A STUDY OF GIRL CHILD DEFICIT IN NORTH COASTAL DISTRICTS OF ANDHRA PRADESH

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Abstract

The sharp decrease in the age group of 0-6 years population in the Northern States of India is commonly assumed to be the result of the rapid spread of the use of ultrasounds tests and amniocentesis for sex determination, followed by sex selective induced abortions. More than 92 per cent of the women respondents are in the age group of below 40 years, nearly 2/3rd of the women respondents belongs to backward classes and about 32 per cent of them are illiterate. It is observed that 75.6 per cent of women respondents have got married in the age group of 18-22 years. The study clearly tells us that first birth order girls ratio is considerable lower compared with second birth order and this has recorded reverse trend for boys. The percentage of live births are significantly higher and still births are lower in all the birth orders. The incidence of abortions are higher in Sarubujjili 32, at the first birth order 8 (25%), second birth order 13 (40.6%) and third birth order 11 (34.4%), the corresponding figures for Therlam are 28, 10 (35.7%), 10 (35.7%), 7 (25%) and in Butchayyapeta 24, 7 (29.2%), 9 (37.5%) and 7 (29.2%) respectively. Government should formulate a policy to regulate abortions where in the circumstances under which the abortion/medical termination of pregnancy is taking place, what is the order of the birth and if that was preceded by a scan to decide the sex of the baby in womb.

Keywords: Pregnancy, Birth order, Abortions, Child sex ratio, Sonography, Amniocentesis, Fertility, Pre-natal, Post-natal

Introduction

A strong preference for sons has historically been prevalent in many Asian societies, and India is no exception. This is reflected in the country's male-biased sex ratios and gender gaps in education, health, and mortality. Some of the key factors underlying these trends include the use of sex selective abortions (Arnold, Kishor, & Roy, 2002; Jha et al., 2011; Retherford & Roy, 2003), declining fertility (Das Gupta & Bhat, 1997; Murthi, Guio, & Dreze, 1995), differential stopping behavior which results in girls being born into larger families than boys (Clark, 2000), and the greater allocation of household resources towards male children (Kingdon, 2005; Mishra, Roy and Retherford, 2004; Oster, 2009; Pande, 2003; Saha, 2013).

Andhra Pradesh ranks tenth in the size of population among all Indian States during 2011. As per the 2011 Census, the total population of Andhra Pradesh was 49.58 million. By 2011, the states' population experienced more than fourfold increase compared with 1921. The decadal growth rate of population which was 20.91 in 1961-71 and 24.20 in 1981-91 slowed down to 13.86 during 1991-2001 and further came down to 11.10 in 2001-2011. This growth rate (i.e., from 1991-2001) infact is the slowest registered growth among all the states of Indian Union except Kerala (9.42). That means, during the 1981-91 and 1991-2001 the population growth in Andhra Pradesh has declined by about 42 per cent which is substantial in the whole of the country.

Sex Ratio in Andhra Pradesh

Ever since the beginning of recording of population data in India, it was evident that there was always a deficit of women over men in number. Andhra Pradesh is no different, as it is part of India and has more or less the same cultural milieu. Andhra Pradesh has a starting figure of 1004 females per 1000 males in the year 1901 while at the national level; the sex ratio was 972 in the year. This difference was maintained all through the century. One reason for this could be the predominantly male dominated culture of the society. This biased importance towards male member in the society has started reflecting in neglecting the female members of the society and their depletion. This is the basic trait of a less developed society. One significant observation from data is the state level sex ratio has in the initial decades increased to reach 1010 in 1911 from 1004 in 1901 to 1008 in 1921 and 1002 in 1931, but since then there was a slow and steady fall in this rate till 2001 (983) and then it increased by 14 points in 2011 to 997. The all India figures show no such fluctuations and show continuous decline. Only in the year 2001 there was a small increase from 927 in 1991 to 933 and further increased by 7 points i.e., 940 in 2011 females per 1000 males. A similar upward movement was found at the state level also, from 976 to 983 and 997 respectively during those three censuses. In Andhra Pradesh there is a marked decline in Child Sex Ratio to the tune of 59 points from 1002 in 1961 to 944 in 2011. Considering Census years 1981-2011, the decline was around 49 points within three decades. The corresponding figures for India are 48 points for the same period. The census data indicates that Andhra Pradesh is

faring better in terms of child sex ratio than that of all India level for the six census years i.e., from 1961-2011.

