

Knowledge, Attitude and Practice of Gender Preference & Pre-Natal Sex Determination in Population Visiting Tertiary Care Hospital in Rural Area

Pratik Tawri*, Kiran Patole, Hrishikesh Yalgudkar***

Author's Affiliation:

*Intern **Professor & Head, Dept. of Obstetrics and Gynaecology, MVP's Dr Vasant Rao Pawar Medical College, Hospital & research centre, Nashik.

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Pratik Tawri, Intern, MVP's Dr Vasant Rao Pawar Medical College, Hospital & Research Centre, Nashik - 422207 Maharashtra. E-mail: tawripratik@gmail.com

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Abstract

Introduction: India is facing a demographic nightmare in terms of gender imbalance, The worrying fact is the child sex ratio in Nashik district is 890 which is much lower than the national average of 919. This rate of decline is alarming. Though government has implemented PC & PNDT Act to prevent pre-natal sex determination, it seems not to be reflected in practice. *Aims & Objectives:* To assess the Knowledge, Attitude and Practice of Gender Preference & Pre-natal sex determination in population visiting ANC OPD in a tertiary care hospital in Nashik district. *Materials and Methods:* This is a cross sectional prospective study carried out at a tertiary care hospital involving 100 Married women of reproductive age group and have not completed their family visiting ANC OPD. Analysed using SPSS software 20. *Results:* Out of 100 women, 71% knew about the PC PNDT act but only 38% have knowledge about the sex ratio and 85% of them preferred a male child in their subsequent pregnancy. This study suggest that those who have preferred more males, desired to know the sex of the child during pregnancy 34.20%. This is statistically significant, as well they could induce abortion if by chance they get to know the gender of foetus and it is of opposite sex to what they had desired, it is also statistically significant (0.000238 i.e. $p < 0.05$). *Conclusion:* The existence of son preference is at an alarming high rate in our society and is the most important - the root cause of imbalanced sex ratio. Thus apart from the legislative measures, people also needs to be educated about the ethical issues related to female foeticide

Keywords: Attitude; Gender Preference; PC & PNDT Act; Sex Ratio; Female Foeticide.

Introduction

“Women's rights are the edifice on which human rights stand “

Dr A.P.J. Abdul Kalam

Over the past decades, gender equality has been explicitly recognized as a key not only to the health of nations, but also to their social and economic development [1].

In India female infanticide has been practiced for centuries with the earliest evidence being provided by Sir Jonathan Duncan in 1789 [2].

The increase in female foeticide has seen a proportionate decrease in the sex ratio which has hit an all time low, especially in the 0-6 age group and if this decline is not checked, the very delicate equilibrium of nature will be permanently destroyed. On the basis of census 2011, the united nations children fund states that systemic gender discrimination has resulted in up to 50 million girl and women “going missing” from India's population

[3]. The Millennium Developmental goals (MDG) for 2015, has listed promotion of gender equality and women's empowerment [4].

The sex ratio is calculated as the number of males per one hundred females in a population globally, whereas in India it is defined as number of females per thousand males [5]. India is one of the few countries in the world which has not shown an improvement in the sex ratio over decades. Sex ratio has been declining in India since 1901 [6]. A shortage of girls would lead to a shortage of eligible brides thus making a girl a "scarce commodity". This trend which is manmade is very dangerous and need to be reversed before it leads to serious negative social consequences.

According to Census of India 2014, the sex ratio is very low i.e. 940 females / 1000 males and the child sex ratio (0-6 age group) is even lower i.e. 914 females / 1000 males which has fallen from 927 females / 1000 males in 2001.

On comparing with this census of India and of Nashik district, it was observed that the sex ratio in Nashik is 919 but the more worrying fact is that in Nashik the Child sex ratio is 890 which is much lower than the national average of 914 [7]. This rate of decline is alarming. If this trend continues, there will be violence against the women in all its forms which would go up creating an atmosphere of insecurity towards girls and would lead to harsh consequences of confining girls inside the four walls, not allowing them to go out even for education and jobs and a time would come when a women would be married off to several men. Various factors are associated with this low sex ratio but the major factor behind this is sex selective abortion [8]. The main reasons for this sex selective abortion is based on a common perception that female child is an economic burden on the family due to dowry problems, vulnerability of them for security reasons whereas males can prove to be a breadwinner, are strong enough to take care of their family as well as carry forward the family name.

