

A Cross Sectional study on Awareness regarding Preconception and Prenatal diagnostic techniques act among Reproductive age group women in Urban Field Practice area of Medical College

¹Dr. L. Sowmya, Assistant Professor, Community Medicine, GITAM Institute of Medical sciences and research, Visakhapatnam, Andhra Pradesh.

²Dr. P. Prabhakar Varma, Assistant Professor, Community Medicine, Maharajah’s Institute of Medical sciences, Nellimarla, Vizianagaram, Andhra Pradesh.

³Dr. S. Chandrika, Assistant Professor, Community Medicine, Rajiv Gandhi Institute of Medical sciences, Srikakulam, Andhra Pradesh.

Corresponding Author: Dr. P. Prabhakar Varma, Assistant Professor, Community Medicine, Maharajah’s Institute of Medical sciences, Nellimarla, Vizianagaram, Andhra Pradesh.

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Abstract

Back ground: The Government of India introduced Prenatal diagnostic techniques act in 1994 that was later amended as Preconception and Prenatal diagnostic techniques act (PCPNDT). The main objective of the act was to improve child sex ratio by preventing misuse of diagnostic techniques in sex determination and sex selective abortion techniques.

Aim and objectives: Main aim of the present study is to assess knowledge regarding PCPNDT act and find out the influence of socio demographic profile on awareness about act.

Methodology: Cross sectional study carried out in reproductive age group women attending outpatient clinics at Urban field practice area of medical college.

Results: The mean age of our study population was 29.42 +/- 9.22 years. 36% had knowledge on prenatal sex determination, 48% have heard about PCPNDT Act, 53%

knew that it is a punishable offence and none of them knew what is child sex ratio. Education and occupation showed significant association with knowledge regarding PCPNDT act. Those having preference for male child, predominant reason was continuing their progeny.

Conclusions: At the end of the study, study participants will be aware of legal aspects of PCPNDT act. This study will be helpful in reducing stigma on gender discrimination towards female child. This study included participants from 15 years So that we can create knowledge earlier i.e., before they entered into marital life.

Keywords: PCPNDT act, child sex ratio, sex determination, sex selective abortion

Introduction

‘Preference for a son’, a tradition of ancient India still continuous to be a prevalent norm in modern India. According to the NFHS 5 survey, 2019-21 the sex ratio o

total population is 1020 females per 1000 males. (Sex ratio is the ratio of females to thousand males in a population). The recent NFHS 5 data shown an increase of child sex ratio from 919 to 929^[2] but still the child sex ratio is a worrying fact.

India is facing a demographic nightmare in terms of gender imbalance. The prenatal diagnostic techniques arrived in India in 1975 for determination of genetic abnormalities. However, these techniques are widely used for determining the sex of the foetus and subsequent abortions if the foetus is female. To prevent this practice of sex selective abortion using the prenatal diagnostic techniques, Government of India enacted the PNDT (Regulation and Prevention of Misuse) Act in 1994. Subsequently this Act has been amended in 2002 and 2003 to Pre-conception and Pre-natal Diagnostic Techniques (PC & PNDT), Prohibition of Sex Selection Rules.^[3]

Under this law, all centres which have any equipment (including USG) which can potentially detect sex of foetus pre-conception or pre-natal have to be registered with the appropriate authorities and could be penalised for taking part or being involved in sex determination of foetus. The families of pregnant woman who ask for sex determination are also liable to be punished. Not adhering to the provisions of this act could warrant punishment in the form of up to 3 years imprisonment and up to Rs 10,000 fine, and on repeat offence up to 5 years imprisonment and up to Rs 50,000 fine. The name of the registered practitioner would be removed from state council for 5 years if guilty and permanently if repeat offence is committed under section 23 of the act.^[4] The PCPNDT Act is different from other social legislations because it does not involve only change in social behaviour and practices. It also demands ethical

medical practice and the regulation of medical technologies that have the potential to be misused.^[5]

Objectives

To assess knowledge regarding PCPNDT act among study participants

To find out the influence of socio demographic profile on awareness about the act.

Methodology

Study design: Community based cross sectional study

Study setting: Urban health training centre.

