

Parents' Discriminatory Behaviour toward Children's Healthcare during Common Illness- An Empirical Study in the District of Nadia in West Bengal, India

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Abstract

In a patriarchal society, females face discriminatory behaviour in terms of health care, education, and other opportunities. Almost all the studies of gender-based health disparities in India emphasize on inter-household gender disparity in health care. Truly speaking, very few studies focus on intra-household gender discrimination. This paper investigates the parents' discriminatory behaviour toward children's healthcare and examines the effects of socio-economic and demographic factors on it. Based on cross-section data from 487 households of the Nadia district of West Bengal, India this study examines sex discrimination towards healthcare within the family. Empirical results indicate parents are more likely to take care of their sons and favour treating them by registered private doctors. On the contrary, in the case of their daughters, the preference to care is not so noticeable. The outcome of the Logit model reports an increase in the number of children in the family leads to a proportional increase in the probability of a girl child remaining untreated and this gets reduced with an increase in family income and parent's educational status. Along with this the distance travelled to get medical treatment and the number of days suffering from disease have a determining role in the probability of a girl child getting medical assistance.

Keywords: Intra-household, Child healthcare, Common diseases, Gender discrimination, Patriarchal system

JEL Classification: I14, J71, D63

1. Introduction

The objective of human rights treaties is to guarantee sound health as a basic human right. In developing countries, health inequities coexist with high levels of poverty. Such shreds of evidence are profuse in several South and East Asian countries and India is not an exception. In India, there is an extremely high female mortality rate as compared to that of males and such incidences are mostly observed in the case of children. Sen (1990) estimated that over 100 million women are missing in Asia and North Africa due to sex-selective abortions, female infanticides, and inadequate healthcare and nutrition for female children. Gender inequality has been a social issue in India for several decades. In many states of India, the birth of a girl child is not very

warmly welcomed. Even the discrimination begins before the girl child is born and if she gets the opportunity to see the light of the earth, she is being killed in her early days of life. In India, the female Child Mortality Rate was 7.4 (per thousand) whereas that for males was 6.5, and 57% of adolescent girls (15–19 years) in India are anemic, as against 25.1% of adolescent boys (National Family Health Survey NFHS - V, 2019-2021).

2.Literature Survey

In a patriarchal society, females face discriminatory behaviour in terms of health care, nutrition intake, education, and other opportunities. As India follows a patriarchal system, it is pertinent to study the effect of gender bias on healthcare. Although the study of gender-based health disparities is prevalent in India, very few studies focus on intra-household gender discrimination. The study of Pandey et al., (2002) observed gender discrimination in rural West Bengal in the treatment of diseases like diarrhoea. Gosoni et al., (2008) showed that females suffering from tuberculosis did not get proper treatment at the appropriate time. A small study conducted in rural Uttar Pradesh showed that the average healthcare expenditure during the neonatal period in households with male children was nearly fourfold that of households with female children (Willis et al., 2009). Anderson and Ray (2009, 2012) have shown that at each stage of life, female faces the risk of excess mortality in comparison to males, due to possible factors like poor treatment and care at home which may enhance excess mortality. There was a gender disparity in intra-household healthcare financing strategy among children and this discrimination was more pronounced when households faced tight resource constraints (Asfaw et al., 2010). Asfaw et al., (2007) showed that females have less probability of being hospitalized before their death. Even during illness, parents are more likely to seek medical care for a sick son than a sick daughter in India (Ramakrishnan et al., 2011). Saikia et al., (2016), have examined the gender difference in healthcare expenditure in the short-term and major morbidity in India and attempted to understand the socio-economic factors underlying the gender gap in household healthcare expenditure. This paper examines Intra-Household Gender Discrimination in Child Healthcare for common diseases like fever, colds, flu, diarrhoea, allergies, etc. by using primary data which has been collected from the Nadia district in West Bengal, India. More specifically, the study focuses on the fact that whether girls are discriminated from getting medical assistance during common illness.

This paper has been organized as follows. Section 2 presents the econometric model and methodology, the data source, and the measurement of variables used in the study. Section 3 deals with the results of the study. Finally, the conclusions and policy implications of the study are discussed in Section 4.

(including medicine, and doctor's fees,) has been collected for males and females separately for the reference period of one year.

