



## ASSESSMENT OF GYNECOLOGICAL PROBLEMS IN WORKING WOMEN WITH REPRODUCTIVE AGE; A CROSS-SECTIONAL SURVEY

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### Abstract

**Objective:** The objective of the study was to determine various gynecological problems and association with age and BMI in working females with reproductive age.

**Design:** An observational cross-sectional survey was conducted to assess the various gynecological problems in working females with reproductive age.

**Sample** The questionnaire was filled out by 408 participants using a non-probability convenient sampling technique from October 2022 to January 2023.

**Setting:** The sample was collected from different educational institutes, hospitals, and working places in Gujranwala division, Punjab, Pakistan.

**Methods:** Individual interviews were conducted to fill out the questionnaire. SPSS version 25 was used for analysis.

**Results:** Among total 408 participants, 244(60%) participants were experiencing lower back pain, 213(52%) participants were suffering from dysmenorrhea, 176(44%) participants have vaginal discharge issue and 197(48%) participants experienced pre-eclampsia.

**Main Outcome measure:** A statistically significant difference with  $p \leq 0.005$  was found among demographic, LBP, dysmenorrhea, vaginal discharge and pre-eclampsia variables. LBP, dysmenorrhea, vaginal discharge and pre-eclampsia were strongly associated with age whereas BMI was seen to be strongly associated with LBP.

**Conclusion:** On the basis of outcomes, it is concluded that most prevalent gynecological problems ranked as LBP followed by dysmenorrhea, pre-eclampsia and vaginal discharge respectively. Dysmenorrhea and vaginal discharge had negative effect on daily working. Majority of participants were unaware about pre-eclampsia. They should be provided awareness regarding gynecological problems and its management.

**Keywords:** Gynecology, low back pain, dysmenorrhea, Vaginal discharge, Pre-eclampsia

### **Introduction**

Almost every woman can suffer from gynecological problems at any time during her life (2). These are linked with the functioning of reproductive organs but they may be devastating in some women or insignificant in others (3). They may include heavy or unusual menstrual bleeding, dysmenorrhea, pelvic pain, uterine tumors, endometriosis and vaginal discharge which can affect sexual, reproductive and mental health at any stage of puberty life (4) and may warrant hysterectomy. These are leading causes of maternal and neonatal mortality and morbidity (9) (5, 6). Unlike previous involvement in house chores only, nowadays women are actively giving their input in the regional, social, and economic growth of society which might increase concerns about women's health (7, 8). According to a survey Pakistani women suffered from different gynecological problems like backache 21.5%, vaginal discharge 29.7%, dysmenorrhea 17.6% and irregular menstrual cycle 11.7% (22). Another study reported non-pelvic pain 37% and 17.1% irregular menstruation among women (23). Intensity of menstrual pain during menstrual period was also graded as "very serious" menstrual pain 2.8%, "serious" menstrual pain 25.8%, "tolerable" pain 47.9% and "no pain" 21.6% (24). Excessive weight gain, geriatric pregnancy, 1<sup>st</sup> or 2<sup>nd</sup> degree relatives with a history of pre-eclampsia, maternal demographic variables, and other environmental genetic-related factors can increase risk of developing pre-eclampsia which have been mostly observed in women aged  $\geq 35$  years (25, 26, 27). Multiple children can be another cause of pre-eclampsia (28).

In a survey conducted in a rural areas of ALIGARH women marked possible causes of vaginal discharge to be back pain (87%), bone melting (93%). As for as symptoms of vaginal discharge were concerned, all of them felt getting weak and suffering backache (100%), some were having discomfort in their lower abdomen (37%), body ache (81%), seeming pale (75%). Approximately 36% didn't even get any treatment for it (29).