Sample frame: Sample frame for this study is Reproductive age group women (15-49 years) attending Outpatient clinic of Urban Health training centre.

Sampling technique & Sample size: Convenient sampling technique is used in this study where first 100 members who came to OPD and gave consent for the study are included.

Study period: Two months.

Study tools: Pre designed, pre tested questionnaire.

Study variables

Age, education, income, occupation, marital status, parity, awareness about prenatal sex determination, knowledge about PCPNDT Act, knowledge about child sex ratio, reasons for male child preference, impact of female feticides on society, etc.

Data Collection

Prior approval from Institutional Ethics Committee (IEC) was taken. After explaining the purpose of the study, written informed consent was obtained from study subjects and data collection was done using pre tested, pre designed questionnaire by interview technique. Confidentiality was maintained and Completed sheets were kept secure.

Data analysis

Data was represented in the form of tables, bar graphs and pie diagrams. Data analysis was done by using EXCEL 2010, SPSS 21. Percentages, Means and Proportions were used for descriptive variables. Chi square test is used to find statistical significance at p value less than 0.05.

Results

The mean age of our study population was 29.42 +/- 9.22 years. Majority of them 95% are Hindus, and 5% are Christians. 44% of the study population are employed. 86% of the study population are married, among them 16% (14) are uniparous and 77% (66) are multipara. Rest 7% (6) are nulliparous.

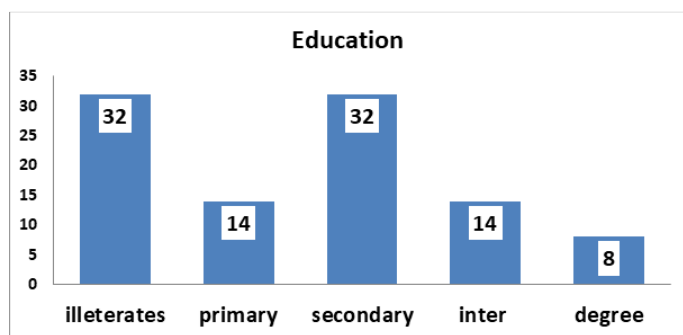


Fig 1: Distribution of population according to their educational status (N= 100)

Figure 1 shows distribution of population according to their educational status where a large number, 54% of study participants were educated up to high school or above. 32% of the study participants are illiterates and 14% completed primary school.

Table 1: Awareness of married women regarding PCPNDT Act and child sex ratio

| Sn. | Parameter responses | Yes | No |
|-----|--|-----|-----|
| 1. | Knowledge regarding possibility of sex determination | 36% | 64% |
| 2. | Awareness regarding PCPNDT Act | 48% | 52% |

| | | | |
|----|---|-----|------|
| 3. | Knowledge regarding Punishment | 24% | 76% |
| 4. | Knowledge regarding person who should be punished under the act | 48% | 52% |
| 5. | Awareness about the term child sex ratio | 0% | 100% |
| 6. | Reasons for male child preference | 76% | 24% |

36 out of 100 participants said that it is possible to determine sex of the child during pregnancy and among them 26 answered that scanning is the most common technique used. 48% of the participants have heard about PCPNDT Act. Of them 52 % (25) got the information from Health care personnel. 89% of the study population felt there is a necessity for such law. 53% of the participants are unaware that prenatal sex determination is a punishable offence where as 24% have responded that imprisonment and fine are punishments under law.

56% of the study participants did not prefer male child and 44% of the participants preferred male as second child, if the first child is a female. Reasons for male child preference are to continue progeny (32%), financial help (16%), dowry (14%), cremation ceremony (9%), complete the family (5%). None of the participants have heard about child sex ratio. Various responses to combat the problem are punishment, implementing strict laws, increasing awareness about law and preventing diagnosis.

