



Cross Sectional Study on Knowledge and Attitude among Women in The Reproductive Age Group Towards Sex Ratio and PC& PNDT Act in Urban Field Practice Areas of Medical College, Bengaluru

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ABSTRACT

Introduction: Preference for a son still continues to be prevalent in modern India. In 1994, the government of India passed the Prenatal Diagnostic Techniques Act with the aim of preventing female feticide.

Objectives: To assess the knowledge and attitude of reproductive age group women towards sex determination and PC & PNDT Act in the Urban Field Practice Areas of a medical college.

Methodology: Cross sectional study was carried out from March-April 2018 in Urban Health Centers of a medical college in Bengaluru. Women above 18 years of age, visiting the Urban Health Centers after taking informed consent were included in the study. Considering the study by Deshpande SR et al, the proportion of women having knowledge of 32.49%, the sample size was 212. A Questionnaire was made for this study based on similar studies with sections on knowledge & attitude of women towards sex ratio and PC & PNDT ACT. Descriptive statistics and Chi-square was calculated using SPSS.

Results: Around 71.4% were not aware of the decline in sex ratio. 79.1% were not aware of PC and PNDT Act. Around 49.1% did not know who can be punished under the act. Educated women and those belonging to a higher socio-economic status were aware about PC & PNDT Act and decline in sex ratio.

Conclusion: Educating the community will prevent the decline in sex ratio and female feticide through PC& PNDT Act.

Keywords: Sex ratio, PC&PNDT Act

INTRODUCTION

Preference for a son is a tradition in ancient India and still continues to be prevalent in modern India. From the first census of 1871, India has consistently shown an abnormal sex ratio (940 women for every 1000 men). The most alarming and disturbing aspect of the 2011 census is that the child sex ratio of female -male children below 6 years is even lower (91/1000) and has fallen from 927 girls / 1000 boys in 2011 and it is the lowest since 1947.¹

Advances in technology and diagnostic facilities have opened up avenues that lead to increased

mortality for the girl child and serious disturbances in sex ratio. Decades of sex determination tests and female feticide has acquired genocide proportions. Social prejudice against women, already rooted in Indian society, has been impelled by technological developments.²

In 1994, the government of India passed the Prenatal Diagnostic Techniques (Regulation and prevention of Misuse) Act with the aim of preventing female feticide. It was later amended and replaced in 2002 by the pre-conception and pre-natal diagnostic technique (prohibition of sex selection) Act

without strict and proper implementation. It was further amended in the ongoing years.^{2,3}

The provision of the act can lead to a fine of Rs 10,000 and up to 3 years imprisonment for a first offence, with greater fees and long term imprisonment for repeat offenders.³

A study of gender preference, knowledge and attitude regarding prenatal diagnostic techniques act among pregnant women in an urban slum of Bengaluru by Pavithra M.B et al revealed, preference for a son was seen in 58% of the antenatal women and 37% were aware about the decline in sex ratio. 42% had knowledge that sex determination is punishable, 16% knew about extent of punishment.¹

As we can clearly observe the falling sex ratio in our country and the rising technologies available at the urban level, it is important for us to evaluate this. Hence this study assessed the knowledge, attitude and practices of reproductive age group women towards sex determination and PC & PNDT Act in the Urban Field Practice Areas of a medical college and hospital, Bengaluru

METHODOLOGY

A descriptive cross sectional study was carried out from March to April 2018. The study population consisted of all reproductive age group women above 18 years of age, visiting the Urban Health Centers (Chikkasandra and Mallasandra) during the study period.

Considering the proportion of women having knowledge as 32.49% as per a study by Deshpande SR et al³, sample size was calculated by the formula, $n=4pq/e^2$, and found to be 212 and rounded to 220 for final sample collection. Simple random sampling was carried out till the sample size was reached. All eligible women in the age group of 18-49 years attending the OPD's of the Urban Health centers were explained about the purpose of the study and informed consent was obtained.

A questionnaire was made for the study based on similar studies comprising of socio-demographic details, sections on knowledge, attitude and practices of women towards sex ratio and PC & PNDT ACT.^{1,3,4} Confidentiality was maintained throughout the study and Ethical Clearance was taken from the Ethical Committee of SIMS & RC.

Statistical Analysis: The data was entered into Microsoft Excel and analysis of the data was carried out with the help of SPSS Version 20. Descriptive Statistics, such as frequencies and percentages were calculated. Chi Square with Fischer Exact Test was applied accordingly to assess association of different factors with depression. A p value of <0.05 was taken as significant.

RESULTS

The study population consisted of 220 reproductive age group women, with around 61.4% belonging to the age group of 18-25 years. It was seen that around 57.3% and 40% of the study population belonged to Class IV and Class III socioeconomic status based on Modified Kuppaswamy Socio-economic Classification. Around 35% completed high school, 26.4% completed PUC, 20% were graduates, 13.6% completed primary school, and 5% of them were illiterate.

The study population consisted of mainly (45.5%) primigravidas, with 20.5% with two sons, 20% with one daughter, 7.3% having one son and one daughter, 3.2% with one son, 2.3% with two daughters and only 1.4% having one son and two daughters.