3. Econometric Model and Methodology

3.1 Specification of Econometric Model

Let us consider a simple Logit model that will take care of intra-household sex discrimination among children as follows.

$$P_i(Y = 1/X_i) = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \dots + \beta_k X_{ki} + U_i$$

Where P_i is the probability of a girl remaining untreated in the i^{th} family given that for the same family boys are being treated X_{ki} is the k^{th} explanatory variable for the i^{th} family, β_k is the coefficient of the k^{th} explanatory variable, β_0 is the intercept term, and U_i is the disturbance term that follows the standard classical assumptions. Since the dependent variable in the model is a dummy variable, we cannot apply the OLS method of estimation and also Linear Probability Model will not be appropriate as it suffers from some inherent problem. So, we favour applying the Logit model of estimation to run our analysis.

The specific model is as follows

$$\begin{aligned} \text{MEDICAL ASSISTANCE}(MA) = & \beta_0 + \beta_1 \log(FAMINC) + \beta_2 \text{NUM_CHILD} + \beta_3 \text{HH_AGE} + \\ & \beta_4 \text{FATHER_EDU_LEVEL} + \beta_5 \text{MOTHER_EDU_LEVEL} + \beta_6 \text{MOTHER_EMP_STATUS} + \\ & \beta_7 \text{MOTHER_EMPOWER)STATUS} + \beta_8 \text{DIST_HOSP} + \beta_9 \text{SHRT_DURA} + \beta_{10} \text{LONG_DURA} + \\ & \beta_{11} \text{CASTE_STATUS} + \beta_{12} \text{RELIGIOUS_STATUS} + U \end{aligned}$$

Where the variables are defined as follows.

Medical Assistance for Common Illness: It is a dummy dependent variable and takes the value 1 if the girl child remains untreated during common illness given that the boy is being treated by doctors in the same family and 0 if she is treated by doctors.

Family income: It is the aggregate income earned by the father and mother in a year (if she participates in the labour market). Family income is measured in rupees.

Number of children: The number of children of the opposite sex in a household with an average maximum age gap of three years between them has been considered as the number of children.

Household head age: It is simply the physical age of the head of the household and counted in terms of years.

Father's Education Level: The formal education of the father acquired by attending school, college, university, etc. is measured by the years of attending the formal educational institute.

Mother's Education Level: The Mother's Educational level is also defined in the same fashion as that of the father's education level.

Mother Employment Status: It is a dummy variable and takes two values, 1 if the mother is engaged in the earning group and 0 if not.

Mother's empowerment: It is an important determinant in explaining gender discrimination among children in the family. It is a dummy variable and takes the value 1 if the mother is empowered, and 0 otherwise. To quantify the empowerment level of women, we have considered the decision-making power of women in all spheres of their day-to-day life. The variables have been measured on a four-point Likert scale, e.g., very high, high, low, and very low decision-making ability. The score will be given as, very high = 3, high = 2, low = 1, and very low = 0. If it is found that a woman solely takes the decision, the indicator of her empowerment level is very high. If she takes decisions with her husband jointly, her empowerment level is moderately high. If the husband solely takes the decision, her empowerment level is low and if the decision is taken by other members of the family, the empowerment level of a woman is very low. All nine decision-making variables are categorized into three components using Principal Component Analysis. The number of components is determined based on Eigen value > 1. The score of each component is also generated by using SPSS Software. After adding the scores of the three components, it is converted into a percentage score by using the following formula.

$$\text{EMPScore} = \left(\frac{\text{Secured Score} - \text{Minimum score}}{\text{Maximum Score} - \text{Minimum Score}} \right) * 100$$

If we find that a particular respondent's score is more than 58 percent (as 58 is the mean score value of sample women), we consider that the woman is empowered and if she scores less than 58 percent, she is considered as unempowered.

Distance to hospital: It implies the distance between the residence and the nearby hospital and is measured in kilometers (km).

Number of Days Suffering from Diseases: This variable indicates the time period of a child suffering from diseases and it is measured in days. In our analysis, we segregate this variable into three categories. These are short duration (1-2 days), medium duration (3-5 days), and long duration (more than 5 days) where the medium duration has been considered as the reference group. Therefore, we have three explanatory variables in the context of time duration. We can design a dummy for each group by putting the value '1' if the time duration of children suffering from diseases belongs to a particular category and '0' otherwise. Therefore, we have the two dummies for the time duration.

