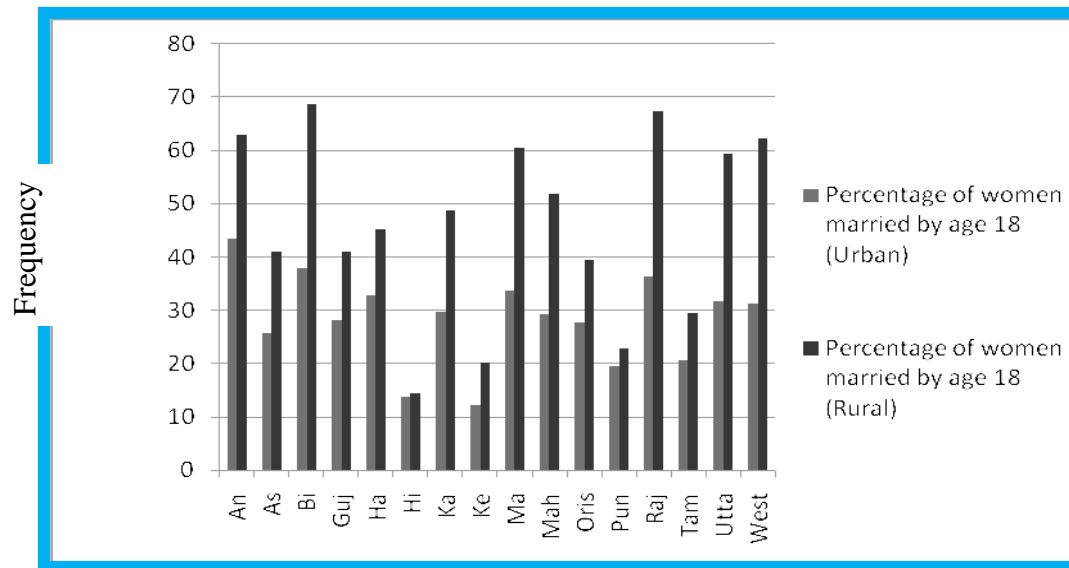

Fig: 2 - Urban- Rural differences in percentage of women married by age 18 years, NFHS-3

The Mean age at marriage of girls in India is 17.2 years and there are wide disparities between the states. This variation is more observed between the states of South and North India. Further, it is interesting to note that despite the similarities with respect to the socio-economic conditions and standard of living among the South Indian states, Andhra Pradesh has lowest age at marriage and Kerala has the highest age at marriage. More than half of the women in Andhra Pradesh (54 percent) marry before legal age at marriage; on the other hand, in Kerala all the women marry much later than the stipulated legal age at marriage. The following table- 2 provides the variation in 'mean age at marriage' and 'percentage of women married by 18 years' among four Southern states and the extremities in the data between Andhra Pradesh and Kerala.

Table- 2:Mean AAM and percentage of women married by 18 years for Southern States		
States	**Mean age at Marriage (RCH –II data)**	**Percentage of women married by 18 years (NFHS-3)**
Andhra Pradesh	18.4	56.2
Karnataka	19.4	41.0
Tamil Nadu	20.8	25.2
Kerala	22.2	17.2

This in turn suggests that in spite of Andhra Pradesh being one of the southern states, the age at marriage in the state is comparable to BIMARU states. Given the disparities in 'age at marriage' and similarities in the social settings within the states of South India, the present research attempts to understand the determining factors that favor adolescent marriages in South India. Having an understanding about the inter-relationship between marriage age and associated factors, this section attempts to statistically verify the impact of various socio-cultural, economic, demographic, developmental and other variables on 'age at marriage' of girls.

III. METHODOLOGY

The present research work aims to study various factors influencing adolescent marriage and its impact on reproductive health of girls. To study adolescent marriage, 'age at marriage' is considered as a proxy variable. Many studies reveal that age at marriage of girls in a society is determined by certain direct and interwoven factors. For better understanding, the present study classifies the explanatory variables - social, demographic, economic, geographic and developmental into sub-categories. The causal relationships among explanatory and explained variables is presented in following framework (fig: 3).

