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## RESEARCH ARTICLE

# KNOWLEDGE REGARDING LEUCORRHOEA AND THE HYGIENIC PRACTICES AMONG WOMEN

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### ABSTRACT

The present study was aimed to assess the knowledge regarding leucorrhoea and the hygienic practices among women in a selected hospital, Kottayam. The objectives of the study was to assess the knowledge of women regarding leucorrhoea, assess the hygienic practices of women, identify the correlation between knowledge about leucorrhoea and the hygienic practices of women and to find the association between knowledge about leucorrhoea and selected socio-demographic variables. The study made use of quantitative approach with descriptive survey design to assess the knowledge regarding leucorrhoea and hygienic practices among women. The study was conducted among 100 women who were in the reproductive age group of 18-49 years. Convenience sampling technique was used to select samples for the study. The tools used were structured questionnaire for socio demographic and knowledge assessment. Self-reported practice checklist was used to assess the hygienic practices among women. The data was analyzed using descriptive and inferential statistics. The findings of the present study showed that the more than half of samples (61%) had average knowledge and 39% had good knowledge regarding leucorrhoea. Among the samples, 55% had good hygienic practices whereas 45% had satisfactory hygienic practices. There is a highly positive correlation ( $r = 0.67$ ,  $p = 0.000$ ) between knowledge and the hygienic practices. The level of knowledge was significantly associated with age ( $\chi^2 = 9.33$ ,  $p < 0.05$ ), education ( $\chi^2 = 19.96$ ,  $p < 0.05$ ), religion ( $\chi^2 = 7.52$ ,  $p < 0.05$ ), marital status ( $\chi^2 = 4.38$ ,  $p < 0.05$ ), previous knowledge ( $\chi^2 = 9.67$ ,  $p < 0.05$ ) and previous history ( $\chi^2 = 6.21$ ,  $p < 0.05$ ). Hence the study concluded that most of the women had average knowledge and followed satisfactory hygienic practices and socio-demographic variables have an influence on knowledge regarding leucorrhoea.

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## INTRODUCTION

Leucorrhoea is an abnormal white discharge where the vaginal discharge is excessively associated with or without any obvious pathology. It is associated with irritation and is non-haemorrhagic in nature. The discharge may be white, yellow or greenish in color<sup>1</sup>. Leucorrhoea is the most common problem facing the gynaecologist in practice. The highest incidence of leucorrhoea is seen in childbearing age. It may sometimes be the earliest manifestation of some of the major gynaecological diseases. It may lead to other genital tract disorders like cervical cancer and pelvic inflammatory disease. So, early attention towards leucorrhoea as a disease or symptom is helpful in the early detection and treatment of these diseases<sup>2</sup>.

Women must pay special attention to overall cleanliness, as part of the thorough personal hygienic routine. Women's hygiene is so important for many reasons. Factors such as sweating, menstruation and vaginal discharge make personal hygiene vital, to prevent body odour and maintain health. Women who do not practice good hygiene can become ill or get infections<sup>3</sup>. Several studies show that women have lack of knowledge on prevention and treatment of reproductive tract infections and they often suffer reproductive morbidities for a long time because of their culture of silence and they believe that it is not a condition for which they should seek medical help. So the researcher felt that there is need to assess the knowledge regarding leucorrhoea and the hygienic practices of women, which will be a motivation for the prevention of reproductive tract infections and practices of good hygienic measures.

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## NEED AND SIGNIFICANCE OF THE STUDY:

Reproductive tract infections among women form one of the major burdens of disease in developing countries. The infections caused due to the combination of three factors iatrogenic, endogenous and sexually transmitted<sup>4</sup>. Various studies revealed that this morbidity and general ill health has been endured silently by, due to various factors like gender inequalities, poor awareness, lack of proper infrastructure, lack of focussed counselling services etc<sup>5</sup>. Leucorrhoea is a physiological condition that happens in a female reproductive age group. It is the second most common problem of women. It is the frequent complaint of women seen in the gynaecologic clinic. It is seen especially in reproductive age, sexually active women and those with poor genital hygiene<sup>6</sup>. Keeping the above facts in view researcher had found that many women suffer from leucorrhoea and do not present themselves for seeking medical treatment because of their unawareness and misconceptions regarding leucorrhoea. Hence it is the responsibility of the health care provider to assess the knowledge of women regarding leucorrhoea and hygienic practice which helps in early identification and curing of the problem in the initial stage, and thereby enhances reproductive health, general health, and family health.