Lower back pain (LBP) is a common problem among working women. In a study, 32.5% have LBP (30) while in another study about Turkish nursing staff (28%) had Lower Back and neck pain and 34% had LB and shoulder pain (31). LBP is moderately linked with work-place as 21.9% female nurses of ICU had continuous back pain, and 40.7% reported once-in-week complaints about it (32). To date, Limited literature available about gynae problems among working women in Pakistan. Current study aimed to assess these and their association with age and BMI in working females of reproductive age.

### **Material and method**

An observational cross-sectional survey was conducted to assess the gynecological problems in working women with reproductive age. Questionnaires were used to collect the data of 408 females from February-July 2023 of Gujranwala division, Punjab, Pakistan. Married working women of reproductive age and mothers having at least 1 child were included as a study population. Participants were selected using non-probability convenient sampling technique from different educational institutes, hospitals and working places. Individual interviews were conducted to fill out the questionnaire. Verbal informed consent was taken from the selected participants. The subjects were informed that their data will be only used for study purpose and they could leave the study at any point.

Questionnaire was divided into 5 sections; 1<sup>st</sup> section of questionnaire was about demographics, 2<sup>nd</sup> section was related to LBP, 3<sup>rd</sup> section included dysmenorrhea related questions, 4<sup>th</sup> section contained

on vaginal discharge related questions. 5<sup>th</sup> section of questionnaire had pre-eclampsia related questions.

Information related to demographic variables (age, BMI, education, occupation, service duration, working hours, job stress level and number of children) and gynecological problems (LBP, dysmenorrhea, vaginal discharge and pre-eclampsia) were collected using self-structured pretested reliable and valid questionnaire with Cronbach alpha = 0.78.

According to Center for Disease Control and National Health Service, adult body mass index scale was used to categorize participants depending on BMI. The LBP questionnaire was created in accordance with standards guidelines. Participants were questioned about location, nature, and management of the pain as well as its duration and aggravating variables. Back pain can range in intensity, with mild pain not interfering with everyday activities, moderate pain interfering with daily activities, and chronic pain making it unable to perform any activity (33). The questionnaire of dysmenorrhea included demographic information, dysmenorrhea intensity, progress of disease, impact of dysmenorrhea on daily activity, and method and understanding of medications to treat dysmenorrhea were all covered by the questionnaire. The vaginal discharge assessment form was used to build questionnaire (34). The response rate was 95%. The questionnaire of pre-eclampsia was created by examining at earlier research with related goals, and then it was validated from the standpoint of public health by supervisor.

Permission was taken from the authorities related to specific institutes to collect the detailed information related to demographics and gynecological problems. Verbal informed consent was taken from the selected participants.

All Data were entered and analyzed through SPSS (statistical package for social sciences) version 25. For descriptive analysis, frequency and percentages was calculated for categorical variable whereas chi square and spearman correlation were applied for inferential statistics. All results were calculated at 95% confidential interval and p value  $\leq 0.05$  was considered as significant value.

### **Ethical approval and consent**

Ethical approval was taken from the institutional review board (IRB) of the University of Lahore (REF-105)

### **Results**

An observational cross-sectional survey was conducted to assess the gynecological problems in working women with reproductive age. The questionnaire was filled by 408 participants selected by non-probability convenient sampling technique.

### **Demographic characteristics of participants**

Majority of participants belonged to age group 28-35yr; 160 (39%) followed by age group 21-28yr 149 (36%). Among 408 participants, BMI range was 25-29.9 for 156(38.2%) and 18.5-24.5 for 136 (33.3%)  $\geq 30$  for 106(26%). 58(14%) among total female participants were illiterate, 32 (8%) completed high school, 46 (11.2%) had an intermediate degree where 181(44.3%) had post-graduate degree. Occupations wise division among participants includes teaching 206 (50.2%), laborers 59 (14.5%), doctors/health professionals 46 (11%), and students 23 (6%) while 75(18.3%) were housewives. Duration of service among working women was categorized as  $\geq 5$  yrs 123(30%) and 5-10 yrs 127(31%). 136 (33%) worked for 8-10hrs, while 86 (21%) worked for  $<8$ hrs, 39 (10%) participants were self-working. Stress level among working women was categorized as, 155(38%) suffer moderate stress, 115(28%) mild stress, and 68 (17%) experienced severe stress and 70(17%) had not noticed any stress. Only child bearing women were included. A statistically significant difference was found among age (years), BMI ( $\text{Kg/m}^2$ ), education, occupation, service duration (years), working hours, job stress level and number of children given by computed chi-square where  $p \leq 0.005$  (Table: 1)