A closure look at the district level in the past two decades shows that six districts 'viz' Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari and Guntur are situated above the state average both in 2001 (983) and 2011 (997). Nellore district which was above the state average in 2001 came down to below the state's average in 2011. Three districts in Rayalaseema region Kadapa, Kurnool and Anantapur and only Krishna and Prakasam districts from Andhra region still remained below the state average sex ratio in both the periods (2001 & 2011).

As per 2011 Census figures, out of 664 mandals of Andhra Pradesh, as many as 68 (10.24%), 315 (47.44%), 185 (27.86%), and 55 (8.28%) mandals have recorded the child sex ratio in the range of less than or equal to 900; 901-950; 951-980 and 981-1000 respectively in Andhra Pradesh. The largest number of lowest Child sex ratio mandals were reported from Chittoor (15), and 13 mandals each in YSR Kadapa and Anantapur. Out of 56 mandals 39 in Prakasam, 36 of 63 in Anantapur, 34 of 54 in Kurnool, 31 mandals each in Guntur (57),YSR Kadapa (51) and Chittoor (66) are in the range of 901-950. More number of mandals are found in East Godavari (32), West Godavari (12) in the range of 951-980 and 981-1000 respectively. In case of North Coastal Andhra Pradesh, of the 38 mandals 15 in Srikakulam, 15 of 34 in Vizianagaram and 13 of 43 in Visakhapatnam between the range of 901-950. As many as 14, 08, and 18 mandals respectively in Srikakulam, Vizianagaram and Visakhapatnam districts between the range of 951-980. The highest child sex ratio (above 1000) has been reported in 8 mandals in East Godavari district and female literacy rate is constitutes 67.82. It is surprising to note that no single mandal is identified as highest CSR in Krishna district and the female literacy is about 70.

The study of child sex ratio for the 0-6 years group is important because it provides a true indicator of the survival of the girl child. The ratio in this group is influenced by sex ratio at birth and infant mortality. While the sex ratio at birth shows us if there has been any untoward intervention against a particular sex even before birth, the mortality rates reflect the social and cultural factors which influence the survival chances of new born babies. Sex selective abortions have been abolished in India as early as 1983, followed by South Korea in 1987 and China in 1989; Nepal banned it in 2002 when it liberalized its own law on abortions. In India, the first sex determination related National Act was introduced in 1994 and it prohibits both the use and advertising of pre-natal diagnostic techniques. But until 2003, when the Act was strengthened, the law was largely ignored and had no impact whatsoever on Sex Ratio at Birth (SRB) trends.

The present paper is to examine and distinguish regional variations in child sex ratios in the north coastal region of Andhra Pradesh. It also explains the role of region as reflected by its distinct social, economic, demographic and cultural correlates in determining the child sex ratio.

Objectives

- To analyse the socio-economic characteristics of the women respondents in three North Coastal Districts of Andhra Pradesh.
- To identify the outcome of birth order and nature of abortions in the study area.
- To find out the incidence of abortions and place of induced abortions in three sample regions.

Methodology

The study is conducted in three North Coastal Districts of Andhra Pradesh namely Srikakulam, Vizianagaram and Visakhapatnam district. The Study covers the lowest Child sex ratio mandals in North Costal Andhra regions of Andhra Pradesh according to 2011 Census. For in depth research, the study selected the lowest Child sex ratio mandals from three North Coastal Districts of Andhra Pradesh, one mandal from each district. In Srikakulam district Sarubujjili mandal (884), Therlam mandal (898) in Vizianagaram District and Butchayyapeta mandal (899) in Visakhapatnam district in Andhra Pradesh were selected for intensive Study. The study covered six (6) sample villages' two (2) villages from each mandal and one mandal from each district in North Costal Andhra. All the sample villages have been selected from the lowest child sex ratio in 2011 'viz' Gonepadu (686) and Kondavalasa (735) in Sarubujjili mandal of Srikakulam district, Kusumuru (754) and Kagam (732) from Therlam mandal in Vizianagaram district and Polepalle (739) and Gunnempudi (822) in Butchayyapeta mandal of Visakhapatnam district.

