

## STUDY OF AWARENESS ON PCPNDT ACT & SEX DETERMINATION AMONG PREGNANT FEMALES VISITING KIMS&RF,AMALAPURAM.

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### ABSTRACT

#### Background:

Declining sex ratio is an issue of grave concern in India. Son preference has been one of the most evident manifestations of our society. Today, with technological advancement in medical diagnosis this discrimination begins even before birth(3). Various medical technologies have been put into practice to identify the sex of the child before the birth and selective abortion, if found female. PC-PNDT Act, 1994 was enacted to provide regulation of pre-natal diagnostic techniques for the prevention of the misuse of such techniques for the purpose of pre-natal sex determination leading to female feticide (4). **Methods:** The present cross-sectional study was conducted in KIMS & RF,AMALAPURAM, the subjects were administered with pre-designed and pretested questionnaire. Information was collected regarding sex determination as well as PC-PNDT Act. **Results:** Majority of the study participants (n=85, 60.7%) knew that prenatal sex determination was possible. Mass media was the main source of information (n=41, 48.2%) followed by family/friends (n=28, 33%). When participants were asked regarding possible modality of sex determination, 37.6% (n=32) stated that ultrasound is the modality, 8.2% (n=7) opined that amniocentesis is the modality and a significant proportion of subjects (n=37,43.5%) were not aware regarding the modality. Majority of the study participants (n=48, 56.6%) opined that prenatal sex determination can be done in government and private hospitals. Majority of the subjects (n=90, 64.3%), preferred male over female child. When study participants were asked regarding legality of sex determination, only 40% (n=34) of them knew it was illegal and it was punishable offence. While (n=15, 44%) said that only doctors were punished for the offence and 32% (n=11) opined that, both doctors and patients should be punished for the offence. Majority of the study participants (n=109, 77.9%) had noticed posters/papers of PCPNDT act outside the scanning room. Nearly 100% (n=140) of the participants had given proper consent before undergoing antenatal scan. **Conclusions:** The majority of the study participants are knowledgable regarding prenatal sex

determination, but <50% of study subjects are aware that is a punishable offence. Higher proportion of participants preferred male child over female child with no significant difference in choice of preference among literates and illiterates, which is a cause of concern.

**Key Words:** PRENATAL SEX DETERMINATION, PCPNDT, PREGNANT FEMALES.

## **INTRODUCTION :**

Sex ratio is an important social indicator of prevailing equity between males and females in the society. In India, the sex ratio is calculated as number of females per 1000 males (1, 2). According to the NFHS-5 data, in India the sex ratio at birth in the last five years (females per 1000males) was 929. In east Godavari, Andhra Pradesh, according to the recent NFHS-5 data, the sex ratio at birth in last five years (females per 1000males) was 882. Declining sex ratio is an issue of grave concern in India. Son preference has been one of the most evident manifestations of our society.

Today, with technological advancement in medical diagnosis this discrimination begins even before birth(3). Various medical technologies have been put into practice to identify the sex of the child before the birth and selective abortion, if found female.

The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 was enacted to provide regulation of pre-natal diagnostic techniques for the prevention of the misuse of such techniques for the purpose of pre-natal sex determination leading to female feticide (4).

Prenatal Diagnostic Techniques Act (PNDT) was later amended as Pre-conception and Pre-natal Diagnostic Techniques Act (PCPNDT)(5). The objective of the act is to prevent the misuse of diagnostic techniques in sex selection and sex selective abortions.

### **Aims and objectives:**

The study aims to assess the awareness of pregnant females regarding PCPNDT act and prenatal sex determination.

### **Materials and methods:**

**Place of study:** Konaseema institute of medical sciences and research foundation, Amalapuram

**Duration of study:** 6 months (July 2023 to December 2023)

**Inclusion criteria:** First, second, third trimester pregnant females came for antenatal scan.

**Exclusion criteria:** Unmarried pregnant females, Miscarriage, Hydatidiform mole of pregnancy.

**Sample size:** 140

**Study design:** Questionnaire based cross sectional study

### **Method of collection of data:**

Pre designed, pretested questionnaire will be prepared and administered among the pregnant females visiting for antenatal scans. It consists of questions regarding demographic information and also regarding the awareness of gender determination.