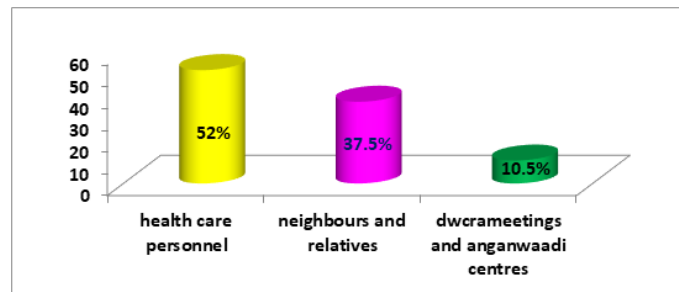


Fig 2: Distribution of study population based on source of information (n=48)

From the above figure 52% of the participants who has knowledge on sex determination and PCPNDT Act got

the information from health care personnel. In the remaining participants 37.5% heard about this Act from Neighbours or relatives and 10.5% have received information from DWACRA and Anganwadi centers.

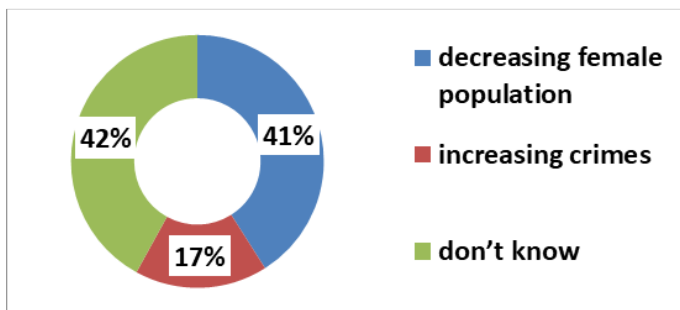


Fig 3: Distribution of study participants based on knowledge about consequences of female feticide
 It is observed from the above figure that 41% of the participants answered that decreasing female population is the major consequence of female feticide and 17% told that it is contributing to increasing crimes in the society. Almost about half the population (42%) did not know the consequences of female feticides on society.

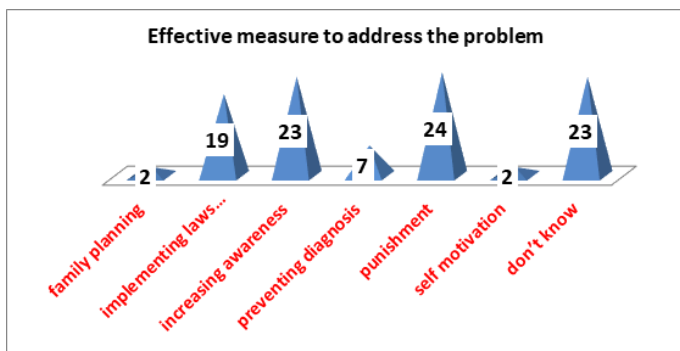


Fig 4: Distribution of participants on responses for effective measure to address this problem.

23% and 24% of the study participants opinioned that increasing awareness and punishment are effective measures to address this problem respectively. 19 % answered that implementing laws strictly can make a considerable difference while 7% felt that preventing diagnosis is also effective. 23 % of the participants are not aware of any effective measure.

Table 2: Association between information on knowledge regarding prenatal sex determination and Education. (P value < 0.05 is statistically significant)

| Sn | Parameter | | Education | | Chi value | p value |
|----|---|-----|------------|----------|-----------|---------|
| | | | Illiterate | Literate | | |
| 1. | Knowledge about prenatal sex determination | Yes | 7 | 29 | 4.07 | 0.04 |
| | | No | 25 | 39 | | |
| 2. | Awareness regarding PCPNDT Act | Yes | 8 | 40 | 9.97 | 0.001 |
| | | No | 24 | 28 | | |
| 3. | Awareness regarding punishment under law | Yes | 2 | 23 | 8.82 | 0.002 |
| | | No | 30 | 45 | | |
| 4. | Knowledge about persons who can be punished under law | Yes | 8 | 40 | 9.97 | 0.001 |

Education is significantly associated with knowledge about prenatal sex determination, awareness regarding PCPNDT act, awareness regarding punishment under law and persons who can be punished under law.