## STATEMENT OF THE PROBLEM

A study to assess the knowledge regarding leucorrhoea and the hygienic practices among women in a selected hospital, Kottayam.

## OBJECTIVES

- ) Assess the knowledge of women regarding leucorrhoea.
- ) Assess the hygienic practices of women.
- ) Identify the correlation between knowledge about leucorrhoea and the hygienic practices of women.
- ) Find the association between knowledge about leucorrhoea and selected sociodemographic variables.

## OPERATIONAL DEFINITIONS

**Knowledge:** In this study knowledge refers to the information regarding meaning, causes, signs, and symptoms, complications, prevention, and management of leucorrhoea which is measured by structured knowledge questionnaire.

**Leucorrhoea:** In this study leucorrhoea refers to a white, yellowish, or greenish-white viscid discharge from the vagina with a foul odour which results from inflammation or congestion of uterine or vaginal mucous membrane.

**Hygienic practices:** In this study hygienic practices refers to practices of a woman in the aspect of personal hygiene and menstrual hygiene as measured by self-reported practice checklist.

**Women:** In this study women refers to all females in the reproductive age group of 18-49 yrs who are attending the OPDs at the selected hospital.

**HYPOTHESES:** All the hypotheses are tested at 0.05 level of significance.

**H1:** There is a significant relationship between knowledge about leucorrhoea and the hygienic practices among women.

**H2:** There is a significant association between knowledge about leucorrhoea and selected socio-demographic variables

## MATERIALS AND METHODS

**Research design:** Descriptive survey design

**Setting of the study:** The study was conducted in gynaecology OPD of Caritas hospital

**Conceptual framework:** Rosen stock and Backers health belief model

**Research approach:** Quantitative approach

**Population:** The study population include women who are in the reproductive age group.

**Sample size:** The study sample consist of 100 women in the reproductive age group

### Inclusion criteria

#### Women who are attending

- ) Outpatient departments of selected hospital.
- ) Willing to participate.
- ) Able to read malayalam or english.
- ) Present at the time of study.

### Exclusion criteria

#### Women who are

- ) Below the age group of 18 yrs.
- ) Above the age group of 49 yrs.
- ) Tool / Instrument
- ) Tool was prepared based on the objectives of the study. In this study the data collection instrument used are:
- ) *Tool 1: Structured questionnaire Section A: Socio Demographic variables*

Demographic variables were collected by self report technique using structured questionnaire. It include age, educational level, occupation, religion, family income, type of family, marital status, menstrual pattern, contraceptive measures used, previous knowledge on leucorrhoea and previous history on leucorrhoea.

### Section B: Knowledge Questionnaire

The knowledge questionnaire was developed with the intention to assess the knowledge level of women on leucorrhoea. The total number of items in the questionnaire was 20. Each item had only one correct answer for which a score of one was allotted and score of zero was given for each wrong answer. The highest possible score was 20. The main aspects of knowledge are basics of leucorrhoea such as meaning, causes, signs and symptoms, complications, prevention and management.

Categorization of scores	
Level of knowledge	Score
Good knowledge	14-20
Average knowledge	7-13
Poor knowledge	0-6

### Tool 2: Self-reported practice checklist

The practice checklist was developed by the investigator with the intention to assess the practices of women regarding personal and menstrual hygiene. The total number of items in the questionnaire was 14. Each item had only one correct answer for which a score of one was allotted and score of zero was given for each wrong answer. The highest possible score was 14. The main aspects of checklist includes personal hygiene practices and practices during menstruation.