Around 131(59.5%) of the women did not know about sex ratio. Majority 157 (71.4%) of them were not aware of the decline in sex ratio.

It was seen that 172(78.2%) of the women were aware of prenatal sex determination. Majority 135(61.4%) were aware that USG technique can be used for sex determination. Yet it was seen that 174 (79.1%) of the women were not aware of PC and PNDT Act and 108(49.1%) of the women did not know who can be punished under the act. It was seen that 25(11.4%) felt parents should be punished, 4(1.8%) felt that the doctor should be punished, and 83(37.7%) felt both should be punished.

It was seen that 48 (40.7%) of the women did not have any preference for male or female child. Yet 79 (35.9%) preferred sons. The reasons for preferring male baby in 68(52.7%) of the study population was that they felt sons take care of parents in old age, 44(34.1%) felt male children are needed for propagation of family name, 9 (7%) felt that females are economic liability, 5 (3.9%) felt that male children are needed for lighting the pyre and performing cremation, 2 (1.6%) had pressure from other family members to have a male child.

Around 108 (49.1%) of the study population did not want to try for a male child even after the family is completed with two female children. It was also observed that 190 (86.4%) of the study population wanted to continue their pregnancy even after knowing the sex of the foetus is opposite to what they want.

It was found that around 128 (58.2%) of the study population would advise their friends and family members not to carry out sex determination tests while 82(37.3%) of the study population did not comment on this issue. Majority 147 (66.8%) of the study population were willing to spread the awareness on prenatal sex determination.

Table 1: Association between education and practice regarding what they would do if the sex of the foetus is opposite to what they like to have (n=220)

Education	Continue with pregnancy (%)	Foeticide (%)	No comments (%)	Total (%)
<=10 th std	96 (81.4)	1 (8)	21 (17.8)	118
>10 th std	94 (92.2)	3 (2.9)	5 (4.9)	102
Total	190 (86.4)	4 (1.8)	26 (11.8)	220

Chi Square 9.755; p value <0.01

Table 2: Association between education and awareness that USG can be used for sex determination (n=220)

Education	Aware (%)	Not aware (%)	Total (%)
<=10 th std	64 (54.2)	54 (45.8)	118
>10 th std	71 (69.6)	31 (30.4)	102
Total	135 (61.4)	85 (38.6)	220

Chi Square 5.45; p value <0.01

Table 3: Association between education and awareness regarding PC & PNDT Act (n=220)

Education	Aware(%)	Not aware(%)	Total (%)
<=10 th std	85 (72)	33 (28)	118
>10 th std	87 (85.3)	15 (14.7)	102
Total	172 (78.2)	48 (21.8)	220

Chi Square 5.64; p value <0.01

Table 4: Association between education and whether they will try for a male child even after their family is complete with two females (n=220)

Education	Yes	No	No comments	Total
<=10 th std	61 (51.7)	48 (40.7)	9 (7.6)	118
>10 th std	40 (39.2)	60 (58.8)	2 (2)	102
Total	101 (45.9)	108 (49.1)	11 (5)	220

Figure in the bracket indicate percentage; Chi Square 9.038; p value <0.05

Table 5: Association between SES and awareness about decline in sex ratio (n=220)

SES	Aware (%)	Not aware (%)	Total (%)
Upper	34 (36.2)	60 (63.8)	94 (100)
Lower	26 (20.6)	100 (79.4)	126 (100)
Total	60 (27.3)	160 (72.7)	220 (100)

Chi Square 7.24; p value <0.01

It was found that 94(92.2%) of those women who were educated above 10th Standard would continue with their pregnancy even if the sex of the foetus is opposite of what they would like to have, which was found to be statistically significant (p < 0.01- Table 1). It was also seen that 71 (69.6%) of those who have been educated above 10th standard were aware that Ultrasound can be used for sex determination and 87 (85.3%) of those who studied above 10th standard were aware about PC & PNDT Act (Tables 2& 3). In both cases it was found to be statistically significant (p<0.01).

In Table 4 it can be seen that those educated above 10th standard , around 60 (58.8%) did not want try for a male child even after completing their family

with two female children , which was found to be statistically significant (p< 0.05).

It was also seen that those belonging to higher socio-economic status are more aware about decline in sex ratio and PC&PNDT Act than those belonging to lower socio-economic class, which was found to be statistically significant (p< 0.05- Table 5).

DISCUSSION

The study population consisted of 220 reproductive age group women, with around 61.4% belonging to the age group of 18-25 years. It was seen that around 57.3% and 40% of the study population belonged to Class IV and Class III socioeconomic status based on Kuppuswamy Socio-economic Classification. Around 35% completed high school, 26.4% completed PUC, 20% were graduates, 13.6% completed primary school, and 5% of them were illiterate.