Frame work:

As discussed previously, the causal relationships among social, economic, demographic, geographic, developmental variables affecting 'Adolescent Marriage' are described in the following framework.
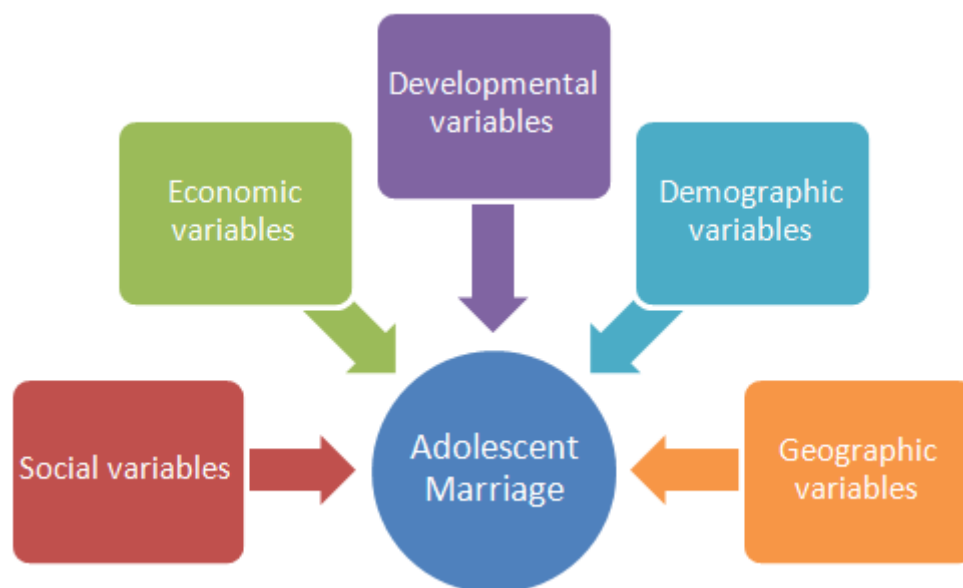

Fig: 3 – Linkages among the explanatory and explained variables of study

Data sets used for the Study:

The data considered for the study is secondary in nature taken from DHS (Demographic Health Survey) - All India National Family Health Survey-III and Census (2001). The National Family Health Survey is conducted at four points of time (1992-93, 1997-98, 2005-06 and 2015-16) covering all states in India; has not only the demographic data but also information on family health characteristics, which are not available till then in India. However, as NFHS-4 data is not yet released officially, the study confined to NFHS-3 data.

NFHS-3 provides information of 1, 24,385 women who have delivered during the last five years prior to the survey. But, the present analysis is limited to two years reference period prior to the survey and for the data per-

taining to South Indian States. Though NFHS data gives plethora of information pertaining to socio-demographic constraints, selective variables are considered. Some variables are directly taken from NFHS-3 data set and other are constructed depending on requirement. In addition to the NFHS data set, data is taken from DLHS-2 (District Level Health Survey – 2) also. The details of the variables and their construction are discussed below.

The dependent variables considered in the analysis are categorical and binary in nature, Binary logistic regression analysis is exercised to test the relationship between the estimator and the estimated variables. The analysis is done using SPSS 20 package and the results are tested at 5% level of significance.

Method of Analysis:

The statistical techniques used for the analysis are multiple regression for part- I and binary logistic regression for part-II.

Multiple Linear Regression Equation:

The general model of the multiple regression having qualitative and/or quantitative independent variables is given by

$$Y_j = \beta_0 + \beta_1 X_{1j} + \beta_2 X_{2j} + \beta_3 X_{3j} + \ldots\ldots + \beta_K X_{Kj} + e_j$$

Where β_i are called the regression coefficients,

$X_{1j}, X_{2j},\ldots,X_{kj}$ are respectively the values of the independent variables.