For the collection of sample, women in the age group of 15-49 years and having at least one child in the age group of 0-6 are targeted in the sample women respondents. From each village 75 women were drawn randomly from a population of eligible women in that village. As such each mandal has a representative sample of 150 women. Thus, altogether 450 women respondents have been covered for intensive study.

Literature Review

This literature review will be the mechanism by which the research is viewed as a cumulative process. That makes it an integral component of the scientific process. Here the researcher has collected the earlier studies related to sex ratio particularly child sex ratio in various parts of the country are discussed.

The Economic Times (2019) reported that a sharp fall in the ratio of new-born girls to boys in several states. Surprisingly, three southern states, better performers on many socio-economic parameters, show large declines. Between 2007 and 2016, the number of new-born girls (age zero to one) fell by 168 for every 1,000 boys born in Andhra Pradesh; Karnataka saw a decline of 108, Tamil Nadu, 95 (the figure might be distorted by counting registration of own birth by men years after the fact), Odisha, 61, and northern Uttarakhand, 44. The same social attitudes that make life unsafe for women in India underlie the worsening sex

ratio as well. The census data shows a fall in sex ratio between 2001 and 2011 in the three southern states apart from Kerala, and Odisha. Worse, these states have gone the opposite way from Haryana, Punjab and Delhi, whose previous low sex ratios have improved consistently between 2001 and 2016.

Rema Nagarajan (2019) said that the data collected by the office of the Registrar General of India from the Civil Registration System (CRS) showed that in 2016, Andhra Pradesh and Rajasthan had the worst Sex Ratio at Birth (SRB) of 806. Tamil Nadu was sixth from the bottom with its ratio falling from 935 in 2007 to 840, compared to the all-India figure of 877. In Karnataka, it fell from 1,004 to 896. In Telangana, it fell from 954 in 2013, when the state was formed, to 881. Both the states have witnessed a sharp fall in sex ratio in 2016.

Naveen Kumar (2015) examines the national level programme Beti Bachao and Beti Badhao (save the girl child and educate her) started from Panipat, Haryana on 22nd Jan, 2015. Under this programme 100 districts having child sex ratio below the national average (918) or showing decline trend in child sex ratio or both as per census 2011 from entire country were selected. Out of these 100, 12 districts are from Haryana which are highest in numbers compared to any other states of India. A close second to Haryana is neighbouring Punjab with 11 gender critical districts followed by Utter Pradesh, Maharashtra and Rajasthan with 10 districts each. These 5 states account for 53 gender critical districts out of total 100 districts. In 2001 Kurukshetra, Ambala and Sonipat recorded low child sex ratio whereas in 2011 Mahendergarh, Jhajjar and Rewari recorded low sex ratio. The reasons for the low child sex ratio in these districts are huge dependence on son in the rural society, dowry is another reason for low child sex ratio, the practice of female foeticide due to illegal use of sex selective technology, the desire to limit the family size i.e. if in a family two successive males children are born, family prefer to limit its size instead to give birth to a girl child and lastly, the father of a girl child worries about her security and matches for their daughter.

Ramachandrudu, G and Ch. Appa Rao (**2007**) paper analysed that 2001 Census registered a declining juvenile sex ratio, from 945 girls per 1000 boys in 1991 to 927 in 2001 (18 points decline) in India and from 975 to 964 (11 points decline) in Andhra Pradesh during the same period. This decline was very rapid in four economically developed States. Ashish Bose called these states (Punjab, Haryana, Himachal Pradesh and Gujarat) as DEMARU States (D for Daughter, E for Elimination or Extinction, Maru means killing). It implies that female fetuses or children are mercilessly killed for reasons ranging from custom and tradition to social and economic burden. The unholy alliance between tradition (son complex) and technology (ultrasound tests) is playing havoc with the Indian society. Ashish Bose and M.K.Premi identified the following reasons: (a) neglect of the girl child resulting in higher mortality at younger ages, (b) sex selective female abortions, (c) female infanticide, (d) change in the sex ratio at birth and (e) differential undercount of females than males.

James, K.S (**2004**) explained that the state of Andhra Pradesh experienced decline in sex ratio by 28 points. The decline is observed in almost all the districts in Andhra Pradesh except Nellore and Anantapur. There are four main reasons for decline in sex ratio: (1) differential mortality between males and females, (2) differential under count of females than

males, (3) drop in the female birth leading to adverse sex ratio at birth and (4) large scale surplus emigration of female over males. As no relationship is observed between child sex ratio and development indicators, there is a need for more intensive studies.