Around 59.5% of the women did not know about sex ratio. Majority (71.4%) of them were not aware of the decline in sex ratio. This was similar to a study by Sharma D et al who found that only 45% of their study population were aware of the declining sex ratio in the country.⁵

It was seen that 78.2% of the women were aware of prenatal sex determination. Majority (61.4%) were aware that USG technique can be used for sex determination. This was unlike a study done by Puri S. et al in Chandigarh⁶ where awareness was only 11.66%. Sex determination is now within the reach of people because of ultrasounds, being cheap and easily accessible, the role of hospitals and doctors plays is put to the test.⁶

Yet it was seen that 79.1% of the women were not aware of PC and PNDT Act and 49.1% of the women did not know who can be punished under the act. This was in contrast to a study by Kumar SS et al, where 56% were aware of PC &PNDT ACT and 89% were aware that sex selection is punishable. Their main source of information was media (82%) and by friends/ relatives in the remaining (18%).⁴ These contrasting findings may have occurred as this study was carried out in a semi - urban area where the community contained a mixed population from different states and largely

consisted of migrants, where their source of information is dependent on media and local health care workers. Another study by Sharmila V et al revealed that many participants did not have knowledge regarding the type of punishment for the offence of prenatal sex determination, with majority only stating a fine was given.⁷ Their study also showed that many study subjects opined that it should not be made as a punishable act.⁷ This highlights the need for reinforcement of health related issues in the community through different health education campaigns. This also highlights that literacy and understanding of the health issues play symbiotic role in betterment of the community.

It was seen that 40% of the women did not have any preference for male or female child. Some of the participants did not disclose their preference regarding gender of the child and PCPNDT act, indicating the sensitiveness of the topic. ² Yet 30.9%, preferred sons as they felt that sons take care of parents in old age. This is similar to a study by Mahaur G et al, who found that men in rural areas felt boys are required to take care of elderly family members. ² Around 49.9% of the study population did not want to try for a male child even after having two female children. Among which majority of them (67.7%) did not want to go for sex determination. A study by Kansal R et al found that one-third (31.1%) of their study population gave no reason for their male preference. Among the other reasons given were that boys carried out the social responsibility (8.9%), propagate the family name (6.7%), and they can depend on son in old age (2.2%). In their study the reasons for female preference was that 33.3% of them had already had male children and so now they desire female child, girls bring good luck (16.7%), propagate life (8.3%), and are more responsible (8.3%). This indicates that many still believe in a balanced family with both female and male children. ^{8,9}

It was observed also that 86.4% of the women wanted to continue their pregnancy even after knowing the sex of the foetus is opposite to what they want. This was in contrast to a study done by Kumar S S et al in Visakhapatnam City who found that the preference for a male child was observed among 2nd (27%) and 3rd (50%) order pregnancy, with 18% of the women attempting to obtain information about the sex of the fetus in the present pregnancy.⁴

Around 58.2% of the study population would advise friends and family members not to carry out sex determination tests with 37.3% not commenting on the issue. Majority (66.8%) of the people were willing to spread the awareness on prenatal sex determination.

This study highlighted that education plays an important role in gender preference and how technology can be harmful to the society. It was found that 69.6% knew that Ultrasound examination can be used in identification of sex of the child. It was found that 85.3% in those who studied above 10th standard were aware of PC & PNDT Act. This was similar to a hospital study done by Kapoor G et al which found that 70.59% of their study population were aware that prenatal diagnostic test is illegal and association of this with educational status was found highly significant. ⁹

It was also seen that those belonging to higher socio-economic status are more aware about decline in sex ratio and PC&PNDT Act than those belonging to lower socio-economic class. This was similar to a study by Khatri M et al found a positive attitude towards PC& PNDT Act among women attending their clinic with higher literacy status and an increasing trend of knowledge on PC & PNDT

Act in those belonging to a higher socioeconomic group.¹⁰

A study by Vidit K et al revealed that though the knowledge regarding sex determination and PC & PNDT Act was present in women, still the practice of female feticide is prevalent in educated societies as their still remains a strong son preference in today's society. ¹¹ This was comparable to a study conducted by Srivastav S et al who found in their study that only 47% of their study population was aware of the implications of female feoticide like increase in crime and molestations. ¹²

Health Education should be given to the community regarding decline in sex ratio and PC& PNDT Act, and awareness should be given for the utilization of newer modalities of prenatal diagnostic techniques, such as amniocentesis and genetic counseling for early detection of congenital anomalies rather than determining the sex of the child. ¹²

Limitations :

The limited sample size may have affected the results. Participants may have been reluctant to answer the questions Bias may be introduced as it was a facility based study

CONCLUSION

It was seen in our study that majority of the study participants were not aware about the PC & PNDT Act nor about the decline in the sex ratio. It was also observed that around half of the study participants were not aware of who could be punished under the act. It is important to give the community continuous awareness on the decline in sex ra-

tio and the importance of different legislative acts to prevent female foeticide and protect the mother and unborn child.

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Dr. Shruthi Shetty conceived the study, designed the statistical analysis, interpreted the results and drafted the manuscript. Dr Lovely collected the data and interpreted the results and helped draft the manuscript. Dr Maheswaran participated in the design and coordination of the study. Dr Menta Sai Rikesh and Dr. Daniel Ernest collected the data and interpreted the results. All authors read and approved the final manuscript.

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