Caste Status: Caste status is a dummy variable taking the value 1 if the family belongs to the general category and 0 otherwise.

Religion Status: Two major religions Hindu and Muslim are represented in our sample. Religion status which is a binary variable takes the value 1 if the family belongs to Hindu, and 0 otherwise.

3.2 Methodology of Data Collection

Through the structured questionnaires, primary data on a sample of 487 households have been collected from the rural area in the district of Nadia of West Bengal. The total geographical area of the district is 3927 Sq. Km. The district of Nadia comprises four Subdivisions, namely, Krishnanagar Sadar, Kalyani, Ranaghat, and Thatta, and 17 development blocks out of which two blocks namely, Krishnagar-2 and Shantipur have been chosen purposively. In each chosen block, both the Grampanchyats and the village from each Grampanchyat have been selected randomly. While collecting primary data, we have kept in mind some relevant issues as per the requirements of our study. First, we started collecting data randomly, but since our objective is to look into child discrimination within the same households, it made us concentrate only on those families where there are at least two children of the opposite gender (that is, one male child and one female child). Second, since the wide age gap between boys and girls in a family may be a cause of expenditure differentials for their healthcare, we have restricted ourselves only to those families with a maximum age gap between the male child and the immediate female child of three years.

We have collected data on some important socio-economic and demographic characteristics of the sample households. Those are family income, parent's education level, number of children in the family, age of the children, parent's occupational status, caste, religion, etc. Further detailed information on children's healthcare and healthcare expenditure

4 Empirical Estimates and Analysis

4.1 Descriptive Statistics

Summary statistics on variables are presented in Tables 1 and 2 which show that the annual family income is widely varying between Rs. 60,000 and Rs.6,00,000. There is a wide gap in the average healthcare expenditure of male and female children. The average number of children in the family in our sample is 2.

Table 1: Summary Statistics on Quantitative Variable

Entire Sample of 487 Observations Under Study				
Quantitative Variables	Mean	Std.Dev.	Min	Max
Family Income (Yearly, Rs)	127009.4	54456.53	60000	600000
Health Expenditure Male (Yearly, Rs)	643.11	714.04	10	4400
Health Expenditure Female (Yearly, Rs)	515.86	686.99	10	5500
Father Education (Years)	4.65	3.63	0	15
Mother Education (Years)	4.88	3.35	0	17
Number of Children	2.14754	0.40408	2	4
Age Differences	2.25632	0.68922	1	3

Source: Author's own computation based on primary data collected during 2022-23.

Among the sample households, the percentage of secondary level of education for both father and mother is found to be the same and is given by 14.22%. About 16.14 % of fathers have educational qualifications below the primary level and the corresponding figure for mothers is 11.57%. The percentage figures of primary and upper primary for fathers are respectively 32.77% and 36.87% and the corresponding figures for mothers in our sample households are respectively 30.36% and 43.86%. Thus, if we consider the parent’s educational status, it is observed that mothers are not lagging behind fathers. In our sample, about 20.24% of mothers are engaged in working groups, and 53.98% of the mothers are empowered in the sense that they actively participated in the family’s decision-making process and 36.87 % of mothers remain updated through listening to/reading the news regularly.

Table 2: Summary Statistics on Qualitative Variables

Qualitative Variables		Entire Sample of 487 Observations	
		Percentage of Yes=1	Percentage of No=0
Educational Status of Father	Bellow Primary (Yes=1)	16.14	83.86
	Primary (Yes=1)	32.77	67.23
	Upper Primary (Yes=1)	36.87	63.13
	Secondary and Above (Yes=1)	14.22	85.78
Educational Status of Mother	Bellow Primary (Yes=1)	11.57	88.43
	Primary (Yes=1)	30.36	69.64
	Upper Primary (Yes=1)	43.86	56.14
	Secondary and Above (Yes=1)	14.22	85.78
Socio-Economic Status	Mother Employment Status (Having job=1, if not=0)	20.24	79.76
	Mother Empowerment Status (If empowered=1, if not=0)	53.98	46.02
	Listen to/Reading News (Yes=1, if not=0)	36.87	63.13
	Caste Status (General=1, others=0)	35.90	64.10
	Religious status (Hindu=1, Others=0)	53.73	46.27

Source: Author’s own computation based on primary data collected during 2022-23.