Sex selective abortions have come into practice due to the advanced technologies and diagnostic facilities available now days, which are leading as easy access to the girl haters to undergo the evil practice of female foeticide after knowing the gender of the child prenatally, as well as desire for male child manifests so blatantly that parents have no qualms about repeated, closely spaced pregnancies, pre-mature deaths and even terminating the child before birth. Such practices are proving to be a nightmare for demographers and policy makers across the globe. Birth of female child is perceived as a curse with economic and social liability [9].

Thus to these evil practices has lead to enforcement of Pre-conception and Pre-natal diagnostic techniques Act. In 1994, Government of India passed the Prenatal diagnostic techniques (Regulation and Prevention of Misuse) Act with the aim of preventing female foeticide. The implementation of this act was slow. After a few amendments it was replaced in 2002 and 2003 by the Pre-conception and Pre-natal diagnostic techniques (Prohibition of sex selection in any form) Act [10]. Although government is trying its best to increase the awareness of the people regarding this act, it has not been properly reflected in the practice yet with no apparent increase in the sex ratio.

Since most of the female foeticide are preventable and the PC & PNDT act is very helpful in reducing the sex selection of the child during pregnancy and looking at the number of factors it influences and its serious implications, thorough and in depth study on the Gender preference is needed. Hence the emphasis of my study is to access the knowledge, attitude and practice related to PC & PNDT Act amongst the women visiting ANC OPD in a tertiary care hospital in Nashik district. This is an attempt to find out the various reasons of very low child sex ratio in Nashik and also inform and educate them about PC & PNDT Act so that this social evil of gender imbalance can be removed from the society by preventing the female foeticide because it is very important for the overall socio-economic progress of the State as well India.

Aims & Objectives

More preference towards male child and the inadequate knowledge about the PC & PNDT acts and the lack of the harsh reality of the consequences of low sex ratio are the main reasons for undergoing sex selective abortions. Keeping all these facts in view, the study aims:

1. To assess the Knowledge, Attitude and Practice of Gender Preference & Pre-natal sex determination in population visiting ANC OPD in a tertiary care hospital in Nashik district.
2. To create awareness regarding the prevention of pre-conception and pre-natal sex determination (PC & PNDT Act).
3. Contributing in the improvement of Sex ratio.

Material & Methods

Inclusion Criteria

All female patients in the reproductive age group

of 18 – 45 years visiting ANC Clinic were included.

Exclusion Criteria

1. Women those who have completed their family.
2. Sterilized female.
3. Unmarried female.

Methodology

A Cross-sectional study was conducted at a tertiary care hospital over the period of two months (July – September) after getting the Institutional Ethics Committee (IEC) approval. 100 women (in the child bearing age group) visiting ANC OPD in Obs – gyne dept were selected randomly. After their consent was obtained, a pre-designed, pre-tested questionnaire was provided to them. It was printed in English, Hindi and the local language Marathi. They were then informed of the survey, its objectives and procedures and assured that the information collected would be treated as confidential and used only for research purpose.

The questionnaire provided is pre-tested and pre-designed which consists of three sections: Form A, B and C

- A. Questions to know the bio-social and economic status of the couple.
- B. Questions to elicit the gender preference of the couple and to know their desired family size.
- C. Questions to assess the knowledge, attitude and practice towards PC & PNDT act as well as sex ratio.

Form A - includes family composition, demographic and socio-economic profile.

Form B - consists of questions eliciting the gender preference in their family and their desired family size.

Form C - is framed in 3 separate sections for accessing the knowledge, attitude and practice regarding PC & PNDT act.

The study involves collection of information regarding knowledge and attitude of the antenatal women about the PC & PNDT act using multiple choice questions (MCQ's). The variables included to evaluate the knowledge on PC & PNDT act are, awareness regarding the law, declining sex ratio, possibility of intra uterine sex determination and methods, punishments associated with misuse of PC

& PNDT act and its extent. The attitude of antenatal women was assessed by questions like whether she will like to determine the sex of the foetus, if the sex of foetus is opposite of what they desired what will she do. The practice was assessed by questions like how will you prevent if their friend/family members wants to do in-utero sex determination, and how will they approach to such people.

Conclusion was drawn by statistical comparison. These women were briefed about the PC & PNDT Act and the long term consequences of the less females in the society.

The survey was conducted under supervision, at the regular OPD of Department of Gynaecology and Obstetrics of the tertiary care hospital.