Categorization of scores	
Level of practice	Score
Good Practice	10-14
Satisfactory	5-9
Poor practice	0-4

## RESULTS

### Section 1: Distribution of samples based on socio-demographic variables

) More than half of samples (44%) were in the age group of 42-49 yrs. Among the samples, 28% were postgraduates. The study showed that 52% were private employees. Out of 100 samples, 47% were Christians. Among the samples, 67% belong to APL. The majority of samples (80%) belongs to a nuclear family. Out of 100 samples, 88% were married. The study showed that 75% had a regular menstrual pattern. Among the samples, 43% followed natural family planning methods. The majority (90%) of the samples had previous knowledge of leucorrhoea. Among the samples, 48% got information from health care professionals. Out of 100 samples, 52% had previous experience of leucorrhoea. Among them, 87% did not seek any medical advice.

### Section 2: knowledge of women regarding leucorrhoea

) The majority of samples (61%) had average knowledge and 39% had good knowledge regarding leucorrhoea. Knowledge score on the basics of leucorrhoea was 5.4 and standard deviation of 1.73, mean score of clinical features and diagnosis was 2.14 and standard deviation of 0.83 and mean score of complications and management was 5.6 and standard deviation of 1.70.

### Section 3: Hygienic practices of women

) Among the samples, 55% had good hygienic practices and 45% had satisfactory hygienic practices.

### Section 4: Correlation between the knowledge regarding leucorrhoea and the hygienic Practices.

The study result showed that the mean score of knowledge was 12.78 and the mean score of hygienic practices was 10.26. The standard deviation of knowledge was 3.31 and the hygienic practices were 2.46. The correlation coefficient ( $r=0.67$ ,  $p<0.05$ ) between knowledge and the hygienic practices indicated that there is a highly positive correlation between knowledge and the hygienic practices. It revealed that, as knowledge increases the hygienic practices also increases.

**Section 5: Association between the level of knowledge and selected socio-demographic variables:** The study findings revealed that there is a significant association between level of knowledge and selected socio demographic variables like age ( $\chi^2=9.33$ ,  $p<0.05$ ), education ( $\chi^2=19.96$ ,  $p<0.05$ ), religion ( $\chi^2=7.52$ ,  $p<0.05$ ), marital status ( $\chi^2=4.38$ ,  $p<0.05$ ), previous knowledge ( $\chi^2=9.67$ ,  $p<0.05$ ) and previous history ( $\chi^2=6.21$ ,  $p<0.05$ ). The study findings also revealed that there is no significant association between the level of knowledge and the selected demographic variables like occupation

## DISCUSSION

**Section 1: Distribution of samples based on socio-demographic variables:** The socio-demographic variables selected for the study were age in years, education, occupation, religion, family income, type of family, marital status, menstrual pattern, contraceptives used, previous knowledge about leucorrhoea, source of information about leucorrhoea and history of leucorrhoea. Frequency and percentage distribution of socio-demographic variables revealed that the majority of the samples (44%) belong to the age group of 42-49 years and about 28% were having education up to post-graduation. Among the samples, 52% were private employees and 47% were Christians. The data point out that the majority of the samples (67%) belonged to the above poverty line. It was observed that 80% of women belong to nuclear family and 88% were married. The majority (75%) of samples had regular menstrual pattern and about 43% followed natural family planning methods. Out of 100 samples 90% had previous knowledge on leucorrhoea and the main source of information was from health care professionals (48%). 52% had a previous history of leucorrhoea and among them, only 19% sought medical advice.

The socio-demographic variables of the present study were comparable to the study<sup>7</sup>, which shows that all the samples belong to the age group of 18-49 years. The majority (60.4%) of samples holds primary education and 60.4% were employed. About 62.5% were Hindus and 88% of the samples were married. Out of 550 samples, 54.1% belongs to the nuclear family and about 98.5% had previous knowledge on leucorrhoea and the main source of information was from friends (56.2%), relatives (41.5%) and general practitioners (14.1%). Among the total samples 54.1% had experience of leucorrhoea and among them only 30% sought medical advice.

