ABSTRACT

Introduction: Poor socioeconomic status, lower education background, social stigma associated with sharing gynecological issues, paucity of early detection program, limited access to health care facilities, less number of qualified gynecologists and lack of technical equipment in Pakistan are the major factors affecting diagnosis, adequate control and prevention of gynecological problems in Pakistan. The importance of health promoting lifestyle and quality of life has been recognized in developed world for more than two decades, however, this concept is still in infancy in developing countries including Pakistan. Health promoting behavior especially among women is an unexplored area of research in Pakistan.

Objective: The present study was designed to assess health promoting lifestyle behavior among women with different gynecological problems in Pakistan.

Methodology: A descriptive cross-sectional study design was used. A pre validated questionnaires i.e. HPLP-II was self-administered to a sample of 383 women with different gynecological problems.
selected using convenience sampling technique. After data collection, data was cleaned, coded and entered in SPSS. Non-parametric tests Kruskal Wallis and Mann Whitney tests (p ≥ 0.05) were performed to find out the differences among different variables. 

**Results:** Significant difference (p ≥ 0.05) in health promoting life style behavior was observed among patients of gynecological problems residing in different setting, having different marital status, different types of gynecological problem and educational background. Patients with gynecological problem residing in rural settings, married, who had ovary cyst and more educated had comparatively improved health promoting lifestyle behavior. 

**Conclusion:** The results of this study revealed low health-promoting behaviors among women with gynecologic problems in Pakistan. Furthermore, the women’s score of spiritual growth, stress management, and interpersonal relations was higher than that of nutrition and physical activity. Therefore, it appears necessary to perform health education programs emphasizing nutrition and physical activities and establish counseling centers for teaching the health-promoting behaviors to the women for improving their overall quality of life.

**Keywords:** Gynecological problems; health promoting life style behaviors; HPLP-II; women; Pakistan.

1. **INTRODUCTION**

Gynecological morbidity is a functional and structural disorder of the reproductive tract, which might not be identified with pregnancy, delivery and puerperal, having negative influence on women health related quality of life [1]. Such gynecological problems can cause pregnancy related complications, congenital infections and chronic pain which considerably affect female reproductive and emotional well-being [2]. Endometriosis is a typical gynecological condition that affects women and can lead to painful symptoms and infertility. It has a significant effect on women’s quality of life affecting their lifestyle, regular activities, sexual & nonsexual relations and fertility [3]. Women with genetic bleeding disorders, such as platelet function defects and haemophilia are more prone to severe gynecological and obstetrical problems. Moreover, one of the most common endocrine disorder diagnosed within reproductive age is polycystic ovarian syndrome (PCOS) which negatively affect quality of life of women [4]. The common gynecological disorders symptoms include amenorrhea, oligomenorrhea, hirsutism, obesity, infertility, ovulation, acne, depression, social instability and affecting sexuality [4]. The diagnosis of gynecological problems may be delayed, leading to higher morbidity and poor health related quality of life among women [5]. Gynecological problems affect physical, social, psychological and emotional health of millions of women worldwide. They have the highest morbidity rate of all types of the female reproductive morbidities. Along with that therapy for management of gynecological disorders can lead to further worsen patient physical and emotional health [6]. Burden of gynecological morbidity was reported higher among economically and culturally disadvantageous women in Ethiopia [2]. Risk factors associated with gynecological disorders were reported common among young girls in Turkey and nearly half of them had distinctive menstrual issues [7]. Moreover, polycystic ovary syndrome was reported to decreases patient’s wellbeing with respect to physical and mental health in Poland (Drosdzol et al., 2007). Dysmenorrhea was reported to have adverse effects on the quality of life of young girls in India [8].

The health-promoting lifestyle is a multidimensional concept compromising several aspects of individual's daily life, including dietary pattern, recurrence of smoking, and cessation of alcohol, regular exercise and stress management. The health promoting lifestyle is associated with the aim of promoting wellbeing of patient [6]. Promoting healthy lifestyle standards is important during the reproductive years, especially to prevent pregnancy-related diseases and breast feeding issues [9]. A study conducted in China and Taiwan showed that health promoting lifestyle domains specifically health responsibility, physical activity and spiritual growth were reported as important indicators of quality of life [10]. Regular physical activity is positively associated with female patient’s wellbeing [11]. Lifestyle interventions were reported to have the potential for improving patient’s life as well as significantly decreasing body pain [12].