Logistic Regression equation:

The general model of logistic regression or logit regression, which is used when the dependent variable is binary or dummy, is given by

$$\text{Ln}\left(\frac{Pi}{1-Pi}\right) = \beta_0 + \beta_1 X_{1j} + \beta_2 X_{2j} + \beta_3 X_{3j} + \ldots\ldots + \beta_K X_{Kj} + u_j$$

Where the ratio $\left(\frac{Pi}{1-Pi}\right)$ is known as the odds ratio and the natural log of this odds ratio is called the Logit and hence the model is Logit model.

β_i'sare called the regression coefficients, $X_{1j}, X_{2j},\ldots,X_{kj}$ are respectively the values of the qualitative and/or quantitative independent variables.

Construction of Variables

The description and construction of the variables used for the analysis to know the impact of various factors on the age at marriage of the girl is listed below:

Social Variables:

The social variables used in the analysis are education, religion and ethnicity.

A. Education:

To know the impact of education,the variables considered in the present study are **Female literacy rate,Male literacy rate** and **Education facility index**. The data needed for theses variables are taken from the DLHS-2.

1. **Female literacy rate:** The percentage of the adult female population who can read, write and understand.
2. **Male literacy rate:** The percentage of the adult male population who can read,write and understand.
3. **Education facility Index:** The education facility index is constructed by considering the total number of primary schools, middle schools, secondary /senior secondary schools and colleges in a particular district divided by the total number of villages.

B. Religion:

4. **% of Muslim pop:** The percentage of Muslim population among the total population of India.

C. Ethnicity:

5. **% of SC's:** The percentage of population belonging to 'Scheduled castes' among the total population of India.

6. **% of ST's:** The percentage of population belonging to 'Scheduled Tribes' among the total population of India.

Economic Variable:

The economic variable used in the study is poverty index.

7. **Poverty Index** is computed by using the Head Count Ratio method from the NSS data.

Developmental Variable:

To know the impact of the developmental variable on 'age at marriage' development index is constructed.

8. Developmental Index is constructed by using the district level data related to the number of villages having various amenities and infrastructural facilities (excluding education facilities). This data is taken from the fact sheets of DLHS.The variables considered are Drinking water facilities, Electricity (Power Supply), Medical facilities, Bus services, Paved approach road, Post, Telegraph and Telephone. The index is built by considering the total of these values divided by the number of villages in that district.

Demographic variables:

The demographic variables considered for study are sex ratio and percentage of boys married below 21 years.

9. **Sex Ratio:** Sex Ratio is the proportion of females over thousand males. For the present study district level sex ratio is taken from DLHS.

10. **% of Boys married below 21 years:** The legal age of marriage for boys being 21 years in India, percentage of boys married below 21 years in a district is considered.

Geographic Variable:

The variable considered under this category is percentage of urban population in a district.

11. **% of Urban Population:** It is the percentage of people living in defined urban areas in a district.

Factors Affecting Age at Marriage of Girls in South India:

As specified earlier, the impact of explanatory variables onage at which the girls marryin Southern India is analysed with the help of regression model. The mean value of age at marriage is taken as the explained variable. The results of multiple regression analysis are tabulated below:

Table-3: Factors Affecting Age at Marriage		
Variable	Mean age at Marriage	
	B	sig
(Constant)	1.896	
Andhra Pradesh	0.008	
Tamil Nadu	0.036	
Karnataka	-0.003	
% of boys married below 21	-0.047	*
Sex ratio	0.082	
% of urban pop	-0.005	
Female lit rate	0.008	
Male literacy	0.189	*
% of Muslim pop	0.003	
% of SC's	-0.006	
% of ST's	-0.008	**
Education facility index	0.001	*
Poverty index(HCR)	-0.016	**
Development index (excluding education)	-0.097	
	$R^2 = 0.683$	

* Significance at 5%; ** Significance at 10%

The R^2 value obtained for the regression analysis is 0.683, which means that all the independent variables together are able to explain 68.3 percent variation in the dependent variable. In other words, higher the availability of educational facilities at district level, higher the levels of male literacy, more the number of boys marry after the legal age at marriage, lower the levels of poverty in a district and lower the percentage of Tribal population significantly increases the age at marriage of girls.