Agnihotri Satish Balaram (**2003**) paper articulated that the declining sex ratio among children (0-6 age group) turns out to be sharper in the urban areas than in the rural, as a result of sex-selective abortion that has gained momentum since 1980s. The decline in female/male ratios is even strong in India in the rural areas of Punjab, Haryana, Uttar Pradesh, Himachal Pradesh, Gujarat and Maharashtra. Tamil Nadu presents an alarming trend for both 1991 and 2001 Censuses as the female/male ratios among children in a number of districts have been lower and still declining in rural than the urban ratios. The increased female subordination among more prosperous groups in some districts/States of India is the cause for the unequal access to life sustaining resources for the female members.

Findings of the Study

The discussion includes aspects such as the distribution of women respondents according to their age, caste, literacy, occupation, size of family, income etc. As pointed out earlier, for purpose of the study 450 sample women respondents are selected.

Socio-Economic Features

In this context, the age of the women respondents is important because it has bearing on her capacity. In view of this research studies based in primary data need to focus on this aspect. Taking this esteemed view into consideration, this study tried to present distribution of women respondents based on their age. Table 1 gives the data on Socio-Economic features of women respondents in the study area. Across the study area about 65 per cent of the women respondents are in the age group of below 30 years followed by 27.5 per cent 31-40 years and only 7.8 of them are in the age group of 41-49 years. More than 92 per cent of the women respondents are in the age group of below 40 years. This is also true in case of the three sample mandals.

Caste too has been considered as an important factor for social stratification. The caste system is a very deep rooted and mighty institution in the Indian society. In the present study the castes have been classified into four categories which include forward caste, backward classes, scheduled caste and scheduled tribe. In Sarubujjili mandal more than 1/3rd of the respondents that is 86.7 per cent belong to the caste group of backward classes, followed by scheduled caste 9.3 per cent, forward caste (2.7%) and scheduled tribe (1.3%). Majority of the women respondents in which 49.3 per cent belongs to backward classes in Therlam mandal next in order forward caste (23.3%), scheduled caste (18.7%) and scheduled tribe (8.7%). In Butchayyapeta mandal a large concentration of women respondents are backward classes (65.3%) followed by forward caste (26%) and scheduled caste (8.7%). On the whole, majority of the women respondents belongs to backward classes (67.1%) followed

by forward caste (17.4%), scheduled caste (12.2%) and scheduled tribe (3.3%) in the study area.

Education has a great impact on individual's status in the society. Education of course may affect the individual's chances for bringing in a given occupation, which in turn predetermines other life chances, including health, status and job security. The educational level of respondents has been classified into six broad categories such as illiterate, literate, primary, secondary higher education and technical education. The field study on the literacy status of the women respondents show that the 31.8 per cent of the respondents are illiterate in the sample area. Amongst the literate samples, those with secondary education is highest at 25.1 per cent followed by primary education with 23.3 per cent and 11.8 per cent of them have completed higher education. The composition of women respondents with general literacy is 7.3 per cent and with technical education is 0.7 per cent. The illiterate women respondents are the highest in Sarubujjili mandal with 36 per cent followed by Butchayyapeta mandal with 31.3 per cent. The illiterate women respondents are the least at Therlam mandal with 28.0 per cent.

The size of the family is a matter of great importance not only for the country as a whole but also for the welfare and health of the individual, the family and the community. The size of the family affects of quality of life of human beings. The quality of life does not only pertain to economic standards of living; rather it has a much wider horizon. Family size affects basic human needs, income and growth of the economy and savings, food and nutrition-quality and quantity, uses of land and urban public system, health especially, that of mother and child and education particularly that of children. In the present study the respondents have been divided into three categories relating to their size of the family. The average family size of the total respondents is observed to be 4.7. This is the same for Sarubujjili mandal. The average family size for the other two mandals Therlam and Butchayyapeta is found to be at 4.9 and 4.6 respectively. In terms of the distribution of size of the family, most of the respondents have a family size of 4 to 5 members. The share of respondents with 4-5 family members is dominant with 64 per cent whereas share of those living in a family size of more than 5 is 19.3 per cent. The family size with less than 4 members comes to 16.7 per cent of the total sample.