### Section 2: Level of knowledge of women regarding leucorrhoea.

In the present study out of 100 samples, about 61% had average knowledge and 39% had good knowledge regarding leucorrhoea. The findings of the present study were comparable to the study<sup>8</sup> done at Tamilnadu, which revealed that 15.5% had adequate knowledge, 34% had moderate

knowledge and 50.5% had inadequate knowledge on leucorrhoea.

### Section 3: Hygienic practices of women

In the present study out of 100 samples, about 55% had good hygienic practices and 45% had satisfactory hygienic practices. The findings of the present study were comparable to the study<sup>9</sup> done at Tamilnadu, which revealed that 46.6% had good level of hygienic practices, 50.7 % had fair level of hygienic practices and only 2.7% had poor hygienic practices.

**Section 4: Correlation between the knowledge regarding leucorrhoea and the hygienic practices:** In the present study, 100 women were selected as samples to assess the relationship between knowledge regarding leucorrhoea and the hygienic practices. Statistical analysis was done by using Pearson's correlation test to identify the correlation between the knowledge regarding leucorrhoea and the hygienic practices. The study findings of the present study showed that there is a significant correlation ( $r=0.67$ ) existing between knowledge regarding leucorrhoea and the hygienic practices. The findings of the present study were comparable to the study<sup>10</sup>, which showed that there is a significant correlation ( $r^2=9.81, p=0.04$ ) between knowledge of women about leucorrhoea and their hygienic practices.

### Section 5: Association between the level of knowledge and selected socio-demographic variables

The association between the level of knowledge regarding leucorrhoea and socio- demographic variables like age in years, education, occupation, religion, type of family, marital status, previous knowledge, and previous history were analyzed using chi-square test. It was found that there was a significant association between the level of knowledge about leucorrhoea and selected socio-demographic variables like age in years, education, religion, marital status, previous knowledge and previous history about leucorrhoea. The findings of the present study were contradictory to the study<sup>11</sup> done at Ludhiana which showed that the level of knowledge is not associated with demographic variables like age, education and occupation. Level of Knowledge was only associated with previous history of leucorrhoea.

### CONCLUSION

The present study aimed to assess the knowledge regarding leucorrhoea and the hygienic practices among women in a selected hospital, Kottayam. The present study findings give an insight that the knowledge and the hygienic practices of women in reproductive age group should be improved and providing information to women regarding leucorrhoea will help to improve the hygienic practices and thereby women can improve their reproductive and general health.

### LIMITATIONS

- ) The study was done on a small group of samples so generalizations are limited.
- ) Homogeneity was not completely maintained in terms of socio-demographic characteristics of the samples which limit the generalizations of findings.

- ) Researcher only assessed the knowledge and hygienic practices of women, but no interventions were done.

**NURSING IMPLICATIONS:** The study findings have implications for nursing education, nursing practice, nursing administration, and nursing research.

### Nursing education

Nursing education is a means through which nurses are prepared for practice in various settings.

- ) Results of the present study can be discussed in in-service and continuing education sessions.
- ) Obstetrics and gynaecology, being an important subject in the nursing curriculum, should equip student nurses to play a major role in preventive and promotive aspects of women's health.
- ) Nurse educators have the responsibility of upgrading the knowledge of students on leucorrhoea and hygienic practices.
- ) Students can conduct a health education program regarding leucorrhoea and its management.
- ) Based on the present study student nurses can use this tool to identify the knowledge regarding leucorrhoea among women in both the hospital and community.
- ) Nursing students and staff nurses should be educated about leucorrhoea, so that they can identify symptoms early, prevent complications and improve the quality of life of women in the reproductive age group.

### Nursing practice

- ) This study can be used as information for staff nurses to have a better understanding of the problems faced by women with leucorrhoea. It will guide the nurses to do a better assessment of the knowledge of women on leucorrhoea and to facilitate the management of leucorrhoea.
- ) Nurses are a vital source in educating the women regarding leucorrhoea in OPDs and clinics.
- ) Nurses and midwives have an important role to play in providing information as well as treatment for leucorrhoea in community settings.
- ) As the identification of risk factors points towards the possibility of prevention, the nurse can help the women to prevent and treat leucorrhoea.
- ) Encourage developing community awareness programs to improve awareness among women.