There is a significant association between 'percent of boys married below 21 years' (-.047) and 'Mean age at Marriage' of girls. Also, 'male literacy' showed a positive significant association (0.189)with the dependent variable. This suggests thatliterate men prefer to marry late thereby curtailing adolescent marriages of girls. In contrary to the wide understanding that female education can alone delay marriageable age, it is proved that even a slightest increase in literacy levels of men as well as delayed marriages among men can bring a significant impact in postponement of adolescent marriage of girls.

The availability of educational facilities in an area, 'education facility index', haspositiveassociation (0.001) with age at marriage of girls. More the number of schoolsand colleges at district level, higher the chance of men and women utilize the facilities. This in turn is likely to bring an attitudinal change among the youth towards delayed marriages. The regression model showed poverty index has a negative association (-0.016) with 'mean age at marriage'. Though marriage of a girl in a family or society is largely a social construction, often it is associated with transaction of finances between the families. Hence, under such circumstances, the poorer the family, more would be the attitude of the parents to settle a daughter in marriage. The statistical analysis reflects the

phenomenon particularly among the people living below the poverty line.The percentage of scheduled tribe population in an area/districthas a negative association (-0.008) with the age at marriage of girls. This may suggest that, the practice of early marriage is more prevailing practice among tribal communities.

Thus, these inferences made from the analysis help to formulate necessary programmes in order to prevent early marriages and thereby suggesting measures to protect the health of the girl. So, relevant conclusions are made in those lines and the policy implications are suggested to chalk out the programmatic interventions.

IV. CONCLUSIONS AND POLICY IMPLICATIONS

Age at marriage of girls has been increasing over the years in India, yet on the contrary, nearly 46 percent of the girls are still marrying before attaining the legal age at marriage. This in turn suggests that more than half of the females are getting married during adolescence period. Further, there are wide disparities between the states, particularly between the states of South and North India. Kerala has the highest age at marriage for girls (22.2 years) in India. On the contrary, despite the similarities with respect to the socio-economic conditions and standard of living among the South Indian states, Andhra Pradesh has lowest age at marriage (18.4 years). This in turn suggests that in spite of Andhra Pradesh being one of the southern states, the age at marriage in the state is comparable to BIMARU states. Given the disparities in 'age at marriage' and similarities in the social settings within the states of South India, the present research attempts to understand the determining factors that favor adolescent marriages in South India.

On the other hand, in Indian context reproduction is linked with marriage, since largely childbirth takes place within the union of marriage. The vulnerability caused by their young age, their ignorance on adequate knowledge related to sexuality and reproductive health is higher. The stakes are particularly high for adolescent girls who are at risk of getting pregnancy at an early age through complications during pregnancy, delivery and after childbirth. To know such effect, the analysis tests the impact of social, economic, demographic and developmentalvariables onadolescent marriage, which is thelikelihood of girls marrying at an early age. As a result, an interesting association between husband characteristics and age at marriage of wives. Also, a significant negative association between boys marrying before attaining legal age at marriage, i.e. 21 years and the mean age at marriage of girls is observed.

Another interesting finding of the study is that boys' level of education has a positive significant association in increasing age at marriage of girls in South Indian context.This suggests that educated men prefer to marry late thereby curtailing adolescent marriages of girls. In contrary to the wide understanding that female education can delay marriageable age, in the South Indian context where the overall mean age at marriage is 20.2 years, rather than the girl's level of education, even a slightest increase in educational levels of men can bring a significant impact in postponement of adolescent marriage girls.The availability of educational facilities in an area has showed a positive association with age at marriage of girls. In other words, higher the number of schools and colleges available in a district, higher will be the chance of men and women to utilize the facilities. This in turn is likely to bring an attitudinal change among the youth towards delayed marriages. Yet, the composition of ethnic population in a district largely determines social behavior as against the modern developmental facilities. Higher the proportion of tribal population in a district lower is the age at marriage of girls.

