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Original Research Article

Contraceptive awareness and practices in women of urban India

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ABSTRACT

Background: With the efforts from government and increase in the literacy of women, awareness about contraceptive methods is increased. The objective of the study was to analyse contraceptive awareness and practices in women and to find out the source of information and reason for non-use of contraception.
Methods: In a cross-sectional study 400 women were interviewed from July to December 2016.
Results: In our study, majority (43.5 %) of women were between 26-30 years of age followed by women between 22-25 years of age (26.5 %). 92.5% of women were aware of one or other method of contraception. But only 42.5% were practicing contraception. Maximum awareness was about tubectomy (90.5%) followed by CuT (87.5%), Condom 50%, O.C. pills 12.5%, Safe period 5% and injectables 2.5%. Most common method used in our study group was condom (20%) followed by tubectomy 12.5%, CuT 7.5%, O.C. Pills 1.5%, Injectable contraceptive and safe period 0.5% each. 37.5 % woman got information from radio or newspaper, 30 % from hospital doctor, 25 % from friends or relatives, 7.5 % had no information. 100% women were literate, 70% had education till high school, 30% were graduate or postgraduate. In our study, 52.5% had no reason for non-use of contraception.25% were not using due to myths or fears while 22.5% were not using due to family pressure.
Conclusions: We concluded that awareness about contraceptive methods is quite high but acceptance is quite low. Condom is the most common method used.

Keywords: Acceptance, Awareness, Contraceptive method, Practices

INTRODUCTION

In this modern era, on one hand, women are highly educated and working equally with men in all fields including space and politics. Every woman has right to protect her own health.[1] Contraception is major component of reproductive health.[2] For that she should be economically independent.[1] On the other hand in India, a large percentage of women are illiterate or less educated and resides in rural India.[4] They are not economically independent.

It is seen from various studies in our country and outside that knowledge about contraception is very good.[1] but actual percentage of women using any contraceptive is very low.[1,4] Awareness is not matched by commensurate contraceptive prevalence but prospects for improvement exist.[2] In many cases, women want to use birth control measures but are stopped by their male partners.[6] Every woman has right to protect her own health.[1] For that she should be economically independent.[1] People in developing countries, poorer ones, and the less educated are more likely to have many children.[7] It is immensely important that women at any physical, social or economical status decide on their family planning choices.[7] The use of contraceptives has been recognized as a key element in reducing fertility for all age groups in many developing countries.[7]

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Objectives of this study was to analyze awareness about various contraceptive methods, and to find the source of information, to assess the actual practices, and to search for the reasons of non-use.

METHODS

This cross-sectional study was carried out at Tertiary Centre located in urban part of India from July 2016 to December 2016 over a period of 6 months. It is a Pediatric hospital catering pediatric & neonatal services to all strata. Mothers having babies from birth to one year visit more frequently to pediatrician for vaccination & feeding problems in this period. Also this is the best time to assess awareness about contraceptive practices. They are more receptive for the contraceptive advice given to them. 400 women were interviewed. Information about age, occupation, education of both parents, parity, about various contraceptive methods, source of information, type of contraception used, and reason for not using any contraceptive was collected in a proforma.

RESULTS

Table 1: Age group pattern.

Age (yrs)	No. of women	Percentage of women
18-21	20	5%
22-25	106	26.5%
26-30	174	43.5%
31-35	62	15.5%
35	10	2.5%

Majority (43.5 %) of women was between 26-30 years of age followed by women between 22-25 years of age (26.5 %).

Table 2: Relation of parity with acceptance of contraception.

No. of children	No. of woman	No. of women using contraception	Percentage of woman
1	256	100	25%
2	138	70	17.5%
3	6	4	1%

Maximum use of contraception was after one delivery (25%) followed after two children (17.5%).

Table 3: Literacy of parents.

Literacy	No. of mothers	No. of fathers
Illiterate	0	0
Primary and Middle school	0	10 (2.5%)
High school and 12th	280 (70%)	190 (47.5%)
Graduate or more	120 (30%)	200 (50%)

In our study, 100% women were literate, 70% had education till high school, 30% were graduate or postgraduate. 50% of fathers had education graduation or more, 47.5 % fathers had education till high school, 2.5% had education till middle school. None were illiterate.

Table 4: Source of information about contraceptive methods.

Source of information	No. of women	Percentage of women
TV, radio or newspaper	150	37.5%
Hospital doctor	120	30%
Friends or relatives	100	25%
No information	30	7.5%

In our study, 37.5% woman got information from radio or newspaper, 30 % from hospital doctor, 25% from friends or relatives, 7.5 % had no information.

Table 5 Awareness and acceptance of contraceptive method they are using.

Type of contraception	Awareness	Practice
Tubectomy	380 (90.5%)	50 (12.5%)
Copper T	350 (87.5%)	30 (7.5%)
O.C. Pills	50 (12.5%)	6 (1.5%)
Condom	200 (50%)	80 (20%)
Safe period	20 (5%)	2 (0.5%)
Injectables	10 (2.5%)	2 (0.5%)

92.5% of women were aware of one or other method of contraception. But only 42.5% were practicing contraception. Most common method used in our study group was condom (20%) followed by tubectomy 12.5%, CuT 7.5%, O.C. Pills 1.5%, Injectable contraceptive and safe period 0.5% each.

Table 6: Reasons for non-use of contraception.

Reasons	No. of women	Percentage
Family pressure	90	22.5%
Fear or myths	100	25%
No reason	210	52.5%

In our study, 52.5% had no reason for non-use of contraception. 25% were not using due to myths or fears while 22.5% were not using due to family pressure.