### Nursing administration

- ) Nurse administrators can arrange and conduct workshops, conference, in-service education programs etc. on leucorrhoea.
- ) Arrange community programs on the identification of leucorrhoea and develop awareness regarding its management.
- ) The study findings signify the importance of formulating and implementing an education schedule on leucorrhoea and its management by nursing personnel working in the gynaecology department, Gynaecology OPDs and wards.

**Nursing research**

- ) The abstract of the study can be published in nursing journals.
- ) More research can be done on leucorrhoea and its management and the findings can be utilized effectively to understand the problems faced by the women and to prevent complications.
- ) The findings of research studies can form the basis for future researchers.

**RECOMMENDATIONS:**

- ) A study can be replicated in similar and different settings with large samples.
- ) A study can be conducted to detect the prevalence and risk factors regarding leucorrhoea.
- ) A study can be conducted to assess the effectiveness of the educational program on leucorrhoea and its management.
- ) A study can be conducted to assess the health seeking behaviour of women who affected with leucorrhoea.

**REFERENCE:**

- Arulkumaran S. Text book Essentials of gynaecology. 2<sup>nd</sup> edition New Delhi: jaypee publishers.2011; 56-57.
- Arulkumaran s. Text book Essentials of gynaecology. 2<sup>nd</sup> edition New Delhi: jaypee publishers.2011; 56-57.
- Baishakhi Paria, Agnihotri Bhattacharyya, and Sukes Das. A Comparative Study on menstrual Hygiene among Urban and Rural Adolescent Girls of West Bengal. Journal of family medicine and primary care.2014.Available from: 10.4103/2249-4863.148131.
- Belen Torondel, Shalini Sinha, Jyothi Ranjan, Iqbal, Afroza, Association between unhygienic menstrual management practices and prevalence of lower reproductive tract infections. Journal of BMC infectious diseases.2018;18(5).Available from: [https:// doi.org/ 10.1186/ s 12879-018-3384-2](https://doi.org/10.1186/s12879-018-3384-2).
- Chawdhari SR. Textbook of nursing research. New Delhi: Kumar publishing house:2010;57
- Choudhary Mamta, Knowledge regarding leucorrhoea among women residing in selected urban community of Ludhiana city. Nitte university journal of health science.2016;6(2):14-16. Available From: [nitte.edu.in/journal/june2016/80.pdf](http://nitte.edu.in/journal/june2016/80.pdf)
- Derya Adibelli. Genital hygiene behaviours and associated factors in women living in rural areas of Turkey. Mednifico journal.2014;6(2):210-213 available from: [https:// www. Research gate. net /publication/276173851](https://www.researchgate.net/publication/276173851)
- Devi Uma S. Study to prevalence of leucorrhoea in women attending in OPD of gynaecology and obstetrics department in a tertiary hospital. International journal of research in health science.2013;1(3):23-234. available from: [www.ijrhs.org/ article/ 2013/1/3-16](http://www.ijrhs.org/article/2013/1/3-16).
- Ebtisam Hashem. Awareness of women regarding vaginal discharge. IOSR Journal of Nursing and Health Science 2017 ;(6), 1-12. Available from: [www.iosrjournals. org/ iosr-jnhs/ papers/vol6- issue1/version-1/A0601010112.pdf](http://www.iosrjournals.org/iosr-jnhs/papers/vol6-issue1/version-1/A0601010112.pdf)
- Goel Palak. A community based cross sectional study on menstrual hygiene among 18- 45 yrs age in a rural area of Delhi. International journal of biomedical research,2016;8(6):302- 308. Available from: <https://doi.org/10.7439/ijbr>.