The Therlam mandal has the highest share of respondents residing in a 4-5-member family. Such share is 73.3 per cent for Therlam. Looking at the distribution of women respondents by family size in Therlam, we can see that the share of those living in a family with less than 4 members is quite low (8.7%) and those living in a family with more than 5 members is 18 per cent. In Sarubujjili mandal, the share of respondents residing in a 4-5 member family is 61.3 per cent, whereas those residing in less than 4 member family are 14.7 per cent. The share of respondents residing in a family with more than 5 members in this mandal is 24 per cent. In Butchayyapeta mandal, the share of respondents living in a 4-5 member family is 57.3 per cent. In this mandal, the share of respondents living in a family with less than 4 members and more than 5-members is respectively 26.7 per cent and 16.0 per cent.

Table 1
Socio-Economic features of Women Respondents in the study Area

Items	Sarubujjili		Therlam		Butchayyapeta		Grand Total	
	No.	%	No.	%	No.	%	No.	%
Age Group								
Below 30	98	65.3	104	69.3	89	59.3	291	64.7
31-40	40	26.7	32	21.4	52	34.7	124	27.5
41-49	12	8.0	14	9.3	9	6.0	35	7.8
Total	**150**	**100.0**	**150**	**100.0**	**150**	**100.0**	**450**	**100.0**
Caste Category								
Forward Caste	4	2.7	35	23.3	39	26.0	78	17.4
Backward Classes	130	86.7	74	49.3	98	65.3	302	67.1
Scheduled Caste	14	9.3	28	18.7	13	8.7	55	12.2
Scheduled Tribe	2	1.3	13	8.7	0	0.0	15	3.3
Total	**150**	**100.0**	**150**	**100.0**	**150**	**100.0**	**450**	**100.0**
Education Status								
Illiterate	54	36.0	42	28.0	47	31.3	143	31.8
Literate	6	4.0	19	12.7	8	5.4	33	7.3
Primary	23	15.3	37	24.6	45	30.0	105	23.3
Secondary	44	29.4	40	26.7	29	19.3	113	25.1
Higher Education	23	15.3	11	7.3	19	12.7	53	11.8
Technical Education	0	0.0	1	0.7	2	1.3	3	0.7
Total	**150**	**100.0**	**150**	**100.0**	**150**	**100.0**	**450**	**100.0**
Family Size								
1-3	22	14.7	13	8.7	40	26.7	75	16.7
4-5	92	61.3	110	73.3	86	57.3	288	64.0
6 & Above	36	24.0	27	18.0	24	16.0	87	19.3
Total	**150**	**100.0**	**150**	**100.0**	**150**	**100.0**	**450**	**100.0**
Average size	4.7		4.9		4.6		4.7	

Source: Field Survey

Fertility Preferences and Abortions

Fertility is defined as the natural capacity to produce an off spring. Fertility is governed by many factors such as health and age of the mating individuals, sexual behaviour, culture of the mating individuals, existing socio-economic conditions, etc. The present study focusses on Child Sex Ratio in the age group of 0-6 years specifically because it is the most effective tool to understand the real picture of gender discrimination unaffected by other factors like age at first marriage, birth order, birth outcomes, incidence of abortions, and place of delivery.

Age at First Marriage

Age at marriage has a great bearing on the overall fertility of a woman. In a traditional society like India, where child bearing outside the wedlock is almost negligible, the age at marriage is all the more important in estimation of fertility. The data on the age at marriage is shown in Table 2. It is evident from the table that majority of the women in all the three sample districts got married in the age group of 18-22 years. The highest percentage of women getting married in the age group of 18-22 years in Therlam mandal (80.7%), followed by Sarubujjili (77.3%) and Butchayyapeta (68.7%). Between 23-27 years, women getting married 20.7 per cent in Butchayyapeta, 12.7 per cent in Sarubujjili and 10 per cent in Therlam mandals. Only 3.3 per cent of women respondents got married in the age group of 28-32 years in Therlam and 1.3 per cent each in Butchayyapeta and Sarubujjili mandals. It is observed that 75.6 per cent of women respondents have got married in the age group of 18-22 years, 14.4 per cent of them between 23-27 years, 7.6 per cent of them got married below 18 years of age and 2.0 per cent are in the age group of 28-32 years in the study area. Going by the previous literature which says that education actually causes low fertility (by way of postponement of marriage), but it cannot simply hypothesize that have in these mandals. There may have been many other factors for the age at marriage but we can safely say that this factor may have some influence in the age at first marriage. Here also, age at marriage has no visible bearing on the child sex ratio.