DISCUSSION

In India, government is providing facilities for temperory as well as permanent methods of contraception free of cost. Literacy is improved specially in urban areas. Through various media and after hospital delivery,

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contraceptive awareness has increased. But still acceptance for contraception is quite less.

Present study included 400 mothers with babies from birth to one year of age irrespective of parity. In our study, majority (43.5 %) of women were between 26-30 years of age followed by women between 22-25 years of age (26.5 %). Sunita Ghike et al found maximum (46.9%) women in 22-25 years age group.[1]

In present study, 92.5% of women were aware of one or other method of contraception. But only 42.5% were practicing contraception. Sunita Ghike et all found that 100% of women in their study had knowledge about contraception.[1] But only 22% were using CuT, 5.41% were practicing condom, 2.1% were using O.C. Pills.[1] Augustine Umph found 92.5% awareness about contraception.[2] Augustine Umph found 60.3 % awareness of condom, 49.9 % awareness of pills.[2] N. Khwaja and R. Tayyab found 68.5% contraceptive awareness in Pakistani women.[3]

Alka Verma and Suneeta Mittal found 96% women had knowledge about but only 28 of 122 women were using contraception.[4] Takkar N et al reported that 81.1% practiced contraception.[5] Kelly K reported 46.8% usage of contraception.[6] Berihun Megabiaw found 90.7% awareness about contraceptive methods and 34.3% were currently using contraception.[7]

In our study, maximum awareness was about tubectomy (90.5%) followed by CuT (87.5%), Condom 50%, O.C. pills 12.5%, Safe period 5% and injectables 2.5%. S. Ghike reported maximum awareness about CuT (67.5%) followed by condom (57.9%), O.C. Pills 34%, Injectable contraceptive 14.9%.[1] Sarah Johnson, Christine Pion found 98% contraceptive awareness.[8] Its usage varied from 35% in Spain to 63% in Germany.[8]

Most common method used in our study group was condom (20%) followed by tubectomy 12.5%, CuT 7.5%, O.C. Pills 1.5%, Injectable contraceptive and safe period 0.5% each. Augustine Umph found 60.3 % use of condom, 49.9 % use of pills.[2] Augustine Umph noted that the condom (46.7%), withdrawal method (14.1%) and the pills (13.3%) were the most commonly used forms of contraception.[2] Berihun Megabiaw found that 74.3% were using injectables while 10% were on long acting or permanent methods.[7] Sunita Ghike et al found CuT as most commonly (22.7%) used method followed by injectables 6.5%, condom 5.4%, oral pills 2.1%.[1]

In our study, 37.5% woman got information from radio or newspaper, 30% from hospital doctor, 25% from friends or relatives, 7.5% had no information. Augustine Umph found that 36.9% got information from doctor, 33.8 % from radio and nurse 28.5%.[2] Sunita Ghike et al found TV and radio as main (70%) source of information followed by neighbor 35% and 29% through ANM and relatives.[1] N. Khwaja, R. Tayyab noted TV, radio and relatives as common sources of information.[3]

In our study, 100% women were literate, 70% had education till high school, 30% were graduate or postgraduate. Mounira Sheeba found that 89.7%) had received education, 17.1 % had university degree while 10.3 % were non-educated.[9] Sunita Ghike et al found that 44% women were literate.[1]

In present study, 50% of fathers had education graduation or more, 47.5 % fathers had education till high school, 2.5% had education till middle school. None were illiterate.

In our study, 52.5% had no reason for non-use of contraception.25% were not using due to myths or fears while 22.5% were not using due to family pressure. Sunita Ghike et al found family pressure from husband and in laws in 59% women for non-use of contraception.[1]

CONCLUSION

From our study, it is concluded that:

- Awareness about contraceptive methods is quite high (92.5%).
- Acceptance about all contraceptive methods is quite low (42.5%) though all couples were literate.
- Women are not ready to think about contraception without any reason.
- Condom is the most common method (20%) used.
- Women think of tubectomy as contraception after two or three children.

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Original Research Article

Menstrual hygiene practices in young girls of urban India

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ABSTRACT

Background: Menstrual hygiene is an important aspect in the life of young girls.The present study aims at assessing the knowledge regarding menstruation and hygienic practices and perceptions during menstruation.
Methods: It was a cross sectional study, conducted among 100 young girls of 20-22 years age to assess the awareness of menstrual hygiene. Data was collected by pre-tested questionnaire. Statistics was calculated in percentages.
Results: Out of 100 girls, 71 (71%) knew about menstruation before menarche while 29 (29%) did not have any knowledge. 71 (71%) girls knew the cause of menstruation as physiological, 18 (18%) girls didn't know the cause, 11 (11%) girls still believe it as curse of God. 68 (68%) girls knew the source of bleeding during menstruation as uterus, 20 (20%) girls thought it as vagina while 12 (12%) thought it as urethra. 64% girls use sanitary pads during menstruation, 19% girls used old cloth while 17% girls used new cloth during menstruation as adsorbent material. 9% girls dispose pads or used cloth in dustbin, 19% girls flush them in toilet while 12% girls throw them roadside. 96% girls avoid going to temple, 68% girls restrict their daily activities, 56% girls avoid going to functions, 50% girls avoid going to kitchen, 50% girls avoid going to kitchen while 45% girls avoid touching things at home.
Conclusions: It is very important that young girls should be educated about the importance of maintaining hygiene during menstruation to prevent the risk of reproductive tract infections.

Keywords: Knowledge, Menstrual hygiene, Perception, Reproductive tract infections

INTRODUCTION

Menstruation is the visible manifestation of cyclic physiologic uterine bleeding because of shedding of uterine endometrium. Menarche occurs between 11-15 years.[1] Sympathetic and careful handling of young girl experiencing menstruation is of paramount importance. It is done by mothers explaining the physiological changes during the period.[2] Menstruation is generally considered as unclean and dirty in the Indian society.