- Imtiaz, K S K begum, N Begum. Practice of personal hygiene among rural women of a selected community. Northern international medical college journal.2014 ;6(1):29-31. Available from: [https://www.researchgate. net/publication/ 276471310](https://www.researchgate.net/publication/276471310)
- Jeffcolate. Text book of gynaecology .6<sup>th</sup> edition, Newdelhi: wolters publishers, 2006:548.
- Kanchana S. and Manonmanik. Prevalance of leucorrhoea among women. Nightingale Nursing Times.2013;9(4):22-23.
- Kanchana S. and Manonmanik. Prevalance of leucorrhoea among women. Nightingale Nursing Times.2013;9(4):22-23.
- Kaur Manjot, Kaur Gursangeet. Pre experimental study to assess the effectiveness of coriander seeds water on leucorrhoea among women residing in selected rural areas of Ludhiana. int.j.nur.edu. and research.2017;5(3):263-268. Available from: 10.5958/2454-2660.2017.000540.
- Mayank Gupta, Sonia Tiwari. Awareness and practice regarding menstrual hygiene among women of reproductive age group attending a tertiary care hospital of indore, india. National journal of community medicine, 2015;6(2):141-144. Available from: [www.njcmindia.org.0976 3325. 2229 6816](http://www.njcmindia.org.09763325.22296816)
- Mohammad Abid, Jyothi, Kapil kumar. Assessment of leucorrhoea diseases in female students. Journal of scientific and innovative research.2016;25(4):116-118. Available from: [www . jsirjournal.com/vol5-issue4-02.pdf](http://www.jsirjournal.com/vol5-issue4-02.pdf).
- Ms. Pooja Rani. Practices of personal hygiene among hostel women in Chandigarh. International journal of research in social science.2017;7(8):643-652. available from: [http:// www .ijmra.us / project% 20doc/2017/IJRSS-august/ 2017/ijmra-/2075.pdf](http://www.ijmra.us/project%20doc/2017/IJRSS-august/2017/ijmra-/2075.pdf).
- Mudiyanselege. women's knowledge and experience of abnormal vaginal discharge in Colombo district Srilanka. International journal of women's health and reproduction science., 2017; (5) 90-96 Available from: [http://doi. 10.15296/ ijwhr. 2017](http://doi.10.15296/ijwhr.2017)
- Nagdev meenakshi. leucorrhoea, types causes and symptoms. Journal of national medical association. July 48 (4):247-248. Available from: [https://www. ncbi.nlm. nih.gov/pmc / articles PMC 2641195](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2641195) Reddy Suresh .personal hygiene in women. Indian journal of gender studies. 2011; 11(2) Available from: <https://doi.org/10.1177/097152151101800305>
- Navdeep B K. Text book of advanced nursing practices. 1<sup>st</sup> edition. Haryana: jaypee publishers; 2015:696-704.
- Puneet Misra, Ravi Prakash. A community based study of menstrual hygiene practices and willingness to pay sanitary napkins among women of a rural community in northern India. The national medical journal of india. 2013;26(6):335-338 [https:// www. research gate. net/ publication /264001502](https://www.researchgate.net/publication/264001502)
- Puneet misra, Ravi prakash. A community based study of menstrual hygiene practices and willingness to pay sanitary napkins among women of a rural community in northern india. The national medical journal of india. 2013;26(6):335-338 . Available from: [https:// www. ncbi. nim. nih.gov/pub med/25073990](https://www.ncbi.nlm.nih.gov/pubmed/25073990).
- Rahman D1, Adhikary A2, Hussein S3, Shaheed suhrawardy. Aetiology of vaginal discharge among women presented with cervical abnormalities. International journal of health