### Prevalence of gynecological problems

Highest prevalence of LBP 244(60%) was found, following dysmenorrhea 213(52%), pre-eclampsia 197(48%) and vaginal discharge 176(44%) respectively (Table: 2)

### Gynecological problems

Among 408 working women, 213 (52%) had dysmenorrhea. Among those 213, 107(50%) of participants had no family history of dysmenorrhea, compared to 25(12%) with family history. 89(42%) participants felt no change in progression of dysmenorrhea, 23(11%) found an increase in dysmenorrhea, and 55(26%) experienced a decrease with passage of time. The severity of dysmenorrhea was categorized as mild 82(38%), moderate 60(28%), severe 23(11%). Among total 213 participants with dymennorhea 120(56%) had no major effect on their daily activities, 49(23%) felt limited social activity while 9(19%) stated limited concentration. Rest and heating pads were typical therapeutic techniques for dysmenorrhea. Use of NSAIDs were also mentioned by a few. A statistically significant difference was found among family history of dysmenorrhea, progression of the dysmenorrhea, consumption of coffee/tea, impact of dysmenorrhea on daily activities, management strategies and frequent analgesic use with  $p \leq 0.005$ . 197(48%) suffered pre-eclampsia among total participants of survey. 9(4.5%) out of them had family history of pre-eclampsia and 37(19%) had family history of hypertension. 60 (30%) among those with pre-eclampsia had complete information about it, while 137(70%) didn't knew about it. Readings of BP was found to be 140/90 mmg of Hg in 136(69%), 160/90 in 34(17.5%), >160/90 in 5(2%) while 22(11%) don't remember. Only 40(20%) participants take antenatal leaves and 123(62 %) had prenatal visits. Among those, 60(30%) had  $\geq 3$  prenatal visits, 71(36%) had 4-12 prenatal visits during pregnancy. A statistically significant difference was found among family history of pre-eclampsia, history of hypertension, knowledge of pre-eclampsia, BP, antenatal leaves, weight during pregnancy, prenatal visits and number of visits with the use of chai square where  $p \leq 0.005$  (Table:3).

176(44%) of total participants had suffered vaginal discharge. 52(29%) among those had white vaginal discharge followed by clear vaginal discharge in 42(24%). 55(31%) had no idea about consistency of discharge, while 52(29.5%) had a thick smelly consistency. The 67(38.1%) participants reported about non-offensive odor while 41(23.3%) talked about fishy odor of vaginal discharge. Among 176 participants, 64(36.3%) underwent vaginal discharge during their menstrual cycle, 19(10.8%) reported about burning and itching. 95(54%) women who had suffered from vaginal discharge didn't receive any treatment while 57(33%) received homo remedies. A statistically significant difference was found among color of vaginal discharge, consistency of vaginal discharge, odor of vaginal discharge, symptoms of vaginal discharge and treatment pattern with the use of p-value  $\leq 0.005$ . Among total 408 participants, 244(60%) experienced LBP. Mid back pain was reported by 117(48%) participants while 86(35%) experienced back pain during any physical activity. The various duration of lower back pain was reported by the participants. 74(30.3%) of participants had mild LBP, 93(38.1%) had moderate where 29(12%) had severe LBP. Domestic activity was major cause of LBP in 97(40%) participants who were suffering LBP. It was reported that 104(43%) of participants didn't take leaves besides of LBP. A statistically significant difference was found among origin of LBP, reason of LBP, duration of LBP, severity of LBP, causes of LBP and leaves taken due to LBP with p value  $\leq 0.005$  (Table:4)