Isolation during menstruation and restrictions being imposed on the girls in the family have created a negative attitude towards it.[3] Menstrual Hygiene Management (MHM) is defined as 'Women and adolescent girls using a clean material to absorb or collect mebstrual blood that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials'.[4]

There is a substantial lack in the knowledge about menstruation among adolescent girls. Social inhibitions and the negative attitude of people in discussing the related issues openly, prevents the adolescent girls to the right kind of information, especially in the rural and tribal communities. Most of the adolescent girls had incomplete

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and inaccurate information about the menstrual physiology and hygiene.

Good hygienic practices like use of sanitary pads and adequate washing of the genital area are essential during menstruation. Women and girls of the reproductive age need access to clean and soft, absorbent sanitary pads which can protect their health.[5]

The reaction to menstruation depends upon awareness and knowledge about it. The manner in which a girl is educated about menstruation and its associated changes can have an impact on her response to the menarche.[6] Although menstruation is a natural process; it is associated with several misconceptions and practices.

This sometimes results into adverse health outcomes. Hygiene related practices of women during menstruation are of considerable importance. Bad hygienic practices leads to increased vulnerability to reproductive tract infections.[7]

The interplay of socio-economic status, menstrual hygiene practices and reproductive tract infections are noticeable.

Women having better knowledge of menstrual hygiene and safe practices are less vulnerable to reproductive tract infections and its consequences.[8]

Menarche is a milestone in a woman's life. It denotes the start of reproductive capacity. Unfortunately, there is gross lack of information on menstrual preparedness and management among adolescent girls.

This situation is made worse by the shyness and embarrassment with which discussions about menstruation is treated.[9]

Menstrual hygiene is a very important risk factor for reproductive tract infections. It is a vital aspect of health education for adolescent girls.

Television programmes for education, trained school nurses/health personnel, motivated school teachers and knowledgeable parents can play a very important role in transmitting the vital message of menstrual hygiene to the adolescent girl of today.[10]

Therefore, increased knowledge about menstruation right from childhood may escalate safe practices. It may help in decreasing the suffering of many women.

With this background the present study was conducted to assess the knowledge, beliefs, and source of information regarding menstruation among the young girls and also to identify the status of menstrual hygiene among them.

The Objectives of the present study are to assess the knowledge and practices of menstrual hygiene among urban young girls. to study cultural practices associated with menstrual hygiene, to assess the restrictions which were practiced by young girls during menstruation and to suggest recommendation based on study findings.

Table 1: Questionnaire.

Variables	Answers		
Age in years	<13 years	13-19 years	
Use of adsorbent material	Sanitary pads	New cloth	Old cloth
Do you follow taboos of menstruation	Yes, if yes, mention which taboo	No	
Did you receive information about menstruation before menarche?	Yes	No	
What was the source of information?	Mother/ Sister	Relative/ Teacher/ Friend	Radio/ TV/ News paper
Why do you get bleeding during menses?	Normal physiological	Don't know	Curse of god
From which organ do the menstrual blood come?	Uterus	Urethra	Vagina/ Don't know
How do you dispose it?	Throw it in routine waste	Bury	Flush
Do you clean your genitals during menses?	Yes	No	
Material used for cleaning genitalia	Water	Water and Soap	Water and antiseptics
Do you take bath during menses?	Yes	No	

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METHODS

Study design

A community based cross-sectional study was carried out amongst the young girls of 20-22 years age from urban areas of Nagpur district. Selection of girls was by random selection.

Study period

The present study was carried out during the period September to November 2017.

Inclusion criteria

- Girls who have attended menarche
- Girls who were willing to participate

Exclusion criteria

- Girls who were willing but unable to provide important information about menstruation and practices

Study was to be carried out with due permission of ethics committee. Permission from college authority was be sought before start of the study.

Verbal consent of the girls was obtained. Girls were asked about their knowledge of menstruation, awareness of menstrual hygiene and their perception about the taboos followed during menstruation. A predesigned, pretested, questionnaire was used for data collection. Data collection was done through person to person interview of study subjects by single female investigator.

Taboos followed during menstruation

Should not go to temple/ Should not enter the kitchen/ Separated during menses/should not touch plants/Restrict daily activities

Girls were told about the physiology of menstruation and menstrual morbidities. Advice was given about proper menstrual hygiene. Treatment was advised for anemia and menstrual morbidities. Girls were advised to seek medical advice when needed.

Data was entered in Microsoft excel sheet systematically. Categorical data was analyzed. Statistics was taken out in percentages for all the variables.

RESULTS

In the present study, out of 100 girls, 71 (71%) knew about menstruation before menarche.

They knew about the approximate age of menarche, periodicity of menstrual cycle and care to be taken of menstrual bleeding. 29 (29%) did not have any knowledge about menstruation (Table 2).

Table 2: Knowledge before menarche

Knowledge before menarche	No. of girls	%
Yes	71	71
No	29	29

In the present study, out of 100 girls, 71 (71%) girls knew the cause of menstruation as physiological.

They knew that menstruation is the change in the body occurring in girls. They knew this change is necessary for the reproduction. 18 (18%) girls didn't know the cause, 11 (11%) girls still believe it as curse of God (Table 3).

Table 3: Cause of menstruation

Cause of menstruation	No. of girls	%
Physiological	71	71
Don't know	18	18
Curse of God	11	11

In the present study, out of 100 girls, 68 (68%) girls knew the source of bleeding during menstruation as uterus.

They knew that this cyclical change is due to hormonal changes. 20 (20%) girls thought it as vagina while 12 (12%) thought it as urethra (Table 4).