The obtained data was analyzed by SPSS software 20.0 and tests of significance were applied.

Observation and Result

A total of 100 women visiting ANC OPD at a tertiary care hospital in Nashik were studied and assessed for their knowledge, attitude and practice regarding pre-natal sex determination and Pre-conception plus Pre-natal Determination techniques act.

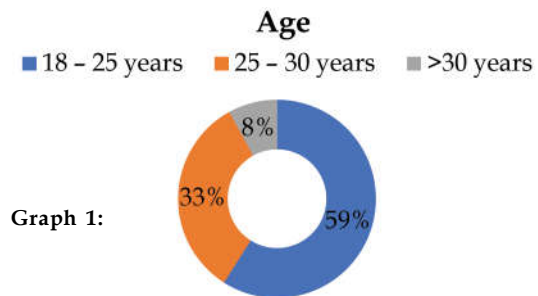


Table 1:

Duration of Marriage	
	%
1 - 5 years	67
5 - 10 years	30
>10 - 15 years	3

Table 2:

No of boys	Percent
0	78
1	20
2	2
	100
No of girls	Percent
0	56
1	37
2	6
3	1
	100

From Table 1, it was observed that majority of the patients (67%) were under 5 years of duration of marriage had come to ANC clinic followed by (30%) the duration of marriage from 5 - 10 years, and only 3% had completed more than 10 years of duration of marriage.

Table 2 shows There were 78% having no male child and 56% were having no female child. 22% were having at least 1 male while 44% of them were having 1 or more female child.

Table 3:

Occupation	%
Employee	46
housewife	54
Total	100
Education	%
Graduate	21
Upto HSC	66
Illiterate	13
Total	100
Income	%
Upper class	27
Middle class	39
Lower class	34
Total	100

Table 4:

What is the desired family size?	Percent
Up to 2	90
3 or > 3	10

Table 5:

What gender is preferred in the family?	Percent
No preference	55
Males more	38
Females more	7
Total	100

From the above table, it was observed that 54% were housewife and 46% were working.

On observing the education status, only 21% were graduate while 66% had studied below 12th standard and 13% of them were illiterate.

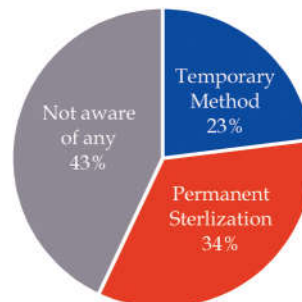
On comparing with BG Prasad's classification, 27% were from upper class, 39% of them were of middle class and rest 34% were of lower economic class.

From Table 4 we can observe that majority of the couples have desire of 2 children (73%) and 17% have desire for only one child while those who are desiring for 3 or more than 3 children are 10%.

The above table suggest that 34% had knowledge of permanent sterilization methods like tubal ligation or vasectomy and 23% had knowledge about the

temporary methods like condoms, copper - T, contraceptives etc while 43% of them had no knowledge on any family planning procedures.

Knowledge about Family Planning Methods



Graph 2:

More than half of them do not have any preference (55%) in the child they are going to have next while 38% were desiring for a male child and only 7% were preferring a female child.

Table 6:

Desire to know about the gender of the foetus?	Percent
Yes	15
No	85
Total	100
Knowledge about where it can be done?	Percent
Govt hospital	28
Private hospital	13
No where	22
Don't know	37
Total	100

Table 7:

Methods of sex determinations aware of?	Percent
USG	61
Chorionic Villi biopsy	2
Don't know	37
Total	100

Table 8:

What would you do if the gender is opposite of what is desired?	Percent
Induce abortion	12
Continue pregnancy	88
Total	100