Table 3: Association between information on knowledge regarding prenatal sex_determination and Occupation. (P value < 0.05 is statistically significant)

| S n. | Parameter | | Occupation | | Chi value | p value |
|------|-----------------|-----|------------|----------|-----------|---------|
| | | | Unemployed | Employed | | |
| 1. | Knowledge about | Yes | 15 | 21 | 4.69 | 0.03 |

| | | | | | | |
|----|---|-----|----|----|------|-------|
| | prenatal sex determination | No | 41 | 23 | | |
| 2. | Awareness regarding PCPNDT Act | Yes | 20 | 28 | 7.69 | 0.005 |
| | | No | 36 | 16 | | |
| 3. | Awareness regarding punishment under law | Yes | 18 | 6 | 4.62 | 0.003 |
| | | No | 38 | 38 | | |
| 4. | Knowledge about persons who can be punished under law | Yes | 23 | 25 | 2.44 | 0.1 |
| | | No | 33 | 19 | | |

Occupation showed significant association with knowledge about prenatal sex determination, awareness regarding act, awareness regarding punishment whereas no statistical significance is found with persons who can be punished under law.

Discussion

The mean age of the study population is 29.42 +/- 9.22 years. In the study conducted by Deepa Raghunadh et al [5] mean age of the study population was 28.7±4.78, in the study conducted by Naman Kumnar et al [6] mean age of the study population were 28±5.6 years. 56% of the study population in this was unemployed when compared to a study conducted by Pavithra MB et al [11] which

showed that housewives were 97% and in study done by Dhananjay a Sharma et al [7] 94% were unemployed. 86% of the study population are married, among them 16 % (14) are primiparous and 77% (66) are multipara. Rest 7% (6) is nulliparous. In a study done by Lovely S Livingston et al [8] 45.5% are primiparous and in a study done by Pavithra MB et al [11] 39% are primiparous 61 % are multipara.

In the present study 36% had knowledge on prenatal sex determination, 48% have heard about PCPNDT Act, 53% knew that it is a punishable offence and none of them knew what is child sex ratio whereas Lovely S Livingston et al [8] observed that 78.2% were aware about prenatal sex determination, 79.1% were unaware about PCPNDT act, 49% did not know who can be punished, 60% did not know about child sex ratio. In a study done by Deepa Ranganath et al [5] they observed that 73% were aware of act, 63% have heard about sex ratio, 66% knew that prenatal sex determination is possible by ultra sound. Another study done by Naaman Kumnar et al [6] showed 93.8% of study participants aware about prenatal sex determination. 46.2% aware about act, 89.2% knew that sex selection is punishable under law and 95.4% want strict law to address this problem.

None of the participants have heard about child sex ratio in our study. According to the study done by Pavithra MB et al [11] 37% are aware that sex ratio is declining and, in a study, done by Dhananjay Sharma et al [7] 45% aware about sex ratio. Reasons for male child preference are continue progeny (32%), financial help (16%), dowry (14%), cremation ceremony (9%), complete the family (5%). Others have no preference for male child. In a study done by Pavithra MB et al [11] reasons for male child preference are family name propagation (52%), taking

care in old age (23%), cremation (6%), dowry (21%) and pressure from the family members (19%). Lovely and Livingston et al^[8] observed that reasons for male child preference are taking care in old age (52.7%) and family name propagation (34.1%).

Conclusion

In the present study more than a quarter of the participants are illiterate and almost half of all participants are employed as unskilled workers, mostly as daily wage labourers. Most of them are married but a good proportion is still awaiting child birth. Among the study participants no one has ever heard of Child Sex Ratio. The knowledge regarding prenatal sex determination and PCPNDT Act is very minimal among the study participants and they are unaware of the legal consequences and punishment for sex selective abortions. The preference for male child is highly prevalent among the participants and the reasons being continuing progeny and financial security. The present study focused on the influence of education and occupational status on the awareness regarding sex determination and male child preference in study participants which showed significant positive association. Almost half of the study participants did not know the consequences of female feticide on the society which is a serious reason for concern to improve their knowledge in this aspect.

It is recommended from the observations of the study that increasing awareness about such laws and strict implementation could bring a considerable change in the behavioural pattern of individuals and family members. Medical Professionals and legal experts can jointly organize public awareness programs along with media advertisements which will improve the knowledge in general population. Medical camps may also include sensitization programmes which can play significant role

in improving awareness as the receptiveness of information given by health care personnel is well invited by the community. The responsibility also lies with the medical fraternity in maintaining the professional ethics and confidentiality while handling such sensitive issues which has a great impact on the dynamics of the society.

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