Correlation of age with LBP, dysmenorrhea, vaginal discharge and pre-eclampsia was illustrated in (Table: 5). Data showed that the computed spearman correlation value illustrates the statistically significant correlation of age with LBP, dysmenorrhea, vaginal discharge and pre-eclampsia as  $p \leq 0.005$

Correlation of BMI (Kg/m<sup>2</sup>) with LBP is given. The origin of LBP ( $r = 0.885$ ), reason of LBP ( $r = 0.899$ ), duration of back pain ( $r = 0.889$ ), the severity of LBP ( $r = 0.880$ ), causes of LBP ( $r = 0.872$ ) and leaves due to LBP ( $r = 0.869$ ) was found positively strong association with body mass index with  $p \leq 0.005$  (Table: 6).

## Discussion

### Strengths

It was previously reported that 2% of working women experienced severe dysmenorrhea (35) to get off from work and this ratio is too low as compared to absenteeism reported in school going adolescences (36, 37). However in our study 19% among 244 women showed less interest at job-place and only 2% showed absenteeism from job. Possible reason of this absenteeism previously claimed that women typically don't report menstrual cramps because society views them as a harmless part of the menstrual cycle (38). In current study confirmed like previous study that among working women have only mild dysmenorrhea (38%), moderate dysmenorrhea (28%), possibly due to less reporting (39, 40, 41, 42). It was reported in a previously that dysmenorrhea disturb limit daily activities of women like socialization (46%), homework (35%), test-taking skills (36%), but in current study only 23% have limited social activities due to dysmenorrhea, while there might be another reason that women of our area don't report (43, 44). NSAIDs (aspirin, naproxen, and ibuprofen) are most commonly and widely prescribed medications for dysmenorrhea (45),(46) because these can alleviate menstrual cramps and moderate to severe pain during primary dysmenorrhea. Currently, self-care is the mainstay for dysmenorrhea management, besides NSAIDs (38). There is no specific criteria exist for preference among NSAIDs in dysmenorrhea (48). It was reported in Ethiopia, students of non-medical field (22.9%) don't prefer to take NSAIDs. It might be due to lack of proper medical knowledge and poor access to medications among non-medical students as compared to medical students (13.6%), who used NSAIDs during dysmenorrheal pain. Moreover, it was found that around 46.3% participants from non-medical field tried non-pharmaceutical approaches mainly home remedies to cure pain (49). The results are in accordance with Australian systematic review report on Chinese people, treated by Chinese university students through Chinese traditional medicine as a non-pharmacological treatment option (50). In another research, 80% of individuals with moderate or severe pain used analgesics to treat their discomfort during dysmenorrhea (51). In such cases mostly used drug was paracetamol (30%) following mefenamic acid (20.1%) (52). In current study, working women also rely non-pharmacological methods to alleviate pain due to dysmenorrhea like 37% participants take rest, 34% participants used heating pads, 9% took medication whereas 12% preferred exercise.

In current study, 53.5% participants have abnormal vaginal discharge with clear and white appearance and these results are consistent with a previous findings of researcher (53). Symptoms of burning and itching were observed in 11% participants in my study which is less than 37.9% in previous study. This may be due to non-supportive environment and society norms. Vaginal discharge was odourfull in 60.52% of the women as reported by researcher (54). In current study 54% didn't receive any kind of treatment while others were treated with Ayurveda (1%), Herbal (7%), and Homeopathic 5% systems. Nearly 33% women tried to treat vaginal discharge with home remedies but up to our knowledge no scientific data exist to treat vaginal discharge in home remedies except leucorrhoea with some herbs (55).