Nearly half of the population of Pakistan consist of women but unfortunately they have not been given due consideration in terms of equal rights.
for health and education, especially those residing in tribal and rural setting [13]. High prevalence of gynecological morbidities including cervical infections, erosions or ulceration, uterovaginal prolapse, vaginal discharge, pelvic inflammatory disease and UTI is a major public health threat to women health in Pakistan [14]. Poor socioeconomic status, lower education background, social stigma associated with sharing gynecological issues, paucity of early detection program, limited access to health care facilities, less number of qualified gynecologists and lack of technical equipment in Pakistan are the major factors affecting diagnosis, adequate control and prevention of gynecological problems in Pakistan [15]. The importance of health promoting lifestyle and quality of life has been recognized in developed world for more than two decades, however, this concept is still in infancy in developing countries including Pakistan. Health promoting behavior especially among women is an unexplored area of research in Pakistan. Therefore, the present study was designed to assess health promoting lifestyle behavior among women with different gynecological problems in Pakistan.

2. METHODOLOGY

A descriptive cross-sectional study design was used to assess health promoting lifestyle among women with different gynecological problems attending public and private healthcare facilities located in twin cities (Islamabad and Rawalpindi) of Pakistan. Study respondents included women aged between 18-65 years diagnosed with different gynecological disorders including ovary cyst, dysmenorrhea, PCOS were included. Approval was also taken from Medical superintendents of different healthcare facilities of Rawalpindi and Islamabad. Patients were briefed regarding nature and objectives of the study. The sample size was calculated by using Rao soft at 95% confidence interval and 5% margin of error which came to be 383. Convenience sampling technique was used for selection of respondents available and willing to participate at the time of data collection. Prospective data was collected from primary sources by self-administering a pre validated questionnaire i.e. health promoting lifestyle behavior (HPLP-II). It has total six domains namely health responsibility, physical activity, nutrition, and spiritual growth, interpersonal relations, and stress management. Moreover, it has 52 items, which are scored on a Liker scale of 1 to 4 (Never = 1, Sometimes = 2, Often= 3, Always = 4). Each dimension is separately scored, and total score is calculated for the entire questionnaire (Hoseinzadeh et al., 2018). Pilot testing was performed on 10% of the sample size for assessing reliability of the tool. The value of Cronbach's alpha for HPLP-II was 0.75. After data collection, data was cleaned, coded and entered in SPSS. Descriptive statistics comprising of frequency and percentages were calculated. Non-parametric tests Kruskal Wallis and Mann Whitney tests (p ≥ 0.05) were performed to find out the differences among different variables.

3. RESULTS

3.1 Demographic Characteristics

Of the total respondents, 8.6 % (n = 33) were suffering from ovary cyst, 9.7 % (n =37) with dysmenorrhea, 12 % (n = 46) with PCOS and 69.7 % (n =266) with other gynecological problems. Nearly 72.8 % (n = 280) of the women were from urban while 27.2 % (n = 103) were resident of rural setting. Out of 383 respondents, 71.5% (n=274) were married and 23.2% (n=89) were single. Regarding the type of treatment patients treating through medications More than half of the patients (66.1%, n=253) were on medications while 19.6% (n=75) received surgery (Table 1).

3.2 Domains of Health Promoting Lifestyle Profile (HPLP-II)

The results highlighted that lowest scores for HPLP-II were observed in the domain of Physical activity (10.99, +3.69) followed by health responsibility (17.07, ±3.05) whereas highest scores were observed in the domain of interpersonal relations (23.63, ±3.56). A detailed description is given in (Table 2).