Table 2
Age at First Marriage of Eligible Women

Age-Group	Sarubujjili		Therlam		Butchayyapeta		Grand Total	
	No.	%	No.	%	No.	%	No.	%
<18 years	13	8.7	9	6.0	12	8.0	34	7.6
18-22 years	116	77.3	121	80.7	103	68.7	340	75.6
23-27 years	19	12.7	15	10.0	31	20.7	65	14.4
28-32 years	2	1.3	5	3.3	2	1.3	9	2.0
32 years & Above	0	0.0	0	0.0	2	1.3	2	0.4
Total	**150**	**100.0**	**150**	**100.0**	**150**	**100.0**	**450**	**100.0**

Source: As ex ante

Birth Order

Finding out the birth order differences in male/female births gives a pointer to the national phenomena of sex selection at birth. Biologically it was proved that male children are more at birth than female children. The ratio being in the study area is 106 boys to 100 girls. Going by this analogy, Table 3 reveals that in the first order of birth it was predominantly male. It is observed that the male births are in the first order of births at 52.9 per cent and of female births 44.5 percent in Sarubujjili, 53.3 per cent to 36.5 per cent in Therlam and 46.2 per cent to 38.6 per cent in Butchayyapeta mandal. As the birth order increases, the dominance of male birth is receding from 52.9 per cent at first birth order to 2 per cent at the fourth birth order, the same trends is continued in case of Therlam from 53.3

per cent to 4.8 per cent and in Butchayyapeta from 46.2 per cent to 7.1 per cent respectively. This is also true with regards to female births in all the three sample mandals. In the study area, first order births are boys 50.7 per cent, second order 32.1 per cent, third order 12.5 per cent and fourth order birth at 4.7 per cent and the corresponding figures for girls are 39.8 per cent, 46.7 per cent, 12.2 per cent and 1.3 per cent respectively. This clearly tells us that first birth order girls ratio is considerable lower compared with second birth order and this has recorded reverse trend for boys.

Table 3
Birth Order of Children by Sex to Eligible Women

S.No.	Birth Order	Sarubujjili				Therlam			
		Boys		Girls		Boys		Girls	
		No.	%	No.	%	No.	%	No.	%
1	First Birth	81	52.9	65	44.5	89	53.3	57	36.5
2	Second Birth	58	37.9	66	45.2	53	31.7	70	44.9
3	Third Birth	11	7.2	14	9.6	17	10.2	26	16.7
4	Fourth Birth	3	2.0	1	0.7	8	4.8	3	1.9
	Total	**153**	**100.0**	**146**	**100.0**	**167**	**100.0**	**156**	**100.0**
		Butchayyapeta				**Grand Total**			
1	First Birth	78	46.2	61	38.6	248	50.7	183	39.8
2	Second Birth	46	27.2	79	50.0	157	32.1	215	46.7
3	Third Birth	33	19.5	16	10.1	61	12.5	56	12.2
4	Fourth Birth	12	7.1	2	1.3	23	4.7	6	1.3
	Total	**169**	**100.0**	**158**	**100.0**	**489**	**100.0**	**460**	**100.0**

Source: As ex ante

Birth Outcomes

To analyse further the phenomena identified in the previous table, one can see the occurrence of birth outcomes (miscarriage/medically terminated pregnancies) in Sarubujjili, Therlam and Butchayyapeta mandals. That can corroborate if the skewed male child births are natural or not. Table 4 provides the details of miscarriage by the order of birth/pregnancies in the three sample mandals. Miscarriage is an event that results in the loss of a fetus during early pregnancy. When such an event occurs without any human intervention or an accident it is called Spontaneous Abortion (SAB), this typically occurs during the first half of pregnancy. Combining the above information with that of the birth order outcomes one can see that the proportion of miscarriages (abortions) are more in the second and third birth order. Of all the three sample mandals, the miscarriage proportion is high at 8.7 per cent 34.4 per cent at the second and third birth orders in Sarubujjili compared with other two mandals 7.1 per cent and 17.1 per cent in Therlam and 4.8 per cent and 11.8 per cent at the same birth order in Butchayyapeta. Miscarriages are lower in Butchayyapeta compared to their counter mandals. The percentage of live births are significantly higher and still births are lower in all the birth orders in the sample area. It is observed that miscarriage is invariable lower at first birth order (5.1%), second birth order (6.9%), third birth order

(19.4%) and 3.4 per cent at the fourth birth order. This clearly shows that the highest miscarriages took place at their birth order in the sample area.