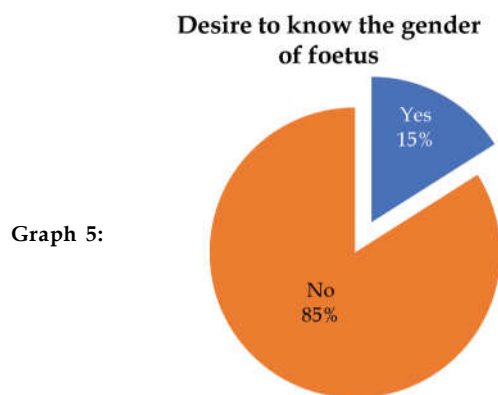
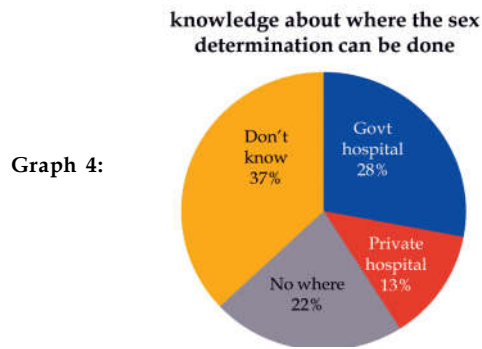
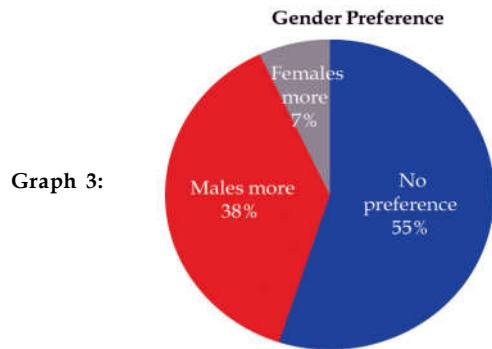
We observed that 16% of the population said that they desire to know the sex of the child pre-natally, and when asked regarding their knowledge about where this sex determination can be done, 28% of them said in government hospitals, 13% said it is being done in private clinics while only 22% knew correctly that it is not done anywhere now while the rest didn't had knowledge about it.

From Table 7, we can observe that the majority of the population (61%) knew that USG is the source of determining the gender of fetus, only 2% knew about the chorionic villi biopsy testing and the rest 37% didn't had any knowledge on it.

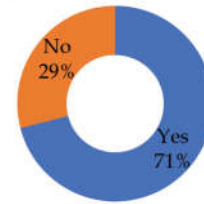
If given a chance 10% could undergo abortion if the sex of the foetus is known to them prenatally and is opposite of what they are desiring.

From the above Figure 3, it was came to known that 71% of the participants had heard about the law which makes all the pre-natal sex determination an illegal act, while 29% were not aware of it.

Major source of awareness was Mass media - 44% through TV advertisements and newspaper followed by their doctor - 40% who had given them the information and the banners outside their clinics regarding the ban and the illegality of sex determination during pregnancy.



Do you know there is a law which prevents determination of sex before delivery?



Graph 6:

Although all of them did not had the proper knowledge about the law but had just heard that its ban to know the gender of foetus,

63% said that there should be punishment for the pregnant female If she undergoes a sex determination, and 73% agreed that were aware of the punishments for the relatives.

79% of the participants said that there should be strict punishment to the doctors performing such act.

From the above Figure 5 & Table 10, It was significantly known that only 39% of the participants had proper knowledge regarding the sex ratio of India. While 9% thought males and females are equal in number and 11% said that females are more in number in India. 41% had no idea about the sex ratio.

The major concern to them over the low sex ratio was lack of bride 44% while 23% said there will be increased crime in the society such as rapes and 3% said that due to less females in the society there will be culture of polyandry.

96% were ready to increase the awareness of the ban over sex selective determination and abortion as well as were ready to inform the governmental authorities if they find anyone undergoing sex selection. but 4% refused to do anything.

Table 9:

Awareness Regarding the Punishment to the Pregnant female performing such act?	
	Percent
Yes	63
No	37
Total	100
Awareness Regarding the Punishment to the Relatives?	
	Percent
Yes	73
No	27
Total	100
Awareness Regarding the Punishment to the Doctor ?	
	Percent
Yes	79
No	21
Total	100

Table 10:

What is the current sex ratio of the country?	Percent
Males = females	9
Males > females	38
Males < females	11
Don't know	42
Total	100

Table 11:

What can be the Long term Consequences of low Sex ratio?	%
Lack of bride	44
Increased crime	23
Polyandry	3
All	27
Total	100

Table 12:

Will you try to increase the awareness among people ?	Percent
Yes	96
No	4
Total	100

If yes, How will you approach to them ?	Percent
By educating them	40
consequences of less girls	47
Both	13
Total	100

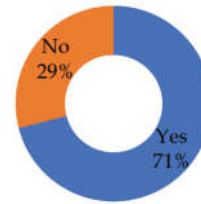
If you find someone performing PNSD, will you inform the govt by dialing the toll free no ?	Percent
Yes	96
No	4
Total	100

47% said that the best way to spread the awareness was through telling others the adverse consequences of the less females, 40% said by educating the society regarding such laws and the punishments, the sex ratio will increase.