3.3 Health Responsibility (HR) and Spiritual Growth among Patients with Gynecological Problems

The results revealed that health responsibility of most of patients with gynecological problems was limited a lot especially in regard to never attended educational programs (n=287, 75.3%), get a second opinion from health professionals (n=213, 55.8%), and inspect my body monthly (n=211, 55.2%). On the other hand, health responsibility of patients of gynecological problems was not at all limited in terms of often
seek guidance when necessary (n=164, 43%), discuss health concerns (n=96, 25.1%) and report unusual signs to a health professional (n=91, 23.8%). The results of the present study highlighted that role spiritual growth among respondents was limited in regards to never finding each day interesting and challenging (n=73, 19.1%), exposing new experience and challenges, (n=83, 21.8%) and working toward long term goals (n=97, 25.4%). On the other hand, role spiritual growth was not limited in terms of routinely look forward to the future (n=75, 19.6%), aware of what is important in life (n=52, 13.4%) and feeling content and peace (n=38, 9.9%). A detailed description is given (Table 3).

Table 1. Demographic characteristics

| Indicator            | n (%)       | Indicator            | n (%)       |
|----------------------|-------------|----------------------|-------------|
| Hospital             | Public      | 274 (71.5)           |             |
|                      | Private     | 109 (28.5)           |             |
| Age                  | 18-28years  | 143 (35.0)           |             |
|                      | 29-39years  | 129 (33.7)           |             |
|                      | 40-49years  | 78 (20.4)            |             |
|                      | 50-59years  | 30 (7.8)             |             |
|                      | >60years    | 12 (3.1)             |             |
| Marital Status       | Married     | 274 (71.5)           |             |
|                      | Unmarried   | 89 (23.2)            |             |
|                      | Widow       | 19 (5.0)             |             |
| Education            | Illiterate  | 79 (20.6)            |             |
|                      | Primary     | 80 (20.9)            |             |
|                      | Secondary   | 134 (35)             |             |
|                      | Masters     | 65 (17.0)            |             |
|                      | Postgraduate| 4 (1.0)              |             |
| Income               | Less than Rs 20,000 | 131 (34.2)       |             |
|                      | Rs 21000-40,000 | 185 (48.3)          |             |
|                      | Rs 41,000-60,000 | 58 (15.1)           |             |
|                      | More than Rs 60,000 | 9 (2.3)            |             |

Table 2. Domains of Health Promoting Lifestyle Profile (HPLP-II)

| Indicator                  | Mean     | Standard Deviation (±) |
|----------------------------|----------|------------------------|
| Health Responsibility       | 17.0735  | ± 3.05904              |
| Physical Activity           | 10.9948  | ± 3.69423              |
| Nutrition                   | 18.8031  | ± 3.05573              |
| Spiritual Growth            | 22.1789  | ± 4.54756              |
| Interpersonal Relations     | 23.6342  | ± 3.56032              |
| Stress Management           | 18.8661  | ± 3.17149              |

Table 3. Health responsibility and spiritual growth among patients with gynecological problems