### **STATISTICAL ANALYSIS:**

The collected data will be compiled, tabulated, presented in graphs and is being statistically analysed using Statistical Package for Social Sciences software (SPSS), 21<sup>ST</sup> version.

## **RESULTS :**

**Table-1 shows the awareness regarding prenatal sex determination:**

Majority of the study participants (n=85, 60.7%) knew that prenatal sex determination was possible. Mass media was the main source of information (n=41, 48.2%) followed by family/friends (n=28, 33%).

When participants were asked regarding possible modality of sex determination, 37.6% (n=32) stated that ultrasound is the modality, 8.2% (n=7) opined that amniocentesis is the modality and a significant proportion of subjects (n=37,43.5%) were not aware regarding the modality.

Majority of the study participants (n=48, 56.6%) opined that prenatal sex determination can be done in government and private hospitals.

Majority of the subjects (n=90, 64.3%), preferred male over female child.

**Table-2 shows the awareness of study participants regarding the PCPNDT act:**

When study participants were asked regarding legality of sex determination, only 40% (n=34) of them knew it was illegal and it was punishable offence. While (n=15, 44%) said that only doctors were punished for the offence and 32% (n=11) opined that, both doctors and patients should be punished for the offence.

Majority of the study participants (n=109, 77.9%) had noticed posters/papers of PCPNDT act outside the scanning room. Nearly 100% (n=140) of the participants had given proper consent before undergoing antenatal scan.

QUESTION	RESPONSE	ILLITERATE	LITERATE	TOTAL	statistical analysis		
<b>AWARENESS REGARDING PC PNDDT ACT(TABLE-1)</b>							
Have you heard about PC PNDDT Act	Yes	19 (28.3 %)	44 (60.3 %)	63 (45 %)	chisq=14.38	df=1	p<0.001
	No	48 (71.6 %)	29 (39.7 %)	77 (55 %)			
Is prenatal sex determination is legal?	Legal	7(18.6%)	12(24.5%)	19(22.4%)	chisq=4.16	df=2	p=0.12
	Illegal	11(31.3%)	23(50%)	34(40%)			
	Don't know	18(50%)	14(28.5%)	32(37.6%)			
If illegal , who is punishable for sex determination	Doctor	4(36.4%)	11(47.8%)	15(44.1%)	chisq=0.399	df=2	p=0.82
	Patient	3(27.2%)	5(21.7%)	8(23.5%)			
	Both	4(36.4%)	7(30.4%)	11(32.4%)			
you noticed any posters / papers of PC PNDDT Act out side the scanning room	Yes	51(76.2%)	58 (79.5 %)	109 (77.9 %)	chisq=0.225	df=1	p=0.64
	No	16 (23.9 %)	15 (20.5 %)	31 (22.1 %)			
Have you given proper consent before undergoing antenatal scan	Yes	67 (100 %)	73 (100 %)	140 (100 %)			
	No	0	0	0			
Do you know that female to male sex ratio is reducing in INDIA	Yes	25 (37.3 %)	41 (56.2 %)	66 (47.1 %)	chisq=4.98	df=1	p=0.02
	No	42 (62.7 %)	32 (43.8 %)	74 (52.9 %)			
<b>AWARENESS REGARDING SEX DETERMINATION(TABLE-2)</b>							
Is sex determination possible during pregnancy	Yes	36 (53.7 %)	49 (67.1 %)	85(60.7%)	chisq=2.87	df=2	p=0.24
	No	11 (16.4 %)	7 (9.6 %)	18(12.9%)			
	Don't know	20 (29.8 %)	17 (23.3 %)	37(26.4%)			
If yes , source of information	Mass media	20(56%)	21(44%)	41(48.2%)	chisq=14.96	df=2	p<0.001