Table 4
Birth Outcomes of Eligible Women

Characteristics	Sarubujjili		Therlam		Butchayyapeta		Grand Total	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
1st Birth outcomes								
Live birth	142	94.7	141	94.0	143	95.3	426	94.7
Miscarriage	8	5.3	8	5.3	7	4.7	23	5.1
Still Birth	0	0.0	1	0.7	0	0.0	1	0.2
Total	**150**	**100.0**	**150**	**100.0**	**150**	**100.0**	**450**	**100.0**
2nd Birth outcomes								
Live birth	113	89.7	117	92.1	116	92.8	346	91.5
Miscarriage	11	8.7	9	7.1	6	4.8	26	6.9
Still Birth	2	1.6	1	0.8	3	2.4	6	1.6
Total	**126**	**100.0**	**127**	**100.0**	**125**	**100.0**	**378**	**100.0**
3rd Birth outcomes								
Live birth	21	65.6	34	82.9	44	86.3	99	79.8
Miscarriage	11	34.4	7	17.1	6	11.8	24	19.4
Still Birth	0	0.0	0	0.0	1	2.0	1	0.8
Total	**32**	**100.0**	**41**	**100.0**	**51**	**100.0**	**124**	**100.0**
4th Birth outcomes								
Live birth	4	100.0	10	90.9	13	92.9	27	93.1
Miscarriage	0	0.0	0	0.0	1	7.1	1	3.4
Still Birth	0	0.0	1	9.1	0	0.0	1	3.4
Total	**4**	**100.0**	**11**	**100.0**	**14**	**100.0**	**29**	**100.0**

Source: As ex ante

Incidence of Abortions

Looking at the incidence of abortions/still births among the women respondents across the time period (upto 1990, 1991-2000, 2001-2011 and 2012-2017) and geographical locations of the study area. The data on the incidence of abortions indicates that in the period upto 1990 there are no incidence of abortions/ still births expect in one sample mandal (Therlam). Does it mean there are no such things in reality? It is presumed that could be due to recall lapse as the reference period is too far back in time. The data clearly finds that the recovered number of incidences of abortions reported in all the periods 2001-2017. In case of order of births, second order births has the highest such incidents recovered during the period 2001-2011 compared with 2012-2017 and the magnitude has come down slightly but still they stand out. The incidence of abortions are higher in Sarubujjili 32, at the first birth order 8 (25%), second birth order 13 (40.6%) and third birth order 11 (34.4%), the corresponding

figures for Therlam are 28, 10 (35.7%), 10 (35.7%), 7 (25%) and in Butchayyapeta 24, 7 (29.2%), 9 (37.5%) and 7 (29.2%) respectively. It is observed that the total incidences of abortions/still births reported at 84, of the 25 (29.8%) incidents 18 (72%) were occurred in the first order birth during 2001-2011, 32 (38.1%) in the second birth order, of which 20 (62.5%) during 2001-2011 and out of 25 (29.8%) at third birth order 15 (60%) during the same period. The highest number of incidence of abortions recorded at 32 in Sarubujjili, followed by 28 in Therlam and 24 in Butchayyapeta mandals.