Table 4: Source of bleeding during menstruation

Source of bleeding during menstruation	No. of girls	%
Uterus	68	68
Vagina	20	20
Urethra	12	12

In the present study, 64% girls use sanitary pads during menstruation.

The girls using sanitary pads were from middle class and upper class and belong to educated families. 19% girls used old cloth while 17% girls used new cloth during menstruation as adsorbent material. These girls were from low socio-economic class (Table 5).

Table 5: Adsorbent used during menstruation

Adsorbent used during menstruation	No. of girls	%
Sanitary pads	64	64
Old cloth	19	19
New cloth	17	17

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In the present study, 69% girls dispose pads or used cloth in dustbin. These girls belong to educated families and were from upper and middle class. 19% girls flush them in toilet while 12% girls throw them roadside. (Table 6).

Table 6: Disposal of used pad

Disposal of used pad	No. of girls	%
Throw in dustbin	69	69
Flush in toilet	19	19
Throw roadside	12	12

In the present study, 96% girls avoid going to temple, 68% girls restrict their daily activities, 56% girls avoid going to functions, 50% girls avoid going to kitchen, 50% girls avoid going to kitchen while 45% girls avoid touching things at home. These taboos were due to cultural environment at home (Table 7).

Table 7: Restrictions during menstruation

Restrictions during menstruation	No. of girls	%
Avoid going to temple	96	96
Restrict daily activities	68	68
Avoid going to function	56	56
Avoid going to kitchen	50	50
Avoid going to college	48	48
Avoid touching things at home	45	45

In the present study, source of information about menstruation in 62% was mother. Source of information was friend in 30%, media like TV/radio/newspaper in 5% and relative in 3% girls (Table 8).

Table 8: Source of information

Source of information	No. of girls	%
Mother	62	62
Friend	30	30
TV/Radio/Newspaper	5	5
Relative	3	3

DISCUSSION

In the present study, out of 100 girls, 71 (71%) knew about menstruation before menarche while 29 (29%) did not have any knowledge about menstruation.

In the present study, out of 100 girls, 71 (71%) girls knew the cause of menstruation as physiological, 18 (18%) girls didn't know the cause, 11 (11%) girls still believe it as curse of God.

Dipanwita Pandit et al found that correct knowledge was found among 370(85.05%) girls, while15.04% associated it to disease or a curse of God. 315(72.41%) girls had knowledge on menstruation before menarche.5

In the present study, out of 100 girls, 68 (68%) girls knew the source of bleeding during menstruation as uterus, 20 (20%) girls thought it as vagina while 12 (12%) thought it as urethra.

Dipanwita Pandit et al., found that 178 (40.94%) girls had the correct knowledge that uterus was the source of menstrual blood, while others said that it is urinary bladder (8.27%), vagina (45.74%) or abdomen (5.05%). 222(51.03%) girls knew that pregnancy is the cause of missed period and 20 (4.59%) girls did not know the cause.[5]

Ray Sudeshna et al found that 42% of the girls had knowledge about menstruation before their onset of menarche, the main source of knowledge being mother and sister (45%).[9]

Ray Sudeshna et al., found that 1/3 of the population did not have the correct knowledge of the cause of menstruation and only 17.9% of the adolescent girls knew that uterus was the source of blood in menstruation. Majority (62.6%) of the girls used only cloth as their menstrual absorbent.[9]

Dasgupta A et al found that Out of 160 respondents, 108 (67.5%) girls were aware about menstruation prior to menarche. Mother was the first informant regarding menstruation in 60 (37.5%) girls. 138 (86.25%) girls believed it as a physiological process.[10]

P. Mary Moses et al found that 80% of the respondents knew about menstruation before menarche. In most cases predominant source of information was their mother. Only 82% knew that the bleeding occurs from uterus.[11]

In the present study, 64% girls use sanitary pads during menstruation, 19% girls used old cloth while 17% girls used new cloth during menstruation as adsorbent material.

P. Mary Moses et al., found that 78% of the respondents use sanitary napkins, 22% use cloth. 83% of the respondents change the napkin 2-3times per day. Cleaning of external genitalia during menstruation was present in all of the respondents.[11]

In the present study, 69% girls dispose pads or used cloth in dustbin, 19% girls flush them in toilet while 12% girls throw them roadside.

Tazeen Saeed Ali et al., found that 50% of the girls lacked knowledge of the origin of menstrual blood. Source of information was through conversations with their mothers.

Many reported being afraid at the first experience of bleeding. 50% reported that they did not take baths during menstruation. There were unhygienic practices

and misconceptions among girls requiring action by health care professionals.[12]

Shobha P Shah et al found that 68% of adolescent girls said their first choice was falalin cloths. 32% said it was sanitary pads. None of them preferred old cloths. The introduction of falalin cloths improved quality of life significantly ($p<0.000$) and to a lesser extent also sanitary pads.

No significant reduction was observed in self-reported symptoms of reproductive tract infections. Falalin cloths were culturally more acceptable as they were readily available, easy to use and cheaper than sanitary pads.[13]

In the present study, 96% girls avoid going to temple, 68% girls restrict their daily activities, 56% girls avoid going to functions, 50% girls avoid going to kitchen, 50% girls avoid going to kitchen while 45% girls avoid touching things at home.

In the present study, source of information about menstruation in 62% was mother. Source of information was friend in 30%, media like TV/radio/newspaper in 5% and relative in 3% girls.

Abdel-Hady et al found that the significant predictors of use of sanitary pads were availability of mass media at home, high and middle social class and urban residence. Mass media were the main source of information about menstrual hygiene, followed by mothers.