4.2 Gender Bias in Doctor Preference

Table 3 demonstrates the gender bias in doctor choices. According to our findings, parents are more likely to take care of their sons than their daughters. When fees or referrals to a higher level of care are involved, parents are more likely to neglect these in the case of their daughters, whereas they prefer to have their sons treated by well-known registered private doctors.

Table 3: Proportion of Males and Females Receiving Various Types of Healthcare Treatment

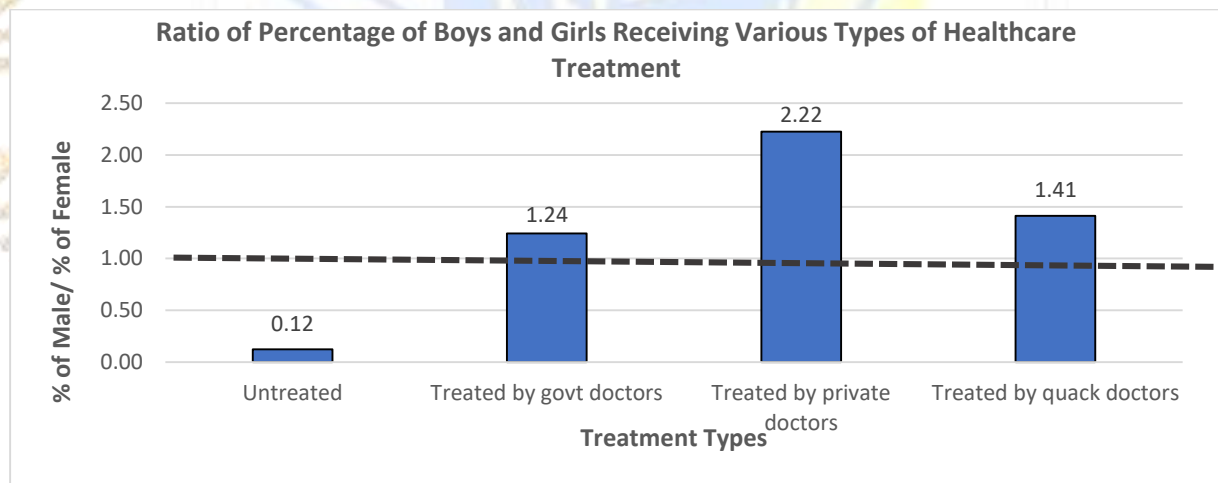
Health Care Factors	Categories	Boys	Girls		% of Boys / % of Girls	Chi-square (χ^2) at 1% level
Treatment Type	Untreated	21(4.31)	172(35.32)		0.12	199.4675
	Treated by govt doctors	138(28.34)	111(22.79)		1.24	
	Treated by private doctors	109(22.38)	49(10.06)		2.22	
	Treated by quack doctors	219(44.97)	155(31.83)		1.41	

Source: Author’s own computation based on primary data collected during 2022-23.

Note: The figures given in the parentheses indicate the percentage of boys and girls.

Figure 1 presents the ratio of the percentage of boys and girls receiving various types of healthcare treatment. The bold dotted horizontal line indicates an equal proportion of boys and girls receiving different types of healthcare treatment. Parents are more likely to take care of their sons rather than their daughters. We have found that the percentage of girls who remain untreated and do not receive any type of medical care is near about 8 times higher than that of boys. As boys not girls in the family are more likely to be treated by doctors, it is not surprising that the ratio is above one for all forms of treatment. Parents due to their financial constraints are also less likely to have their girls treated by expensive private doctors. For instance, the percentage of boys treated by qualified private doctors is 2.22 times higher than that of girls.

Figure 1 Ratio of Percentage of Boys and Girls Receiving Various Types of Healthcare Treatment



Source: Author’s own computation based on primary data collected during 2022-23.

4.3 Regression Analysis of Gender Discrimination among Children

The results of the Logit model for Intra-Households Gender Discrimination in child healthcare have been reported in Table 4&5.