Table 13 suggested that those who had preferred more males desired to know the sex of the child during pregnancy-34.20%. This is statistically significant (0.000136 i.e. $p < 0.05$), as well as could induce abortion if by chance they get to know the gender of foetus and it is of opposite sex to what they had desired, it is also statistically significant (0.000238 i.e. $p < 0.05$)

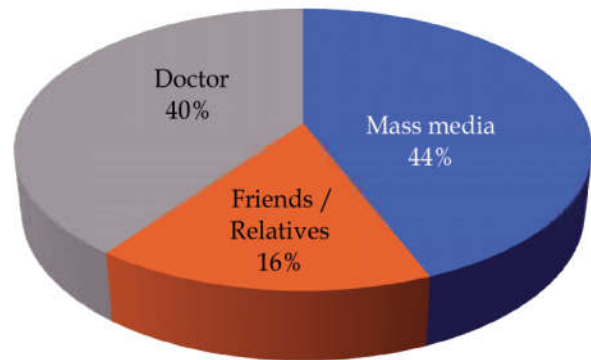
While those who do not have any preference in selection of child or those who want a girl child are not having any desire for knowing the gender of foetus or induce abortion.

Do you know there is a law which prevents determination of sex before delivery?



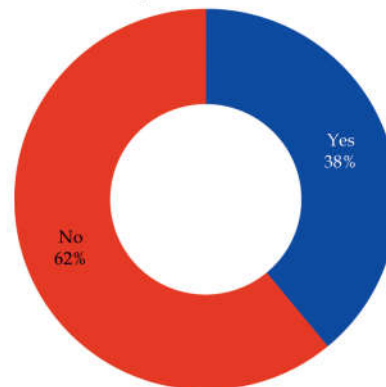
Graph 7:

Source of Information



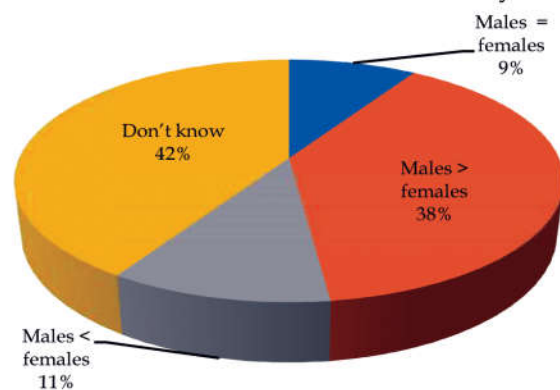
Graph 8:

Knowledge about the Sex Ratio?



Graph 9:

What is the current sex ratio of the country?



Graph 10:

The Table 14 shows us that, education is a very important factor. As those were graduated, 76.20% of them had knowledge about the current sex ratio of the country, while those who had studied below 12th standard their knowledge regarding the sex ratio was below 29%, which is statistically significant - 0.000248 (p < 0.05)

Table 13:

			Desire To Know The Gender Of Foetus		Total
			Yes	No	
Preference	Equal no	Count	2	53	55
		%	3.60%	96.40%	100.00%
	Males more	Count	13	25	38
		%	34.20%	65.80%	100.00%
	Females more	Count	0	7	7
		%	0.00%	100.00%	100.00%

			If the Gender is Opposite Induce Abortion		Total
			Induce Abortion	Continue Pregnancy	
Preference	Equal no	Count	1	54	55
		%	1.80%	98.20%	100.00%
	Males more	Count	11	27	38
		%	28.90%	71.10%	100.00%
	Females more	Count	0	7	7
		%	0.00%	100.00%	100.00%

Table 14:

			Knowledge About The Sex Ratio		Total
			Yes	No	
Education	Graduate	Count	16	5	21
		% within Edu	76.20%	23.80%	100.00%
	Below HSC	Count	19	47	66
		% within Edu	28.80%	71.20%	100.00%
	Illetrate	Count	3	10	13
		% within Edu	23.10%	76.90%	100.00%

Table 15:

			Desire to Know the Gender of Foetus		Total
			Yes	No	
No of Girls	0	Count	5	51	56
		% within No of girls	8.90%	91.10%	100.00%
	1	Count	6	31	37
		% within No of girls	16.20%	83.80%	100.00%
	2	Count	3	3	6
		% within No of girls	50.00%	50.00%	100.00%
3	Count	1	0	1	
	% within No of girls	100.00%	0.00%	100.00%	
Total	Count	15	85	100	
	% within No of girls	15.00%	85.00%	100.00%	

			If the Gender is Opposite Induce abortion		Total
			Induce abortion	Continue pregnancy	
No of Girls	0	Count	3	53	56
		% within No of girls	5.40%	94.60%	100.00%
	1	Count	5	32	37
		% within No of girls	13.50%	86.50%	100.00%
	2	Count	3	3	6
		% within No of girls	50.00%	50.00%	100.00%
3	Count	1	0	1	
	% within No of girls	100.00%	0.00%	100.00%	
Total	Count	12	88	100	
	% within No of girls	12.00%	88.00%	100.00%	

Table 16:

			If the Gender is Opposite		Total
			Induce abortion	Continue pregnancy	
No of Boys	0	Count	11	67	78
		% within No of boys	14.10%	85.90%	100.00%
	1	Count	1	19	20
		% within No of boys	5.00%	95.00%	100.00%
	2	Count	0	2	2
		% within No of boys	0.00%	100.00%	100.00%
Total		Count	12	88	100
		% within No of boys	12.00%	88.00%	100.00%

			Desire to know the gender of foetus		Total
			Yes	No	
No of Boys	0	Count	13	65	78
		% within No of boys	16.70%	83.30%	100.00%
	1	Count	1	19	20
		% within No of boys	5.00%	95.00%	100.00%
	2	Count	0	2	2
		% within No of boys	0.00%	100.00%	100.00%
Total		Count	15	85	100
		% within No of boys	15.00%	85.00%	100.00%

Table 17:

			Family Size		Total
			< 2	3 or more	
No of Boys	0	Count	71	7	78
		% within No of boys	91.00%	9.00%	100.00%
	1	Count	19	1	20
		% within No of boys	95.00%	5.00%	100.00%
	2	Count	0	2	2
		% within No of boys	0.00%	100.00%	100.00%
Total		Count	90	10	100
		% within No of boys	90.00%	10.00%	100.00%

			Family Size		Total
			< 2	3 or more	
No of Girls	0	Count	54	2	56
		% within No of girls	96.40%	3.60%	100.00%
	1	Count	34	3	37
		% within No of girls	91.90%	8.10%	100.00%
	2	Count	2	4	6
		% within No of girls	33.30%	66.70%	100.00%
	3	Count	0	1	1
		% within No of girls	0.00%	100.00%	100.00%
Total		Count	90	10	100
		% within No of girls	90.00%	10.00%	100.00%

Table 15 shows that on comparing desire to know the gender of foetus in the subsequent pregnancy with the mother currently having a girl child, it was observed that after having 2 girl child 50% of them were willing to know the sex of the child during the next pregnancy, and after having 3 girl child 100% of females were willing to know the sex of child in the next pregnancy as well as could undergo abortion if by chance they get to know the sex of child during pregnancy and it was found to be a girl again. This finding is statistically significant - 0.004 ($p < 0.05$).

Table 16 shows the finding that, after having 1 boy child, the females did not desired to know the sex of child prenatally < 5 %. While those who were not having any male child or those who were primigravid of them 17 % females wanted to know the sex of child prenatally.

From the Table 17, it is shown that, those having a male child are satisfied with their small family size but if they have a female child, their desire for family size is increased and this is statistically significant. $X = 0.007$ $p < 0.05$.

Discussion

The present study was undertaken to know the gender preference and the knowledge, attitude and practice of people regarding the PC & PNDT Act. During the study period of 2 months, data of 100 women who visited ANC OPD were collected.

Looking at the sensitive nature of the topic as well the fact that couple may not give us their true view and attitude towards the questions asked, a very simplified questionnaire was prepared, which was pre-tested and was made in English, Hindi and the local language Marathi as well as they were convinced that this information will be used only for the research purpose and their identity will not be identified anywhere.

Skewed sex ratio is an issue of major concern and has long-term social and demographic consequences. India is facing a demographic nightmare in terms of gender imbalance.

Knowledge About Sex Ratio	
D Roma et al Surendra nagar	58 %
Present study	38%

In the present study, only 38% properly knew about the sex ratio which is very low on comparison with a study done by D Roma et al at Surendera nagar where it is 58% [11]. This low knowledge of the sex ratio can be the cause as most of them were less educated or illiterate. Thus education is a very important tool in such sectors.