A large majority of girls said they needed more information. Information in menstrual hygiene should be linked to an expanded programme of health education in schools. A supportive environment for menstrual hygiene has to be provided both at home and in school. Sanitary pads made more affordable.[14]

Enu Anand et al found that only 15% of women used sanitary pad/locally prepared napkins during menstruation in India. Both RTI and Vaginal discharge were positively related with non-use of hygienic methods ($OR = 1.046$, $p < 0.001$, $CI = 1.021\text{-}1.071$) and vaginal discharge ($OR = 1.303$, $p < 0.001$, $CI = 1.266\text{-}1.341$).[15]

CONCLUSION

In the present study, there was good knowledge about menstruation, but they need more education about menstrual hygiene. A variety of factors affect menstrual behaviours.Amongst these, most influential is economic status and residential status whether urban or rural. It is essential to design a mechanism to address and for the access of healthy menstrual knowledge.

Institutionalizing sexuality education in schools; developing and disseminating sensitive adolescent reproductive health massages targeted to both parents as well as their adolescent children is most important. Also, access of the adolescents to youth friendly services should be improved.

It is very important that young girls should be educated about the importance of maintaining hygiene during menstruation to prevent the risk of reproductive tract infections. Taboos should be removed by healthy discussion. Focused care and counselling of these young patients would be a great investment for their and their families' future health and the society and nation as a large.

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Original Research Article

Health awareness in female doctors

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ABSTRACT

Background: Managing the hectic schedule, female doctors often neglect their own health. In the present study, we evaluated the awareness, attitude and practices of breast, cervical and ovarian malignancies and also hypertension, diabetes, coronary artery disease and osteoporosis in female doctors.
Methods: A cross sectional study was conducted among 100 female doctors of M.B.B.S. and higher degrees of various subjects. Selection of female doctors was done randomly.
Results: In present study, out of 100 female doctors, 90 (90%) were doing their self breast examination regularly and 31 (31%) had done their mammography. 54 (54%) female doctors had their own pap smear done while 72 (72%) female doctors had their own ultrasound got done. 82 (82%) had their own blood pressure check up, 74 (74%) had their own blood sugar checked, 62 (62%) had got their own lipid profile done while only 44 (44%) female doctors had their ECG done and 48 (48%) had their bone mineral density done. 23 (23%) female doctors were diagnosed as hypertensive, 14 (14%) as diabetes, 4 (4%) as coronary artery disease, 5 (5%) as breast cancer, 2 (2%) as ovarian cancer, 18 (18%) as thyroid disease while 15 (15%) were detected as having osteopenia.
Conclusions: In spite of knowing about all diseases, their complications, screening methods and preventive care, practice of applying screening or preventive methods to themselves is not universal in doctors.

Keywords: Breast, Cancer, Cervical cancer, Female doctors, Diabetes, Hypertension, Screening

INTRODUCTION

According to WHO, a BMI of less than 18.5 as underweight and may indicate malnutrition, an eating disorder, or other health problems, while a BMI equal to or greater than 25 is considered overweight and above 30 is considered obese.[1] A body mass index <24.9kg/m^2 and a waist circumference <80cm are recommended so as to decrease the likelihood of developing a menopausal insulin-resistance syndrome.[2]

American Heart association/American college of cardiology guidelines recommend adherence to dietary and lifestyle habits including body weight control and physical activity.[2]

Diabetes definitely increases the other risk factors and modifies the protective effect by estrogens.[2] Carcinoma breast and carcinoma cervix are leading causes for cancer deaths in India. Still, these get detected only in late stages. Preventive measures and early detection of disease will help to decrease the burden of these cancers.[3] Vaccination of girls between 9 and 12 years may offer an option to decrease this burden. The use of HPV Vaccine has been approved by the Drug Controller of India.[3]

In the last decades, papilloma and herpes viruses got more importance in the development of epithelial dysplasia, neoplasia and cervical cancer. Cervical cancer has the second place in mortality from gynecological

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cancers. The incidence is 350,000 new cases diagnosed each year.[4]

Breast and cervical cancer are the most common causes of cancer mortality among women all over world, but they are preventable diseases. Doctors in developing countries regularly see women with advanced, incurable cancers. Health of a rural Indian women and her access to health facility is compromised due to socio-cultural, economical, and environmental factors.[5]

Breast cancer screening

Yearly mammography should be done starting at the age 40. If there is family history of breast cancer, screening by mammography should start earlier.[6]

Cervical cancer screening

Pap smear should be done at the age of 21 years and then after every 2-5 years. It is usually not needed after the age of 65 years.[6]

Routine screening

Blood pressure, blood sugar and cholesterol should be checked routinely for early detection of hypertension, diabetes and cardiovascular disease. Thyroid profile and bone mineral density should be checked for thyroid disorder and osteoporosis.[6] HPV, or human papillomavirus, vaccine is recommended for girls before they become sexually active to prevent cervical cancer.[6]

Dyslipidemia is one of the primary causes of coronary artery disease (CAD). Elevated total cholesterol (TC), triglycerides (TG), low-density lipoprotein-cholesterol (LDL-C) and lowered high-density lipoprotein-cholesterol (HDL-C) are conventional risk factors in myocardial infarction patients.[7] High HDL cholesterol levels (>45 mg/dl) are considered to be protective in women.[7] The incidence and mortality rates of coronary artery disease are higher in the Indian than the western population.[8] Many studies have demonstrated that postmenopausal use of estrogens alone result in a decrease in LDL and an increase in HDL levels.[9]

Dual-energy X-ray absorptiometry (DXA) of the lumbar spine and hip is the gold standard to diagnose osteoporosis. Bone mineral density (BMD) screening should begin at age 65 for all women. Postmenopausal women <65 years should only be screened with DXA if they have significant risk factors for osteoporosis and/or bone fracture.[10] With the hectic schedule, women, especially if she is working, frequently put themselves on the back burner. This happens until a health crisis hits.