- science.2012(5):31-35 Available from: <https://www.hanglajol.info/index.php/jssmc/article/view/16203/11493.pdf>.
- Rao.K, Roy, Choudhary. Clinical gynaecology.4<sup>th</sup>edition. London: sangam books publications;1996.
- Reddy Suresh .personal hygiene in women. Indian journal of gender studies. 2011; 11(2) Available from: <https://doi.org/10.1177/097152151101800305>
- Reshunath. Text book of nursing research.I<sup>st</sup> edition.Kollam:masters.2002;68-71.
- Sampda Shivdas Rajurkar, Pravin Sonuji Sapkal, Mohan mahadevrao Raut, Umesh Shankarrao Joge ,Vilas Raghunath Malkar, Sanjay Vithal Wagh.Study of Syndromic Management Among the Women with Leucorrhoea attending Malawi Urban Health Centre. Mumbai. International journal of medical and health science,2014;3(1).available from:<http://www.ijmhs.net>.
- Sangeetha S. Balamurukan,S.S Shilpa .A community based study on menstrual hygiene among reproductive age group women in a rural area,Tamilnadu.Journal of basic and reproductive sciences.2014;3(2):83-87Available from <http://10.4103/2278-960X.140040>
- Seshadri Lakshmi.essential of gynecology.1st edition. New Delhi. Wolter publishers, 2011:9-10.
- Sharma SK. Nursing research and statistics,1st edition: New Delhi:Elsevier,2011;46-50.
- Shashidhar M Kotian,Vyom K Choudhary. Assessment of knowledge, practice and perception of menstruation among adult women in the reproductive age group in Mangalore ,India. International journal of reproduction, contraception, obstetrics & gynaecology.2017; 6(10):4595-4601.Avaiable from: <http://dx.doi.org/10.18203/2320-1770.Ijrcog.20174448>.
- Shashidhar M Kotian,Vyom K Choudhary. Assessment of knowledge, practice and perception of menstruation among adult women in the reproductive age group in Mangalore, India. International journal of reproduction, contraception, obstetrics & gynaecology.2017; 6(10):4595-4601.Avaiable from: <http://dx.doi.org/10.18203/2320-1770.Ijrcog.20174448>.
- Shirley J. Angel. Salt solution wash, warm water wash for leucorrhoea, Nightingale Nursing Times.2014;10(9):52-55
- Sutanuka Sandra, Assessment of knowledge regarding menstruation and practices related to maintenance of menstrual hygiene among the women of reproductive age group in a slum of Kolkata,India.International Journal of community medicine public health.2017;4(3):708-712 Available from: <http://dx.doi.org/10.18203/2394-6040.ijcmph20170744>
- Thabassum .k,sayeeda begum. Analysis of leucorrhoea manifestation an observational study, International journal of herbal medicine 2014;2(2):23-26. Available from: [www.florajournal.com/vol2issue2/june2014/7.1.pdf](http://www.florajournal.com/vol2issue2/june2014/7.1.pdf).
- Uzma Eram,Zakia Zultan.perception and knowledge of vaginal discharge among women in rural setting in alligarh.Indian journal of applied research.2018;8(3):37-39.Avaiable from:<https://wwwjournals.com/index.php/lijar/article/view/2524/2493>.
- Varghese Shiny . Knowledge, attitude, and practices of women towards vaginal discharge. International journal of advance in medicine2017;4(1):188-191Available from: <http://doi.org/10.18203/2349-3933.ijam20170109>: // dx.
- Varsha Chaudhary,Rajeev Kumar,Vijender K Agrawal,Arun Singh,Ramesh Narula,Mahendra Sharm. A cross sectional study to assess the prevalence and determinants of vaginal discharge among women of reproductive age group in tertiary hospital. National journal of community medicine.2012;3(4):661-665.Available from: [www.njcmindia.org/home/download/338](http://www.njcmindia.org/home/download/338).
- Vijaya keerthi R,Kalyani P.A study on knowledge and practice of menstrual hygiene among menstruating women of age group 15-44 yrs in a rural area Tamilnadu.Journal of medical science and clinical research.2016;4(10):13264-13269.Avaiable from: <https://dx.doi.org/10.18535/jmscr/v4i10.76>
- World health organization (2008) Global prevalence and incidence of selected curablesexually transmitted infections estimates WHO.Available from: <https://www.int/iris/handle/10665/44735>.
- World health organization,. Global prevalence and incidence of selected curable sexually transmitted infections overview and estimates.2001:1-5Avaiable From: <https://www.who.int/hiv/pub/sti/who-aids-2001.02.pdf>.
- World health organization. Reproductive health and environment.nov2011:1- 47Available from: <https://www.who.int/ceh/capacity/introduction-reproductive.pdf>.

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