	Family / Friends	16(44%)	12(24.3%)	28(33%)			
	Teachers	0	16(31.7%)	16(18.8%)			
if yes, how it is done	USG	10(27.8%)	22 (44.9%)	32 (37.6%)	chisq=25.18	df=3	p<0.001
	Amniocentesis	0	7(14.3 %)	7 (8.2%)			
	Both	0	9 (18.4 %)	9 (10.6 %)			
	Don't Know	26 (72.2%)	11 (22.4%)	37 (43.5%)			
Area where prenatal sex determination can be done	Government Hospital	2(5.9%)	3(6.8%)	5(6.6%)	chisq=0.50	df=3	p=0.9
	Private Hospital	9(25.4%)	11(23.3%)	20(23.5%)			
	Both	21(58.2%)	27(54.8%)	48(56.6%)			
	Don't know	4(10.4%)	8(15%)	12(14%)			
Child's gender preference	Male	43(64.2%)	47 (64.4%)	90 (64.3%)	chisq=1.34	df=2	p<0.001
	female	15 (22.4%)	12 (16.4%)	27 (19.3%)			
	No preference	9 (13.4%)	14 (19.2%)	23 (16.4%)			

**DISCUSSION :**

The primary goal of this study is to assess the awareness of prenatal sex determination and PC&PNDT act among pregnant females.

According to the current study, 47.9% (n=67) pregnant females are illiterates. Ironically 53.7% (n=36) of them, which is a significant proportion, are aware that prenatal sex determination can be done.

Although 60.7% (n=85) of the study participants (literate and illiterate) are aware that sex determination is possible during pregnancy, only 40% (n=34) of them (literate and illiterate) know it is illegal.

Our study findings, correlate with the study done by shalini srivastav et al, in that study, 80% of females irrespective of their literacy status were aware about prenatal sex determination. However 67% were unaware of PC&PNDT Act and the unawareness was significantly associated with literacy status of women.

In the present study, about 37.6% (n=32) of study subjects (both literate and illiterate) had knowledge that sex determination can be done by ultrasound, 8.2% (n=7) opined that sex determination can be done by amniocentesis, only 10.6% (n=9) of the study participants, had proper knowledge that sex determination can be done by both ultrasound and amniocentesis.

About 64% (n=90) of the participants (both literate and illiterate) had preference for male over female child. There is no significant difference between literate and illiterate, over preference for male over female child.

The reason they frequently stated for male child preference, that there is increase in crime and molestations on females as well as men will look after them, when they become old.

In a study done by Vinod Vedpathak et al, total 840 pregnant women were interviewed during study period. It was observed that 622 (74%) pregnant women aware about availability of sex determination facility. Among all 496 (59.05%) had knowledge about the method of sex determination. In their study 294 (35%) of pregnant women gave preference to male child. A preference to male child was significantly associated with education of mother, socioeconomic class and sex of the last child whereas insignificant association with religion and gravid of women. In our present study, there is no significant difference between literate and illiterate, over preference for male over female child.

In the present study, majority of the study participants (n=48, 56.6%) opined that prenatal sex determination can be done in government and private hospitals.

About 52.9% (n=74), which is a significant proportion of the study participants (both literate and illiterate), had no awareness regarding declining female to male sex ratio. Remaining, 47.1% (n=66) population are aware that, there is decline in female to male sex ratio (majority of them, get to know by mass media).

Despite the growing number of legal regulations and rules regarding female feticides and prenatal sex determination, the study participants did not have much awareness regarding PC&PNDT act, only 40% (n=34) of them (literate and illiterate) know it is illegal (punishable offence).

Our findings differs with the study done by Nithin kumar et al 7, showed that study included 132 participants and the mean age of study subjects was around 27 y. Majority of the study subjects (91.7%) knew that prenatal sex determination was possible. Three fourth (74.4%) of the participants prenatal sex determination was a punishable offence.

The literate pregnant study participants about 50% (n=23) are aware that it is illegal to determine the sex of the fetus during pregnancy. Compared to illiterate subjects, literate study subjects are better aware that it is illegal to determine sex during pregnancy.

**CONCLUSION:**

The majority of the study participants are knowledgeable regarding prenatal sex determination, but <50% of study subjects are aware that it is a punishable offence.

Higher proportion of participants preferred male child over female child with no significant difference in choice of preference among literates and illiterates, which is a cause of concern.

Regular continuing medical education sessions need to be held at community level regarding declining female to male sex ratio and for PC&PNDT act awareness.

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