The present study was conducted to evaluate the health awareness, attitude and practices in female doctors. Evaluation was done about weight awareness, attitude and practices in terms of diet and exercise in female doctors. Evaluation was done about awareness, attitude and practices of breast, cervical and ovarian malignancies in female doctors. Evaluation was done about awareness, attitude and practices of hypertension, diabetes and coronary artery disease in female doctors. Evaluation was done about awareness, attitude and practices of osteoporosis in female doctors.

Aims and objectives of the present study was to evaluate weight awareness, attitude and practices in terms of diet and exercise in female doctors and also to evaluate awareness, attitude and practices of breast, cervical and ovarian malignancies in female doctors.

Also, to evaluate awareness, attitude and practices of hypertension, diabetes and coronary artery disease in female doctors and to evaluate awareness, attitude and practices of osteoporosis in female doctors.

METHODS

A cross sectional study was conducted among 100 female doctors of various subjects. Selection of female doctors was done randomly.

Table 1: Questionnaire.

Variables	Answer	Answer	Answer	Answer
Name				
Age				
Body mass index	Normal	Undreweight	Overweight	Obese
Exercise per week	>3 times/week	<3 times/week		
Own pap smear got done	Yes	No		
Own Ultrasound got done	Yes	No		
Own mammography got done	Yes	No		
Self breast examination doing regularly	Yes	No		
Blood pressure got checked	Yes	No		
Blood sugar got checked	Yes	No		
Lipid profile got checked	Yes	No		
ECG done	Yes	No		
Bone mineral density got done	Yes	No		

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This survey was conducted in Nagpur and Amravati districts in female doctors of M.B.B.S. and higher degrees from July to October 2017 using a questionnaire.

Inclusion criteria

Female doctors above 30 years of age were included.

Exclusion criteria

Female doctors below 30 years of age were excluded as very young female doctors don't think of investigating themselves.

This evaluated implementation of screening and preventive measures used by them for self-protection. Data was collected in Microsoft excel sheet and analyzed. Statistics was done in percentages.

RESULTS

In present study, out of 100 female doctors, 48 (48%) female doctors were between 41-50years, 24 (24%) female doctors were between 51-60years, 18 (18%) female doctors were between 31-40years, 10 (10%) female doctors were >60 years. Female doctors of <30 years were excluded (Table 2).

Table 2: Age distribution.

Age distribution	No. of female doctors	Percentage
<30 years	0	0%
31-40 years	18	18%
41-50 years	48	48%
51- 60 years	24	24%
>60 years	10	10%
Total	100	100%

Table 3: Body mass index (BMI).

Body mass index (BMI)	No. of female doctors	%
Normal	26	26%
Underweight	8	8%
Overweight	58	58%
Obese	8	8%

In present study, out of 100 female doctors, 58 (58%) female doctors were overweight, 26 (26%) female doctors had normal BMI, 8 (8%) female doctors were obese while 8 (8%) female doctors were underweight (Table 3).

In present study, out of 100 female doctors, 52 (52%) female doctors were consuming pure vegetarian diet while 48 (48%) female doctors were consuming mixed (vegetarian and non-vegetarian) food. Advice regarding healthy food was given.

In present study, out of 100 female doctors, 32 (32%) female doctors were eating outside food >3 times a week while 68 (68%) female doctors were eating outside food <3 times in a week.

In present study, out of 100 female doctors, 64 (64%) female doctors were doing exercise >3 times a week while 36 (36%) female doctors were doing exercise <3 times in a week (Table 4).

Table 4: Diet and exercise pattern.

Diet pattern	No. of female doctors	%
Vegetarian	52	52%
Mixed (Veg and non-veg	48	48%
Outside food <3 times a week	68	68%
Outside food >3 times a week	32	32%
Exercise > 3 times a week	64	64%
Exercise <3 times a week	36	36%

In present study, out of 100 female doctors, 50 (50%) were gynecologists, 12 (12%) were physician, 9 (9%) were anesthetists, 8 (8%) were pathologists, 7 (7%) were general practitioners, 4 (4%) were ophthalmologists, 3 (3%) were surgeons, 2 (2%) were microbiologists while 1(1%) each were psychiatrist and pulmonologist (Table 5).

Table 5: Speciality of female doctors.

Specialty of female doctors	No. of female doctors	Percentage
Gynecologists	50	50%
Physician	12	12%
Anesthetist	9	9%
Pathologist	8	8%
General practitioner	7	7%
Ophthalmologist	4	4%
Surgeon	3	3%
Pediatrician	3	3%
Microbiologist	2	2%
Psychiatrist	1	1%
Pulmonologist	1	1%

Table 6: Awareness of breast cancer, cervical cancer and ovarian cancer.

Awareness of breast cancer	No. of female doctors	%
Self breast examination	90	90%
Mammography	31	31%
Pap smear	54	54%
Ultrasound	72	72%

In present study, out of 100 female doctors, 90 (90%) were doing their self breast examination regularly and 31 (31%) had done their mammography. 54 (54%) female

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doctors had their own pap smear done while 72 (72%) female doctors had their own ultrasound got done (Table 6).

In present study, out of 100 female doctors, 82 (82%) had their own blood pressure check up, 74 (74%) had their own blood sugar checked, 62 (62%) had got their own lipid profile done while only 44 (44%) female doctors had their electrocardiogram (ECG) done and 48 (48%) had their bone mineral density done (Table 7).

Table 7: Awareness of hypertension, diabetes, coronary artery disease and osteoporosis.