Table 4: Logit Model for Intra Household Gender Discrimination in Child Healthcare

Logistic regression	Number of obs	=	466
	LR chi2(13)	=	126.08
	Prob > chi2	=	0
Log-likelihood = -235.38881	Pseudo R2	=	0.2112

GIRL CHILD UNTREATED	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
Log_FAMINC	-0.9704	0.425957	-2.28	0.023**	-1.80527 -0.13554
NUM_CHILD	1.304803	0.294092	4.44	0.00***	0.728394 1.881213
HH_AGE	0.054196	0.020554	2.64	0.008***	0.013911 0.09448
FATHER_EDU_LEVEL	-0.0744	0.037831	-1.97	0.049**	-0.00025 -0.14855
MOTHER_EDU_Level	-0.16784	0.042691	-3.93	0.00***	-0.25152 -0.08417
MOTHER_EMP_STATUS	-0.38262	0.291617	-1.31	0.189	-0.95418 0.188934
MOTHER_EMPOW_STATUS	-0.44126	0.230289	-1.92	0.055*	-0.89262 0.010101
SHORT_DURATION(2-Days)	0.774232	0.246957	3.14	0.002***	1.258258 0.290205
LONG_DURATION (> 5 Days)	-0.97225	0.342169	-2.84	0.004***	-1.64289 -0.30161
DISTANCE TO HOSPITAL	0.449358	0.08244	5.45	0.00***	0.287779 0.610937
RELIGIOUS_STATUS	-0.65802	0.263631	-2.5	0.013**	-1.17472 -0.14131
CASTE_STATUS	0.593399	0.27308	2.17	0.03***	0.058172 1.128627
_cons	5.346808	4.849961	1.1	0.27	-4.15894 14.85256

*Significant at 10%; **significant at 5%; ***significant at 1%.

Source: Author’s own computation based on primary data collected during 2022-23.

The results of the Logit estimation showed that within the family the girls were highly discriminated from getting medical assistance during common illnesses. The coefficient of log family income in the model is 0.97 and it is negative at a significance level of 5 percent. The change in the odd ratio suggests that one percent increase in the family income, the odd ratio in favour of the girl child receiving any medical assistance status increases. With reference to table 5, the marginal change in probability shows that if the family income gets enhanced by one percent the probability of a girl child getting medical assistance is also enhanced by sixteen percent. This implies that as family income increases, the gender disparity among children within the family is likely to deteriorate.

As expected table 5 reports an increase in the number of children in the family enhancing the probability of a girl child remaining untreated by 21 percent within the family at one percent level of significance. More precisely our result supports the fact that with the unchanged familial income as the number of children increases, the health care expenditure on the female child will be reduced in such a way so that the same for the boy in the family could be financed.

It is expected that with the increase in age, the knowledge and experience of any individual increase. In contrast, our study reports as the age of the household's head increases the probability of a girl child remaining untreated gets increased by one percent. This might be due to that during the collection of our primary data, we noticed the prevalence of conservative son preferences culture among old age persons. This conservative son preference is responsible in the rural area in respect of taking an adverse decision against a girl child.

Education is also a very powerful weapon in empowering individual irrespective of their gender. It helps to enhance knowledge, and information along with getting rid of all kinds of prejudice, superstition, and untouchability through changing mindsets. Similarly, our regression table 6 supports that the improvement in parents' educational status diminishes the probability of a girl child remaining untreated.

In our regression, the mother's employment is found to be statistically insignificant. This implies that even if the mother in the family is employed, she has no significant role in the determination of sex discrimination among children in the family. The result could be explained by the fact that most of the women are engaged in unorganized sectors and the annual average income of those working mothers is Rs. 26768, which is significantly lower than that of fathers (Rs. 119689).

Regardless to the mother's economic independence, mothers' empowerment plays a significant role in sex discrimination amongst children. If the mother is empowered the probability of getting medical assistance for a girl child is enhanced by 7.3 percent as compared to that of the unempowered mother. This implies that gender discrimination among children is lower in households where mothers are empowered to make decisions in familial matters than in households where mothers are not empowered.

The number of days that a girl suffers from common diseases has a significant impact on the probability of a girl child remaining untreated. It is reported from our study when a girl child suffers from long-duration diseases the probability of getting medical assistance is increased by 16 percent whereas it gets reduced by 12 percent if she suffers from short-duration diseases that is for one to two days. This result addresses the fact that in the case of short-duration diseases parents are more concerned with their son rather their daughter.

