

## Original Research Article

# The unmet needs of PCPNDT act in the women of the general population in North India

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## ABSTRACT

**Background:** Government of India has taken measures to stabilize the sex ratio by introducing Pre-Conception and Pre-natal diagnostic techniques act (PCPNDT). Despite various amendments, awareness about the act amongst women appears suboptimal. Present study was aimed to assess the knowledge and attitude regarding PCPNDT act in women attending tertiary care hospital and to determine the lacunae regarding its implementation.

**Methods:** Cross-sectional study was conducted by Department of Obstetrics and Gynecology. Total of 1000 women were included and a pre-designed questionnaire was used to get information regarding socio-demographic details and to assess the knowledge and attitude towards the PCPNDT Act. Data was analyzed using Statistical package of social sciences (SPSS) 16.0.

**Results:** In the present study, 75% women were in the age group 21-40 years and were Hindus. Only 25% (n=256) knew about PC-PNDT act. Majority of the subjects (n=880, 88%) had no knowledge that the doctors are also punishable. Attitude of women was also not a benchmark as 40 % women were keen to know the sex of their unborn child and 66% of the participants said that having a male was important for the family.

**Conclusions:** The knowledge about PC-PNDT act was below the expected standards. The attitude of women towards sex determination of unborn child and sociocultural influences favoring male child are still deeply rooted in society. Active involvement of media, social workers and health staff for dissemination of information to the public and to bring change in attitude of women is the need of the hour.

**Keywords:** Preconception and prenatal diagnostic technique act, Sex ratio, Sex determination, Knowledge

## INTRODUCTION

India has a skewed sex ratio as compared to the global statistics. It is defined as the number of females per 1000 of males, whereas globally it is the number of females per 100 males. According to Sample registration system (SRS) 2011 survey India's sex ratio is 933/1000 males.<sup>1</sup> Review of data over the years has shown worrisome decline in child sex ratio favorable towards the male sex. In the 2011 census, this ratio had declined to 914 per 1000 boys from

927 in 2001. Factors attributed to the decline are increased sex selective female abortions and feticide. One of the most important preventable factors among these is the prevention of sex selective female abortions. The government of India has taken measures to overcome this by introducing the Pre-natal diagnostic techniques act (PNDT) in 1994 that was later amended as Pre-conception and pre-natal diagnostic techniques act (PCPNDT) in 2002 with the objective of preventing the misuse of diagnostic techniques and sex selection and limits their use for genetic abnormalities, metabolic disorders, chromosomal

abnormalities, congenital malformations, haemoglobinopathies and sex-linked disorders.<sup>2</sup>

Despite various amendments, awareness about the act amongst women who are the direct beneficiaries appears suboptimal. To correct the persistently adverse sex ratio, the need is to change the mindset and attitudes of people. The present study was conducted to assess the knowledge and attitude regarding PCPNDT act in women availing various services in a tertiary care hospital and to determine the lacunae if any, regarding its implementation.

## METHODS

The present cross-sectional study was conducted at tertiary care teaching hospital in Delhi from April 2018 to April 2019. The study population included women availing the inpatient and outpatient services in the department of obstetrics and gynecology. The sample size of 1000 was calculated by considering the awareness among antenatal mothers for prenatal sex determination as 6% with 1% margin of error and 95% confidence interval. Women attending antenatal outpatient department (OPD), family welfare clinic for medical termination pregnancy (MTP), and gynecology OPD who were willing to participate in the study were included.

Women not willing to participate, elderly, very sick, mentally challenged women, professionals concerned with the legal implication of the act, staff members, paramedics, students and employees of the hospital were excluded.

Data was collected by the direct interview method by the researcher using a predesigned questionnaire. Information collected included sociodemographic profile of the study participants and their awareness regarding PC-PNDT act. The data collected were entered and analyzed using the statistical package for social sciences (SPSS) 2016. Categorical variables were summarized using percentages and proportions. Chi-square test was employed for analyzing categorical data.  $p < 0.05$  was considered statistically significant.

## RESULTS

A total of 1000 women were assessed for awareness and attitude regarding prenatal sex determination, and PCPNDT act. Out of 1000 women, 75% women were in the age group 21-40 years and were Hindu by religion. Around 38% women were illiterate and 53% had studied up to middle school while only 7% were graduates. Majority (65%) belonged to lower class as per modified Kuppuswami scale (Table 1).

Table 2 depicts awareness amongst women regarding sex determination and PC PNDT act. Only 17% knew that ultrasound can be used for sex determination and the place where it can be done. A few (30%) knew about the government schemes for girl child. Only 25% (n=256) knew about PC-PNDT act. Majority of the subjects

(n=880, 88%) were not aware that the doctors who facilitate prenatal sex determination are punishable, while only 9% knew correctly about the punishment under this act.

**Table 1: Socio demographic profile of study group.**

Socio demographic profile		Total, n (%)
Age (years)	11-20	123 (12.30)
	21-30	567 (56.70)
	31-40	184 (18.40)
	41-50	58 (5.80)
	51-60	34 (3.40)
	61-70	26 (2.60)
	>70	8 (0.80)
Religion	Hindu	757 (75.70)
	Muslim	200 (20.00)
	Others	43 (4.30)
Education	Illiterate	376 (37.60)
	Middle school	525 (52.50)
	High school	92 (9.20)
	Graduation	7 (0.70)
Occupation	Employed	131 (13.10)
	Unemployed	869 (86.90)
Socio economic status	Lower	647 (64.70)
	Middle	353 (35.30)

**Table 2: Awareness about prenatal sex determination and PC PNDT act.**

Questions	Yes		No	
	N	%	N	%
Is there any test for sex determination?	272	27.2	728	72.8
Sex determination can be done in registered clinics/hospital?	170	17	830	83
Do you know about government schemes for girl child	292	29.2	708	70.8
Have you heard of PCPNDT act	256	25.6	744	74.4
Does it include punishment?	96	9.6	904	90.4
Are doctors punished?	120	12	880	88
Do you know about type of punishment under PC-PNDT	96	9.6	658 246 (partially correct)	65.8 24.6

Table 3 depicts 40% women were keen to know the sex of their unborn child. 66% of the participants said that having a male child was important for the family as only the males

would work and earn money. Only 20% of women said that women are independent and working in their family.