In accordance with widely established research, poverty interferes with social process. The study clearly came out with significant negative association between the level of poverty index of the district and the age at marriage of the girls. It is observed that,if a woman is residing in the rural area and having no media exposure has a negativeinfluence on the care-seeking attitude duringpregnancy.This in turn suggests an interface between the availability and accessibility of health services in the villages.Similarly higher is the parity of women, lower is the probability of women to seek care during pregnancy. Often women tend to consider an experience gained with a pregnancy process makes them more knowledgeable in assessing a needs of health care as against the physiological need for the care; hence a tendency to neglect during pregnancy in terms of health seeking behavior.This in turn suggests the lackadaisical attitude of women towards health care seeking behavior towards their reproductive health.

Hence, the analysis suggests that even though adolescent girls are likely to take the stipulated antenatal care and go for institutional deliveries, the physiology of the girls is still in a growing stage. Hence, the clinical complications associated with not fully developed body are very much evident and suggest the respective department people and related organizations to take pertinent actions in order to discourage the adolescent marriages. In addition, programmatic interventions to educate all the sections of people in this regards is the need of the hour.

REFERENCES

[1.] Acharya, S. S. (2005), 'Socio-economic Determinants of infant and child mortality in India: Illustrations from NFHS', *Journal of Health and Development*, Vol. 1 No. 1.

[2.] Alexander, M. and Garda, L. (2009), 'Marriage Related Decision Making among Young People: What Influences Their Involvement and Why should Young People be Involved- Evidence from Community Based Survey in Rural and Urban', *XXVI IUSSP International Population Conference*, Palais des Congrès in Marrakech, Morocco.

[3.] Anyanwu, J. I., Ezegbe, B.N. and Eskay, M. (2013), 'Family Planning in Nigeria: a Myth or Reality?', *Implications for Education Journal of Education and Practice*, Vol. 4 No. 15, pp. 108-113.

[4.] Audinarayana, N. and Thenmozhi, N, (1992). 'Raising Age at Marriage of Girls In India: Future Policy Interventions', *Indian Journal of Public Administration*, Vol. 38 No. 3, pp. 341-353.

[5.] Bajracharya, A. and Amin, S. (2012), 'Poverty, Marriage Timing, and Transitions to Adulthood in Nepal', *Studies in Family Planning*, Vol. 43 No. 2, pp. 79-92.

[6.] Barbara, S. M. and Cynthia, B. L, (1998), 'Factors influencing Adolescent Marriages', *A Report of Population studies Research Institute*, University of Nairobi.

[7.] Becker, G. S. (1992), 'A Treatise on the Family. Cambridge', Harvard University Press, 2nd edition.

[8.] Bhagat, R. B. (2016), 'The Practice of Early Marriages among Females in India: Persistence and Change', *IIPS Working Paper No. 10*.

[9.] Bhagat, R.B. (2002), '*Early marriage in India – A social geographical study*", Rajat Publications, New Delhi.

[10.] Bhat, P. N. M. (2002), 'Maternal Mortality in India: An Update', *Studies in Family Planning*, Vol. 33 No. 3, pp. 227-236.

[11.] Bingenheimer, J. B. and Stoebenau, K. (2016), 'The Relationship Context of Adolescent Fertility In South-eastern Ghana', *International Perspectives on Sexual and Reproductive Health*, Vol. 42, No. 1, pp. 1-12.

[12.] Bott, S. and Jejeebhoy, S. J. (2000), 'Adolescent sexual and reproductive health in South Asia', an overview of findings from the 2000 Mumbai conference.