| Indicators                                             | n (%)       |
|--------------------------------------------------------|-------------|
| Health responsibility                                  |             |
| Report any unusual signs or symptoms to a physician or other health professionals |             |
| Never                                                  | 50 (13.1)   |
| Sometimes                                              | 239 (62.4)  |
| Often                                                  | 91 (23.8)   |
| Routinely                                              | 3 (0.8)     |
| Read or watch TV programs about improving health        |             |
| Never                                                  | 154 (40.3)  |
| Sometimes                                              | 133 (34.8)  |
| Often                                                  | 88 (23)     |
| Routinely                                              | 8 (1.9)     |
| Question health professionals in order to understand their instructions |             |
| Never                                                  | 68 (17.8)   |
| Sometimes                                              | 218 (57.1)  |
| Often                                                  | 93 (24.3)   |
| Routinely                                              | 3 (0.8)     |
| Get a second opinion when I question my healthcare providers advice |             |
| Never                                                  | 213 (55.8)  |
| Sometimes                                              | 135 (35.3)  |
| Indicators                                                                 | n (%)       |
|---------------------------------------------------------------------------|-------------|
| Discuss my health concerns with health professionals                     |             |
| Often                                                                     | 30 (7.9)    |
| Routinely                                                                 | 4 (1.0)     |
| Never                                                                     | 51 (13.4)   |
| Sometimes                                                                 | 233 (61.0)  |
| Often                                                                     | 96 (25.1)   |
| Routinely                                                                 | 3 (0.5)     |
| Inspect my body at least monthly for physical changes/danger signs        |             |
| Never                                                                     | 211 (55.2)  |
| Sometimes                                                                 | 141 (36.9)  |
| Often                                                                     | 26 (6.8)    |
| Routinely                                                                 | 5 (1.1)     |
| Ask for information from health professionals about how to take good care of myself |             |
| Never                                                                     | 74 (19.4)   |
| Sometimes                                                                 | 260 (68.2)  |
| Often                                                                     | 44 (11.5)   |
| Routinely                                                                 | 5 (0.9)     |
| Attend educational program on personal healthcare                         |             |
| Never                                                                     | 287 (75.3)  |
| Sometimes                                                                 | 83 (21.8)   |
| Often                                                                     | 9 (2.4)     |
| Routinely                                                                 | 4 (0.5)     |
| Seek guidance or counseling when necessary                                |             |
| Never                                                                     | 5 (1.3)     |
| Sometimes                                                                 | 185 (48.6)  |
| Often                                                                     | 164 (43)    |
| Routinely                                                                 | 29 (7.6)    |

**Spiritual growth**

| Indicators                                                                 | n (%)       |
|---------------------------------------------------------------------------|-------------|
| Feel I am growing and changing in positive ways                            |             |
| Never                                                                     | 38 (9.9)    |
| Sometimes                                                                 | 198 (51.7)  |
| Often                                                                     | 115 (30)    |
| Routinely                                                                 | 32 (8.4)    |
| Believe that my life has a purpose                                        |             |
| Never                                                                     | 3 (0.8)     |
| Sometimes                                                                 | 113 (29.6)  |
| Often                                                                     | 204 (53.4)  |
| Routinely                                                                 | 62 (16.2)   |
| Look forward to the future                                                |             |
| Never                                                                     | 6 (1.6)     |
| Sometimes                                                                 | 116 (30.4)  |
| Often                                                                     | 185 (48.4)  |
| Routinely                                                                 | 75 (19.6)   |
| Feel content and peace with myself                                        |             |
| Never                                                                     | 18 (4.5)    |
| Sometimes                                                                 | 191 (50.0)  |
| Often                                                                     | 136 (35.6)  |
| Routinely                                                                 | 38 (9.9)    |
| Work toward long term goal in my life                                     |             |
| Never                                                                     | 97 (25.4)   |
| Sometimes                                                                 | 134 (35.1)  |
| Often                                                                     | 134 (35.1)  |
| Routinely                                                                 | 18 (4.5)    |
| Find each day interesting and challenging                                 |             |
| Never                                                                     | 73 (19.1)   |
| Sometimes                                                                 | 208 (54.5)  |
| Often                                                                     | 81 (21.2)   |
| Routinely                                                                 | 21 (5.2)    |
| Am aware of what is important to me in life                               |             |
| Never                                                                     | 3 (0.5)     |
| Sometimes                                                                 | 161 (42.3)  |
| Often                                                                     | 167 (43.8)  |
| Routinely                                                                 | 52 (13.4)   |
| Feel connected with some force greater than myself                        |             |
| Never                                                                     | 49 (12.6)   |
| Sometimes                                                                 | 180 (47.2)  |
| Often                                                                     | 139 (36.5)  |
| Routinely                                                                 | 15 (3.7)    |
| Expose myself to new experiences and challenges                           |             |
| Never                                                                     | 83 (21.8)   |
| Sometimes                                                                 | 140 (36.8)  |
| Often                                                                     | 133 (35)    |
| Routinely                                                                 | 24 (6.3)    |
3.4 Physical activity and Nutrition among Patients with Gynecological Problems