Awareness of Pc & PNDT Act	
Pallavi S. et al Mumbai	73.5%
Nithin k. et al Southern India	91%
Khatri M. et al Bikaner	52.9 - 86.8%
Chandigarh	11.6%

When the respondents were asked about their awareness of PC & PNDT act, it was found that 71% had heard about such law which was comparable with the a similar study done in Mumbai¹² had knowledge about the sex ratio >70% but a study done in Southern India [13] showed that 91% of people had this knowledge and a study done in Bikaner [14] shows that it is 52.4% and was only 11.6% in a study done at Chandigarh [15], which again shows that literacy rate is the factor for such difference.

The major source 44% of information was through mass media followed by 40% through boards and banners at the doctors clinic the major source of information was mass media in them, a study done at meerut⁶ shows that the major source of information spread is through friends and relatives. Thus it suggests that more the sources of information is

provided more better will be the condition, and the social media and the emerging use of internet can be more useful in spreading such useful information in the public.

Method of Sex Determination Done	
Pallavi S. et al Mumbai	91 %
Nithin k. et al Southern India	90%
Shrivastava A. et al Lucknow	99%
Present Study	61 %

In the present study, the majority of participants (61%) of which 90% of people from urban area knew that ultrasonography was the technique used for sex determination, which was comparatively lower than the study done in Mumbai [12], Southern India [13] where 90% knew about this method while a study done in Lucknow, uttar pradesh [15] shows that 99% subjects have knowledge regarding the sex determination methods. This might be due to factors such the place of residence, as in my study in urban area 70% knew these methods while in rural area only 52% were aware of this technique.

Preference Towards Boys	
Shrivastava A. et al Lucknow	64.6%
Donald C. et al Ahemdabad	31.5%
Kajal D. Jamnagar	69%
Kansal R. et al Meerut	22.2%
Present Study	38%

The reported gender preference in similar research studies in various parts of the country varies between 22.2%-69% [15-18], in the present study 38% had preferred a male child as the male child served to be the breadwinner of the family as well as carries the name of the family. The deep roots of discrimination against women and male domination can be attributed to the social system known to Patriarchy.

The present study also reveals that there was increasing trend of change in the attitude of the women towards the pre-natal determination of the child in those who already had a female child, and was strongly increased in those who were having 2 girl children. This finding is statistically significant. This may be because, parents think that there is no scope of teaching a girl as it is just waste to spend so much money over them and they don't get anything in return, this was the major cause of people preferring a boy child that we came across during the progress of the research study.

It has also been observed that the practice of female foeticide is more prevalent among the people residing in the urban areas as they get the easy access to misuse the technologies that have been provided to them. In

rural areas the sex ratio is much more than the Nashik district area.

In present study the practice of having a large family size was observed in people having a female child and it did not affect if there is already a male child in the family. This is a statistically significant data.

Conclusion

- After a detailed study and comparisons of this study findings with the other similar research studies, it can be concluded that in this study i.e. in Nashik district, it shows the clear picture of factors affecting the knowledge, attitude and practice towards the PC & PNDT act as well their desire for the gender preference.
- The existence of son preference is at an alarming high rate in our society and is the most important – the root cause of imbalanced sex ratio.
- Moreover, the knowledge regarding the sex ratio is very low in the population here and Education is the only tool to increase their knowledge in every sector.
- Irrespective of the educational status or economic class, people are desiring for sex selection of the child prenatally, and majority of those already having 2 girl children could abort the next child if it is again a girl child.
- Most of the people have heard about the PC & PNDT act that it is illegal to determine the gender of foetus, and even more than fifty percent of them had some knowledge about the punishment under the act still desired to know gender of child during pregnancy.
- Thus apart from the legislative measures, people also needs to be educated about the ethical issues related to female foeticide.

The saying goes like :

‘Female foeticide has increased,

Female : Male Ratio has decreased,

The whole ecological system will be hampered,

If the girl child is left to die unpampered.’

Implications

- Education is the important tool for increasing the knowledge of the people.
- Governmental schemes such as reservation for

females, to provide them security are some factors which can change the attitude of the people.

- Women empowerment is must need in our country.
- Mass media and through banners and proper advertisement, the awareness will increase.

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