[13.] Clark, S. and Mathur, R. (2012), 'Dating, sex, and schooling in urban Kenya', *Studies in Family Planning*, Vol. 43 No. 3, No. 161–174.

[14.] Curtis, A. C. (2015), 'Defining Adolescence', *Journal of Adolescent and Family Health*, Vol. 7 No. 2, Article 2, pp. 1-40.

[15.] Das, A., '*Factors Influencing Safe Motherhood and Antenatal Care: A Comparative Analysis between Uttar Pradesh and Karnataka*', www.iipsindia.org. [unpublished]

[16.] Das, N. P. and Dey, D. (1998), 'Female Age at Marriage in India: Trends and Determinants', *Demography India*, Vol. 27 No. 1, pp. 101-107.

[17.] Erulkar, A. (2013), 'Early Marriage, Marital Relations and Intimate Partner Violence in Ethiopia', *International Perspectives on Sexual and Reproductive Health*, Vol. 39, No. 1, pp. 6-13.

[18.] Glasier, A., Gülmezoglu, M., Schmid, G. P., Moreno, C. G and Look, P. F. A. V. (2006), 'Sexual and reproductive health: a matter of life and death', *The Lancet Sexual and Reproductive Health Series*, Vol. 368 No. 9547, pp. 1595-1607.

[19.] Goli, S., Rammohan, A. and Singh, D. (2015), 'The Effect of Early Marriages and Early Childbearing on Women's Nutritional Status in India', Matern Child Health J, Vol. 19, pp. 1864–1880.

[20.] Goyal, R.P. (1988), '*Age at Marriage in India*', Sage Publications, New Delhi.

[21.] Grieco, M. (2002), '*Gender, Social inclusion and rural infrastructure services: Final report*', 14 December, Report prepared for World Bank.

[22.] Grossbard, S. (2015), 'The Economics of Marriage, a volume in The International Library of Critical Writings in Economics', Edward Elgar Publishing.

[23.] Hall, G. S. (1904), 'Adolescence: Its psychology and its relations to physiology, anthropology, sociology, sex, crime, religion and education', New York: Appleton and Company.

[24.] Human Development Report of Andhra Pradesh. 2007.

[25.] Jejeebhoy, S. J and Sebastian, M. P. (2003), 'Actions that Protect: Promoting sexual and reproductive health and choice among young people in India', *Regional Working Papers No. 18*, Population Council.

[26.] Jejeebhoy, S. J., Zavier, A. J. F. and Santhya, K. G. (2013), 'Meeting the commitments of the ICPD Programme of Action to young people', *Reproductive Health Matters*, Vol. 21 No. 41, pp. 18-30.

[27.] Lakshmanswamy, T. (2001), 'Education, search, matching and Age at marriage of females', *Asian-African Journal of economics and econometrics*, Vol. 1, pp. 63-77.

[28.] Lee-Rife, S., Malhotra, A., Warner, A. and Glinski, A. M. (2012), 'What Works to Prevent Child Marriage: A Review of the Evidence', *Studies in Family Planning*, Vol. 43 No. 4, pp. 287-303.

[29.] Maertens, A. (2013), 'Social Norms and Aspirations: Age of Marriage and Education in rural India', *World Development*, Vol. 47, pp. 1–15.

[30.] Mandarino, K. (2104), 'Transitional-age youths: Barriers to accessing adult mental health services and the changing definition of adolescence', *Journal of Human Behavior in the Social Environment*, Vol. 24, No. 4, pp. 462-474.

[31.] Masaki, M. and Bina, G. (2000), 'Women's status, Household structure and the utilization of maternal health services in Nepal', *The Journal of Reproductive Health*, Vol. 6 No. 11.

[32.] Mensch, B. S. and Lloyd, C. B. (1998), 'Gender differences in the schooling experiences of Adolescents in low-income countries: The case of Kenya', *The Journal of Family Welfare*, Vol. 29 No. 2, pp. 167-175.