The results revealed that physical activity of most of patients with gynecological problems was limited a lot especially in regard to never follow planned exercise (n=267, 69.7 %), checking pulse rate (n=288, 75.6 %), and taking part in leisure-time activities (n=337, 88.2%). On the other hand, physical activity of patients of gynecological problems was not at all limited in terms of often doing stretching exercises (n=26, 6.8%), get exercised during usual daily activities (n=31, 8.1 %), and taking part in moderate physical activity (n=191, 47.75 %). The results showed that role nutrition in respondents was limited in terms of reading labels to identify nutrients (n=81, 20.25%) and eating 6-11 servings of bread etc (n=61, 15.25 %). On the other hand, role nutrition in respondents was not at all limited in terms of often eating breakfast (n=157, 41.2%) and limiting sugar use (n=76, 19.9%). A detailed description is given (Table 4).

Table 4. Physical activity and nutrition among patients with gynecological problems

| Indicators                                                                 | n (%)       |
|---------------------------------------------------------------------------|-------------|
| Follow a planned exercise                                                |             |
| Never                                                                     | 267 (69.7)  |
| Sometimes                                                                 | 75 (19.6)   |
| Often                                                                     | 37 (9.7)    |
| Routinely                                                                 | 4 (1.0)     |
| Exercise vigorously for more minutes at least three times a week         |             |
| Never                                                                     | 252 (66)    |
| Sometimes                                                                 | 99 (25.9)   |
| Often                                                                     | 25 (6.5)    |
| Routinely                                                                 | 7 (1.6)     |
| Take part in moderate physical activity (such as, sustained walking 30-40 minutes 5 or more times a week) |             |
| Never                                                                     | 236 (61.8)  |
| Sometimes                                                                 | 106 (27.7)  |
| Often                                                                     | 34 (8.9)    |
| Routinely                                                                 | 7 (1.6)     |
| Take part in leisure time (recreational) physical activities (such as swimming, dancing and bicycling) |             |
| Never                                                                     | 337 (88.2)  |
| Sometimes                                                                 | 33 (8.6)    |
| Often                                                                     | 9 (2.4)     |
| Routinely                                                                 | 4 (0.8)     |
| Do stretching exercise at least three times per week                     |             |
| Never                                                                     | 298 (78)    |
| Sometimes                                                                 | 57 (14.9)   |
| Often                                                                     | 26 (6.8)    |
| Routinely                                                                 | 2 (0.3)     |
| Get exercised during usual daily activities (such as walking during lunch, stairs instead of elevators, parking car away from destination and walking) |             |
| Never                                                                     | 232 (60.7)  |
| Sometimes                                                                 | 110 (28.8)  |
| Often                                                                     | 31 (8.1)    |
| Routinely                                                                 | 10 (2.4)    |
| Check my pulse rate when exercising                                      |             |
| Never                                                                     | 288 (75.6)  |
| Sometimes                                                                 | 73 (19.2)   |
| Often                                                                     | 20 (5.0)    |
| Routinely                                                                 | 2 (0.2)     |
| Reach my target heart rate when exercising                               |             |
| Never                                                                     | 274 (71.9)  |
| Sometimes                                                                 | 77 (20.2)   |
| Often                                                                     | 26 (6.8)    |
| Routinely                                                                 | 6 (1.0)     |

3.5 Interpersonal Relations and Stress Management among Patients with Gynecological Problems

The results showed that role interpersonal relations were limited in regards to never discuss problems (n=51, 13.4%) needs for intimacy (n=256, 67.0%) showing concern and love (n=61, 15.7%). On the other hand, role interpersonal relations was not limited in terms of often touched by people caring about (n=212, 55.5%), praising others (n=205, 53.5) and maintaining relationship with others (n=185, 48.4). The result of present study reported that stress management was limited in regard to never get enough sleep (n=32, 18.4%), balance time (n=59, 15.4%) and using specific method to control stress. On the other hand role stress management was not limited in terms of often accept those things which cannot be change (n=212, 55.5%) and taking time for relaxation (n=162, 42.4). A detailed description is given (Table 5).
### Nutrition