Awareness of hypertension, diabetes and coronary artery disease and osteoporosis	No. of female doctors	%
Blood pressure checked	82	82
Blood sugar done	74	74
Lipid profile done	62	62
Electrocardiography (ECG)	44	44
Bone mineral density	48	48

In present study, 23 (23%) female doctors were diagnosed as hypertensive, 14 (14%) were diagnosed as diabetic, 4 (4%) as having coronary artery disease, 5 (5%) as breast cancer, 2 (2%) as ovarian cancer, 18 (18%) as thyroid disease while 15 (15%) were detected as having osteopenia (Table 8).

Table 8: Suffering from major disease.

Suffering from major disease	No. of female doctors	%
Hypertension	23	23%
Diabetes	14	14%
Coronary artery disease	4	4%
Breast cancer	5	5%
Ovarian cancer	2	2%
Cervical cancer	0	0%
Thyroid disorder	18	18%
Osteopenia	15	15

DISCUSSION

In present study, out of 100 female doctors, 48 (48%) female doctors were between 41-50 years, 24 (24%) female doctors were between 51-60 years, 18 (18%) female doctors were between 31-40 years, 10 (10%) female doctors were >60 years.

In present study, out of 100 female doctors, 58 (58%) female doctors were overweight, 26 (26%) female doctors had normal BMI, 8 (8%) female doctors were obese while 8 (8%) female doctors were underweight (Table 3). These results are not similar with studies by D Priya et al, and Pantenberg B et al.

D Priya et al, reported that in 147 study subjects, according to BMI, 25 (17%) were undernourished while 111(75.5%) and 11(7.5%) were normally nourished and overweight respectively.[11] Pantenburg B reported that 84% were of normal weight and 10% were either overweight or obese.[12]

In present study, out of 100 female doctors, 52 (52%) female doctors were consuming pure vegetarian diet while 48 (48%) female doctors were consuming mixed (vegetarian and non-vegetarian) food. 32 (32%) female doctors were eating outside food >3 times a week while 68 (68%) female doctors were eating outside food <3 times in a week. 64 (64%) female doctors were doing exercise >3 times a week while 36 (36%) female doctors were doing exercise <3 times in a week (Table 4).

In present study, out of 100 female doctors, 90 (90%) were doing their self breast examination regularly and 31 (31%) had done their mammography. 54 (54%) female doctors had their own pap smear done while 72 (72%) female doctors had their own ultrasound got done (Table 6). This result is not similar with studies by S. Chkotua et al, Australian Bureau of Statistics. Hadley DW.

Chkotua S et al, reported that the overall prevalence of mammography use was 80.0%, whereas nonuse was 20.0% and underuse 27.3% among users. The prevalence of nonuse and underuse were lower and associated with sociodemographic factors, use of health care services, and behavioral factors were stronger among women aged 45 to 69 than among women aged 30 to 44 and women aged 70 or older.[13]

Australian bureau of statistics reported that a variable proportion from 47% to 81% of women doctors of appropriate age reported having had a mammogram in the past 2-5 years. But in the general Australian population, 74% of women have screening mammograms.[14]

Australian Bureau of Statistics reported that 74% of Australian women doctors reported having a Pap test as compared with 64% of women in the general Australian population.[14] A survey in Ireland by O'Connor M et al found that over 30% of women doctors had never undergone a Pap test.[15] A study in Pennsylvania by Hadley DW reported that in spite of free genetic counseling and testing, only 57% of individuals with a positive BRCA1/2 family mutation status participated in testing.[16] Sasieni P et al, reported that 51% underwent genetic testing for Lynch syndrome who had positive family mutation status.[17]

In present study, out of 100 female doctors, 50 (50%) were gynecologists, 12 (12%) were physician, 9 (9%) were anesthetists, 8 (8%) were pathologists, 7 (7%) were general practitioners, 4 (4%) were ophthalmologists, 3 (3%) were surgeons, 2 (2%) were microbiologists while 1(1%) each were psychiatrist and pulmonologist (Table 5).

In present study, out of 100 female doctors, 82 (82%) had their own blood pressure check up, 74 (74%) had their own blood sugar checked, 62 (62%) had got their own lipid profile done while only 44 (44%) female doctors had their electrocardiogram (ECG) done and 48 (48%) had their bone mineral density done (Table 7).

Frank E et al, found that female Pediatricians were less likely to do screening regarding cholesterol, HIV, smoking, and alcohol but more likely regarding skin cancer or sunscreen use, nutrition, and weight.[18]

In present study, 23 (23%) female doctors were diagnosed as hypertensive, 14 (14%) were diagnosed as diabetic, 4 (4%) as having coronary artery disease, 5 (5%) as breast cancer, 2 (2%) as ovarian cancer, 18 (18%) as thyroid disease while 15 (15%) were detected as having osteopenia (Table 8). These results are near to study by Hyun-Young Shin et al.

Hyun-Young Shin et al, diagnosed 39.5% of patients with osteoporosis. These patients were compared with the control group. The awareness group with diagnosed osteoporosis by a doctor, had a lower proportion of smokers and higher serum vitamin D level than the control group without osteoporosis.[19]

CONCLUSION

Doctors know everything in detail about the diseases and complications if they occur. They also know the preventive aspects and screening methods too. They advise these tests routinely to their patients. Still, the attitude and practice about screening methods is not universal in doctors.

So, it's high time that doctors take care of themselves. They should see their doctor regularly for preventive care and get important screenings and immunizations. Often, the earlier diseases are detected, the more easily they are treated.

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Original Research Article

Awareness of PCOS (polycystic ovarian syndrome) in adolescent and young girls

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ABSTRACT

Background: Polycystic ovarian syndrome (PCOS) is an endocrine disorder which affects the adolescent girls It affects 5% to 10% of women in their reproductive age. Awareness and accurate diagnosis is the first step in managing PCOS as it improves quality of life of the patient. The study was conducted to assess the knowledge on PCOS among the medical students.