[33.] Murray, J., Bradley, H., Craigie, W. A. and Onions, C. T. (1989), *Oxford English dictionary*, Oxford: Oxford University Press.

[34.] Nanda, A. R. (2000), '*Addressing the reproductive health needs of adolescents in India: Directions for programmes*', www.who.int.

[35.] Neinstein, L. (2009), '*Handbook of adolescent healthcare*', Philadelphia, PA: Lipppincott, Williams & Wilkins.

[36.] NFHS-1, IIPS and ORC Macro (2005 - 06).

[37.] NFHS-2, IIPS and ORC Macro (1998 – 99).

[38.] NFHS-3, IIPS and ORC Macro (2005 - 06).

[39.] Pachauri, S. (2003), 'Preventing maternal mortality: Right to Safe Pregnancy', *The National Medical Journal of India*, Vol, 16, No. 2.

[40.] Padma, G. R. (2005), "*Perceptions on safe motherhood – An Analysis of results from Rural A.P.*", Economic and Political Weekly, Jan-29, Vol: 5.

[41.] Pathak, K.B and Ram, F. (1993), 'Low Age at Marriage in India', *Journal of Social Work*, Vol: XL No. 4, pp. 407-416.

[42.] Patra, S. (2016), 'Motherhood in childhood: addressing reproductive health hazards among adolescent married women in India', *Reproductive Health*, Vol. 13 No. 52, pp. 2-9.

[43.] Qazi, Y.S. (2000), '*Adolescent reproductive health in Pakistan*', www.who.int.

[44.] Ram, F., Ram, U. and Singh, A. (2006), 'Maternal mortality: is Indian program prepared to meet the challenges?', *Journal of Health and Development*, Vol. 2 No. 1&2, pp. 67–80.

[45.] Santhya, K. G. (2011), 'Early marriage and sexual and reproductive health vulnerabilities of young women: A synthesis of recent evidence from developing countries,' *Current Opinion in Obstetrics and Gynecology*, Vol. 23 No. 5, pp. 334-339.

[46.] Santhya, K. G. and Jejeebhoy, J. S. (2003), 'Sexual and reproductive health needs of married adolescent girls', *Economic and Political Weekly*, Vol. 38 No. 41, pp. 4370–4377.

[47.] Santhya, K.G., Ram, U., Acharya, R., Jejeebhoy, S. J., Ram, F. and Singh, A. (2010), 'Associations between Early Marriage and Young Women's Marital and Reproductive Health Outcomes: Evidence from India', *International Perspectives on Sexual and Reproductive Health*, Vol. 36 No. 3, pp. 132–139.

[48.] Silva, K. T. and Schensul, S. (2000), 'Differences in male and female attitudes towards premarital sex in a sample of Sri Lankan youth', *Towards adulthood: exploring the sexual and reproductive health of adolescents in South Asia*, WHO Report.

[49.] Singh, E. (2000), 'Adolescent reproductive health in South Asia: key issues and priorities for Action', Mumbai Conference.

[50.] WHO. (1985), '*Report on Reproductive Health of adolescents*', WHO report.

[51.] WHO. (1997), '*Adolescence, the critical Phase*', WHO report.

[52.] WHO. (2015), 'Trends in maternal mortality: 1990 to 2015', WHO report.

[53.] World Bank. (2006). World development report 2006: Equity and development. New York: Oxford University Press.

List of Web Sites

www.google.com

www.nfhsindia.org

www.rchinida.org

www.censusindia.org

www.indiastat.com

www.isid.org

www.indiahealthstat.com

www.geocities.com

www.who.int/reproducive_health/publications

www.icrw.org/projects/arhsi/arhsi.htm

www.panos.org.uo/newsfeatures

www.iipsindia.org

http://popindex.princeton.edu

www.guttmacher.org/pubs/journals

www.wikipedia.com