**Table 3: Attitude of women regarding the Act.**

Questions	Yes		No	
	N	%	N	%
Have you ever thought of getting the sex determination of your unborn child	404	40.4	596	59.6
Are girls independent and skilled in your family	208	20.8	792	79.2
Having a girl or boy matter in your family	664	66.4	336	33.6

**Table 4: Association of socio-demographic factors with awareness of PCPNDT act.**

Variables	Aware n (%)	Not aware n (%)	p value
Age (Years)			
<20	25 (30.9)	56 (69.1)	0.217
20-39	203 (25.6)	590 (74.4)	
40-59	17 (18.5)	75 (81.5)	
>60	11 (32.4)	23 (67.6)	
Education			
Illiterate	53(14)	323 (86)	0.001
Middle school	92 (6)	433 (94)	
High school	71 (77.2)	21 (22.8)	
Graduate	6 (85.7)	21 (22.8)	
Socio-economic status			
Lower	164 (25.3)	483 (74.7)	0.805
Middle	92 (26.1)	261 (73.9)	

Table 4 depicts awareness of PC PNDT act in relation to sociodemographic factors. With respect to the socioeconomic status, study participants of the lower socioeconomic classes were more ignorant about the PCPNDT act but this difference was not statistically significant. Lower level of education was significantly associated with declining awareness about PCPNDT act.

## DISCUSSION

There have been concerns regarding declining female population in India. Government has been worried and is working to curb the practice of sex determination and sex selection by introducing PCPNDT act. Despite the legislative actions there have been violation of the rules and regulations laid by the act. It is important to know whether women who gives birth to a child understands the

laws and its implications. In the present study, a majority of the participants (85%) were unaware of the PC-PNDT act. Studies with similar aim conducted in other parts of the nation revealed a varying level of awareness 65-73%.<sup>3-5</sup> These studies had a small sample size of up to 300 participants. Shinde et al reported awareness of 34% in their study.<sup>6</sup> This calls for more specific efforts on part of Government agencies and media to increase the awareness of the act in general population.

In present study, around 40% women wanted to know about the sex of the unborn baby and 66% felt that it was important to have a male child. Above mentioned studies although showed that large number of the participants knew about the prenatal sex determination and it was a punishable offence, still a majority of them preferred to know the sex of unborn child.<sup>3-5</sup> It clearly shows that overall understanding of the act is lacking. Society needs to realize the importance to maintain a balance between male and female ratio. If this balance is not maintained, the social and economic system will be harmed. Son is the preferred choice not only of the lower class but also of the educated and the worldly wise. Mindset of people that daughters are a burden to family while the son will carry forward the bloodline and will stay with them in old age has to be changed. A female child has to be perceived as economic security and be given recognition. Society need to be aware if sex selection persists it will lead to shortage of brides which would hamper the growth of our country.

Awareness regarding the punishment on violation of the act which is 3 years imprisonment and up to rupees (Rs.) 10,000 fine, and on repeat offence up to 5 years imprisonment and up to Rs. 50,000 fines are also lacking. Not only the family but registered practitioner would also be taken to task on not following the rules is hardly known to them. Knowledge among participants on the type of punishment for the offence was very low (9%) in current study. Similar findings were reported by studies conducted in Mumbai, Puducherry and Chandigarh.<sup>5-7</sup> Hence, it is the need of the hour to enlighten the public on this aspect of the act.

In current study uneducated women were less aware of the act compared to educated women which was statistically significant. Similar findings were reported in studies by Sarkar and Shrivastav et al.<sup>8,9</sup>

Problems in implementation of act lies at two levels-delivering end and receiving end. Health care workers who comes in contact with the general public needs to be fully aware of the act and should be able to impart the knowledge regarding the same to the family. Study conducted on undergraduate students have shown that poor awareness regarding the altered sex ratio and the PCPNDT act.<sup>10,11</sup> Sindhu et al also reported that the correct knowledge regarding PCPNDT act was poor among the medical undergraduates as only 63% knew that both fine and imprisonment are the penalties under this act.<sup>12</sup>

Secondly it is the incomplete awareness and attitude of the people. Despite having knowledge about the prenatal sex determination and that it is a punishable offence, still it is not a deterrent towards sex determination. Hence, it is not just the knowledge and awareness but need to change the societal attitude towards preference of male sex. This will enable the act to be implemented more effectively.

The limitation of the study is that it is pertaining to women whereas mostly in India men are the decision makers. Further studies which include males are thus proposed.

The strength of current study was the large sample size (1000 women) to be conducted on a wider scale considering a large cluster of women of North India. This study also shows a close reflection of the extent of implementation of the PCPNDT act in the general population.

## CONCLUSION

The knowledge and awareness about PCPNDT act was below the expected standards. It was significantly correlated with the level of education in the women. Robust measures need to be taken by government agencies enhancing the literacy levels among women along with wider publicity of the PC-PNDT act by the mass media. Regular workshops should be conducted amongst health care workers to enhance their ability to communicate it to the general population. Media and health staff need to be actively involved in dissemination of information to the public. Community based awareness campaign's need to be strengthened to create better awareness. Further large studies are required to establish any other pitfalls in the implementation of the act.

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