Abortion Outcomes

Keeping in mind the average Indian/Hindu family attitudes, and what statistics say about sex ratio in India, it was investigated to see if there is any evidence that the biologically proven nominal male dominant births are further enhanced by the human actions such as induced or sex selective abortions. Also keeping in mind the preferences of families to have a male child as their first born, the following analysis looks at the birth order and the sex-wise abortions that took place in the study area. One of the important findings is that at the first and second order male births, there are “no” abortions. Even in the third are fourth order births male child abortions reported only one case in Sarubujjili and one in each in the fourth birth order in Therlam and Butchayyapeta mandals. Looking at the female birth orders, it was observed that more abortions were reported at first, second and third birth orders in all the sample mandals. Across sample mandals, abortions of female births were recorded in Sarubujjili (16), Therlam (13) and Butchayyapeta (10). All these female abortions occurred in the first, second and third order births in the study area. It can be observed that the total number of female abortions recorded at 39. Of this, 9 (36%) incidents were reported at first order birth, 18 (60%) at second order birth and 12 (48%) in the third order birth in the study area. This analysis clearly indicates that in case of number of abortions of female births were recorded higher compared with male births in all the sample mandals. This adds strength to the arguments that the abortions could be sex selective, thereby impacting the overall child sex ratio in the three North Coastal districts of Andhra Pradesh.

Nature of Abortions

Information was extracted from the sample women respondents on the nature of abortions. Nature of abortions classified into three types: natural abortions, induced abortions, and induced abortions with other reasons. The total number of abortions are accounted for 82, out of which 30 (20%) in Sarubujjili followed by Therlam 28 (18.7%) and 24 (16%) in Butchayyapeta mandals. The data clearly shows that in all the three sample mandals induced abortions are significantly higher compared with natural abortions. Of the total 82 pregnancies terminated/miscarried, natural abortions constitutes only 20 (24.4%) and induced abortions are may be one or the other reasons 62 (75.6%) in the study area.

Place of Induced Abortions

There is a predominant opinion among the public that induced abortions actually results in lower female child births. If that is the opinion, it would be interesting to investigate the place of induced abortions as to where the termination of pregnancy took place. A major proportion of induced abortions, i.e., 95.2 per cent took place in the private hospitals and only 4.8 per cent in Government hospital. In the sample area almost all the abortions were performed by doctors.

Sonography or Amniocentesis Tests

The logical question that now arises: how did they, the pregnant women or her caretakers know about the health status and/or sex of the foetus? They are known through Sonography or Amniocentesis tests on the pregnant women. Normally, the sex of the foetus will be known by twelve weeks into pregnancy. Through there are legal restrictions on revealing the sex of the foetus, many doctors are pressurised to reveal the information and they inform the mother to be or her caretakers. This in general ensues in induced abortions in many cases. The advancement of technology brought both Sonography or Amniocentesis tests within the reach of most of the people and it has resulted in the sex selective abortions causing a great sex imbalance. Table 5.13 provides the most popularly used methods in deciphering the sex or health status of the foetus in the study area. It is evident from the data that in all a predominant number of respondents have undergone either of these two tests. Across the study area, as many as 58 (70.7%) of 82 abortions undergone Sonography or Amniocentesis tests before their abortions. This practice of women should be restricted through strict implementation of law and also impose penal amounts on Doctors and Private hospitals.

Conclusion

To sum up, the highest number of head of the households is in the age group of 31-40 years across in all mandals i.e., Sarubujjili (36.7%), Therlam (30.7%) and Butchayyapeta (26.7%). Majority of the women respondents belongs to backward classes (67.1%) followed by forward caste (17.4%), The literacy status of the women respondents show that 31.8 per cent of the respondents are illiterate in the study area, family size was 4 to 5 members and nearly half of the percentage of them engaged as agricultural labour. There is a different pattern on sex preference by birth order in the sample area. It was observed that as the birth order increases, the male preference is changing among the women respondents. Miscarriages are higher in the third birth order in Sarubujjili mandal compared with other two mandals. There are 82 cases were reported miscarriage/pregnancy terminated. As many as 58 of 82 abortions undergone Sonography or Amniocentesis tests before their abortion. There are 62 induced abortions, 59 (95%) took place in the private hospitals. Health reason is the major causes for aborting the pregnancy. This clearly indicates that there is a sex selective abortions which lead to sex imbalance.

Unless men start regarding women as their equal partners, this differentiation between men and women shall continue unabated. No single item of achievement like education, profession, legal rights or even the mixture of all these will work out a solution - the only feasible solution is the change of mind, the change of attitude of the men towards women. Till this is done, no amount of teaching, preaching or bargaining will help the girl child. The study suggests that the sex ratio only indicates to the misuse of medical technology and interventions with laws to end the practice of wanting more male children reflect poor understanding of the problem. While strict laws only can control the female infanticide and foeticide by fear of punishment, it will not eliminate the problem completely.

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