Distance to the hospital plays a determining role in the probability of getting medical assistance in the case of a girl child. In order to have better treatment for children, parent prefers to travel to distant place for their son as compared to their daughters. This fact is supported by our regression results which reveal that as the distance between the residence and the nearest hospital increases, the probability of a girl child remaining untreated increases by almost 7.5 percent.

Table 5: Marginal Change in Probability of the Logit Model.

	Average marginal effects Model VME: OIM				Number of obs	466
	Delta-method				[95% Conf.	Interval]
	dy/dx	Std. Err.	z	P>z		
FAMINC	-0.16225	0.069835	-2.32	0.02***	-0.29912	-0.02538
NUM_CHILD	0.218162	0.045424	4.8	0.00***	0.129133	0.30719
HH_AGE	0.009062	0.003349	2.71	0.007***	0.002499	0.015624
FATHER_EDU_LEVEL	-0.01244	0.006239	-1.99	0.046**	-0.00021	-0.02467
MOTHER_EDU_Level	-0.02806	0.006726	-4.17	0.00***	-0.04125	-0.01488
MOTHER_EMP_STATUS	-0.06397	0.048458	-1.32	0.187	-0.15895	0.031002
MOTHER_EMPOW_STATUS	-0.07378	0.038022	-1.94	0.052*	-0.1483	0.000745
SHORT_DURATION(2-Days)	0.129451	0.039727	3.26	0.001***	0.207314	0.051587
LONG_DURATION (> 5 Days)	-0.16256	0.05554	-2.93	0.003***	-0.27142	-0.0537
DISTANCE TO HOSPITAL	0.075132	0.012292	6.11	0.00***	0.051041	0.099223
RELIGIOUS_STATUS	-0.11002	0.043117	-2.55	0.011**	-0.19453	-0.02551
CASTE_STATUS	0.099216	0.044852	2.21	0.027**	0.011308	0.187124

*Significant at 10%; **significant at 5%; ***significant at 1%.

Source: Author’s own computation based on primary data collected during 2022-23.

Religious status is an important factor in determining gender discrimination among children within the family. The probability of a girl child remaining untreated is enhanced by 11 percent in the Hindu community as compared to others. The reason behind this outcome is in our sample 51.8 percent of Hindu family belongs to strong son-preferred cultural communities where boys are valued more than girls and marriage is not possible without paying a large amount of dowry. The prevalence of dowry is often a key factor in determining parents’ desire to have sons in India (Arnold et al., 1998 and Das Gupta et al. 2003) and, also for the killing of the female foetus (Kusum, 1993).

5. Policy Prescription and Conclusions

Gender equality and ensuring healthy lives for all are two important Sustainable Development Goals of the United Nations Development Programme. Although the message of gender equality has not penetrated deeply enough to reach household and community levels. In our patriarchal society, a frequently quoted Indian proverb states "raising a daughter is like watering your neighbour’s garden." Thus, a girl child begins her formative years on a shaky foundation, and these effects are ingrained in her mind and she continues with this mentality throughout her life. It is even transmitted to the next generation. To break this vicious circle of discrimination, an immediate action-oriented behavioural switch campaign, focusing on health, education, and other social aspects is essential.

It is challenging to tackle intra-household discrimination from outside. Values and principles are difficult to change with policies. It is high time to change the mind-set of parents, people, and society through constantly hammering, ingraining positive thoughts, and setting moral examples to demonstrate that in a family, girls are as valuable as boys. So, parents must take care of their daughters to enhance the overall human capital of the family as well as the nation otherwise, the nation is going to lose half of its human capital. Regarding the change

in the mind-set of the parents in particular and in general the society, the Government must arrange some gender equality awareness programs frequently and launch various consciousness generation programs. The government may collaborate with anti-gender discriminatory NGOs like AYZH CARE, AKSHARA, Child Rights and You (CRY), Hindrise Foundation, etc. to impart education, health services, and other opportunities to change society's attitude towards gender bias.

In order to reduce sex discrimination within the family employment and income generation are important and appropriate measures that should be taken to this end. Education is a key factor to bring consciousness among people. From our analysis, we can point towards a major policy implication to enhance the spread of knowledge in order to abolish gender discrimination. Family should encourage their girl child to have the appropriate benefits in getting the education then they can be a part of their family income source and increase affluence which in turn leads to the deterioration of the dowry practice.

Such efforts should be emulated by each and every person in society then only our society would be able to move towards a brighter future and better world.

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