Methods: Survey of 200 girls was done to assess the knowledge on the polycystic ovarian syndrome among the medical students of different colleges studying in 1st, 2nd, and 3rd year. The data was collected from the students by using structured questionnaire.

Results: In present study, 51% girls had normal BMI, 19.5% were overweight, 16.5% were obese while 13% were underweight. 33.5% females had acne, 16% had irregularity of menses, 5% had hirsutism while 2% had infertility. In present study, 33% adolescent and young girls had information about PCOS from teacher, 19% got information from friend, 11.5% got information from a doctor, 3.5% got information from newspaper while 5% got information from internet. 28% adolescent and young girls were unaware of PCOS.

Conclusions: Thorough knowledge of the disorder and counseling for adolescents should be included in the curriculum which will provide awareness towards the disorder and lifestyle modification. Accurate diagnosis at a younger age may be a key.

Keywords: Adolescent girls, BMI, PCOS, Young girls

INTRODUCTION

Polycystic ovarian syndrome (PCOS) is a condition in which woman has an imbalance of female sex hormones.[1] This may lead to changes in the menstrual cycle, cyst in the ovary, failure to conceive and other health problems.[1] It is a common health problem among teenagers and young women.[1] It affects 5% to 10% of women in their reproductive years. These problems cause infertility.[1] Research has suggested that PCOS may be related to increased insulin production. PCOS seems to run in families, too. so if someone in the family has it, they might be more likely to develop it.[1]

Although there is no cure for PCOS, there are several ways to treat and manage the condition.[1] If a girl is overweight, Weight loss can be very effective in lessening many of the health conditions associated with PCOS.[1]

Sometimes weight loss alone can restore hormone level to normal, causes many of the symptoms to disappear or become less severe. Healthy food habits and exercise helps to combat the weight gain.[1] India has witnessed about 30% rise in PCOS cases in the last couple of years. Lack of knowledge and lifestyle changes are considered to be the major factor leading to this phenomenon.[1] There

Table 3: Type of diet.

Type of diet	No. of girls	Percent
Mixed (veg and non-veg)	98	49
Vegetarian	102	51

Table 4: Problems in adolescent and young girls.

Problems	No. of patients	Percent
Irregularity of menses	32	16
Hirsutism	10	5
Acne	67	33.5

In present study, 33.5% girls had acne, 16% had irregularity of menses, 5% had hirsutism. Hormonal profile for hyperandrogenism was suggested.eg. Serum Testosterone, Serum DHEAS. If these levels were high, the girls were referred to endocrinologist for further management.

Table 5: Source of information about PCOS.

Source of information about PCOS	No. of patients	Percent
Teacher	66	33
Friend	38	19
Doctor	23	11.5
Paper	7	3.5
Internet	10	5
No information	56	28

In present study, 33% adolescent and young girls had information about PCOS from teacher, 19% got information from friend, 11.5% got information from a doctor, 3.5% got information from newspaper while 5% got information from internet. 28% adolescent and young girls were unaware of PCOS.

Being medical students, main source of information was teacher. Still 28% of girls were unaware about PCOS when they are in first or second year. So, 72% girls were aware of PCOS while 28% were unaware of PCOS.

Table 6: Type of doctor attended.

Type of doctor attended	No. of girls	Percent
Dermatologist	19	9.5
Gynaecologist	9	4.5
Ayurvedic	2	1
Homeopathic	2	1

In this study, 9.5% girls consulted dermatologist for either hirsutism or acne, 4.5% consulted gynaecologist for irregularity of menses, 1% girls sought ayurvedic treatment while 1% opted for homeopathy. Amongst 16% girls who consulted a doctor, 9% girls did ultrasonography and blood investigations. Amongst them, 6% girls were diagnosed as having PCOS. So, prevalence of PCOS in present study is 6%.

Table 7: Prevalence of PCOS.

Consultation with doctor	32	16
Investigations done	18	9
Proved PCOS	12	6

DISCUSSION

Age distribution

The present study was conducted on 200 medical students by using simple random sampling technique. In current study, 62.5% girls were young girls in the age group of 20-24 years while 37.5% girls were adolescent girls in the group of 15-19 years. Sunanda B et al revealed that 85% of the samples were in the age group of 21-25 years, 75% of the samples were Christians, 82% of the samples were consuming mixed diet, and 92% samples had regular menstrual cycle.[1] Sills S et al found that from 657 participants, the majority (63%) were between 26-34 years.[2] Moghul S found that the increasing trend of PCOS is predominantly seen in the age group 15 to 30 years.[8]

BMI (Body mass index)

In present study, 51% girls had normal BMI, 19.5% were overweight, 16.5% were obese while 13% were underweight. Sanchez N et al found that 32% were obese.[4]

Type of diet

In present study, 51% girls were consuming pure vegetarian diet while 49% girls were consuming mixed (vegetarian and non-vegetarian) food.

Problems in girls

In present study, 33.5% females had acne, 16% had irregularity of menses.5% had hirsutism. Sanchez N et al found that 32% were obese, 21% had acne, and 7% were hirsute (all associated with elevated testosterone levels and PCO appearance on ultrasound.[4] Joshi et al found that history of oligomenorrhea had a positive predictive value of 93.3% and negative predictive value of 86.7% to detect a possible case of PCOS.[6]

Source of information

In present study, 33% adolescent and young girls had information about PCOS from teacher, 19% got information from friend. 11.5% got information from a doctor, 3.5% got information from newspaper while 5% got information from internet. 28% adolescent and young girls were unaware of PCOS. 72% girls were aware of PCOS while 28% were unaware of PCOS. Sunanda B et al found that 76% of the samples were with average knowledge and 10.7% with good knowledge regarding

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