Pakistan is ranked 3<sup>rd</sup> worldwide with the highest rates of perinatal, maternal, and pediatric death (56). According to researchers' maternal mortality related to hypertensive disorders (57, 58). A persistent relationship exists between hypertension in pregnancy and the development of pre-eclampsia (56). It is very common among 70% women (59) and its exact prevalence is estimated to be (6-8)% of all pregnancies in USA (60). While in current study 19% women had history of preeclampsia and only 30% had proper knowledge about it, while 70% had no proper awareness. Stages of hypertension were also classified as systolic/diastolic as 69% have (140/90), 17.5 % have (160/90), 2% have (> 160/90) while 11% didn't remember. Findings are similar to (58). Lack of awareness about pre-eclampsia might be due to low education and poor socioeconomic status in many countries of world (56). In our study, only 20% working women could avail antenatal leaves, while 56% didn't avail and 24 % didn't answered due to unknown reasons. Working women facing difficulties to avail antenatal leaves due to complex procedure. Legislation in the form of Article 37 (e) of the Constitution of Pakistan exist regarding maternity leaves in Pakistan but due to type of organization ( public or private), compensation on workplace and overall behavior towards pregnant

ladies may effect number of antenatal leaves (61) as compared to developed countries. Among participants 17.2% were underweight ( $\leq 55\text{kg}$ ), more than half (59.4%) were in normal range (55-75kg), 23.4% participants didn't answer. These results are align with previous study regarding weight gain during pregnancy in a rural black population (62).

It was previously reported that in Pakistan, 74% women done pre-natal visit one-time while 18% women gave birth at home with the assistance of Traditional birth attendants (TBAs) (63).

In current study, frequency of pre-natal visits among pregnant ladies increased, 30% have attended  $\leq 3$  prenatal visits while 36% attended gynecologist 4-12 times and 15% attended  $\geq 12$  times during pregnancy while 19% didn't answer due to less memory of event.

Any domestic activity is a regularly reported risk factor for LBP. In current study high prevalence of LBP (60%) was observed. Respondents of study linked LBP with all jobs involving physical exertion, similar outcomes were observed in previous studies (64, 65) in which a direct relationship between musculoskeletal pain and house chores was found. Obesity is another risk factor for LBP. In current survey, 38% of participants were overweight, while 28% were obese. These results coincide with previous studies that over-weight and obese women were more prone to LBP (66). Continuous LBP after C-section was reported in 27% women and similar was reported previously (67). Body area involved in LBP was also mentioned by participants as hip (7.4%), spine (13.1%), both hip & spine (31.5%) while some talked about mid-back pain (48%). These results were aligned with previous study (68). 24.5% Participants suffered LBP since  $< 1\text{yr}$ , 17% have since (1-2yr) and 13.5% have it since 2-3yr, 16% have no idea of time duration. LBP was frequent source of sick leaves worldwide (69). In present study working women also availed sick leaves, 22% availed  $< 7$  leaves monthly, 19% took 8-14 leaves monthly, 3 % applied for  $\geq 14$  leaves during their job session of 1 year. However, 43% didn't avail any sick leave due to LBP while 13% didn't answer to question. Results of LBP, dysmenorrhea, vaginal discharge and pre-eclampsia were statistically significant with p value  $\leq 0.005$ .

### **Limitations**

A probability sampling was not used for the selection of sample which may cause some biasness. Participants population-based data were included which may cause bias in results due to hesitation and social norms. Overall home remedies regarding vaginal discharge were assessed but home remedies not defined properly.

### **Conclusion**

On the basis of outcomes, LBP ranked most prevalent gynecological problems followed by dysmenorrhea, pre-eclampsia and vaginal discharge. Dysmenorrhea and vaginal discharge had negative effect on daily working. Majority of participants were unaware about pre-eclampsia. Females were not reporting dysmenorrhea due to hesitation and social norms and they couldn't avail their sick leaves due to unsupportive working environment. Working women should have a supportive atmosphere at their working place. They should be provided awareness regarding gynecological problems and its management.

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