| Indicators                                                                 | n (%)      |
|---------------------------------------------------------------------------|------------|
| Choose a diet low in fats, saturated fats and cholesterol                 |            |
| Never                                                                     | 130 (33.9) |
| Sometimes                                                                 | 164 (42.8) |
| Often                                                                     | 79 (20.6)  |
| Routinely                                                                 | 10 (2.6)   |
| Limit use of sugars and food containing sugar (sweets)                    |            |
| Never                                                                     | 125 (32.7) |
| Sometimes                                                                 | 166 (43.5) |
| Often                                                                     | 76 (19.9)  |
| Routinely                                                                 | 16 (3.9)   |
| Eat 6-11 servings of bread, cereals and pasta each day                    |            |
| Never                                                                     | 193 (50.5) |
| Sometimes                                                                 | 145 (38)   |
| Often                                                                     | 39 (10.2)  |
| Routinely                                                                 | 6 (1.3)    |
| Eat 2-4 servings of fruits each day                                       |            |
| Never                                                                     | 112 (29.3) |
| Sometimes                                                                 | 211 (55.2) |
| Often                                                                     | 54 (14.1)  |
| Routinely                                                                 | 6 (1.3)    |
| Eat 3-5 servings of vegetables each day                                   |            |
| Never                                                                     | 62 (16.2)  |
| Sometimes                                                                 | 209 (54.7) |
| Often                                                                     | 90 (23.6)  |
| Routinely                                                                 | 22 (5.5)   |
| Eat 2-3 servings of milk, yogurt or cheese each day                       |            |
| Never                                                                     | 135 (35.3) |
| Sometimes                                                                 | 210 (55.0) |
| Often                                                                     | 33 (8.6)   |
| Routinely                                                                 | 5 (1.0)    |
| Eat 2-3 servings from the meat, poultry, fish, dried beans, eggs and nuts |            |
| group each day                                                           |            |
| Never                                                                     | 135 (35.3) |
| Sometimes                                                                 | 210 (55.0) |
| Often                                                                     | 33 (8.6)   |
| Routinely                                                                 | 5 (1.0)    |
| Read labels to identify nutrients, fats and sodium content in packaged   |            |
| food                                                                      |            |
| Never                                                                     | 164 (43)   |
| Sometimes                                                                 | 97 (25.5)  |
| Often                                                                     | 94 (24.7)  |
| Routinely                                                                 | 28 (6.8)   |
| Eat breakfast                                                             |            |
| Never                                                                     | 6 (1.6)    |
| Sometimes                                                                 | 76 (19.7)  |
| Often                                                                     | 157 (41.2) |
| Routinely                                                                 | 143 (37.5) |

### Interpersonal relations

#### Table 5. Interpersonal relations and stress management among patients with gynecological problems

| Indicators                                                                 | n (%)      |
|---------------------------------------------------------------------------|------------|
| Discuss my problems and concerns with people close to me                  |            |
| Never                                                                     | 51 (13.4)  |
| Sometimes                                                                 | 233 (61.0) |
| Often                                                                     | 96 (25.1)  |
| Routinely                                                                 | 3 (0.5)    |
| Praise other people easily for their achievement                          |            |
| Never                                                                     | 8 (2.1)    |
| Sometimes                                                                 | 36 (9.4)   |
| Often                                                                     | 205 (53.5) |
| Routinely                                                                 | 134 (35.0) |
| Maintain meaningful and fulfilling relationships with others              |            |
| Never                                                                     | 11 (2.6)   |
| Sometimes                                                                 | 56 (14.7)  |
| Often                                                                     | 185 (48.4) |
| Routinely                                                                 | 131 (34.3) |
| Spend time with close friends                                            |            |
| Never                                                                     | 10 (2.4)   |
| Sometimes                                                                 | 180 (47.1) |
| Often                                                                     | 155 (40.6) |
| Routinely                                                                 | 38 (9.9)   |
| Indicators                                                                 | n (%)                  |
|---------------------------------------------------------------------------|------------------------|
| Find it easy to show concern, love and warmth to others                   |                         |
| Never                                                                     | 61 (15.7)              |
| Sometimes                                                                | 153 (40.1)             |
| Often                                                                    | 107 (28.0)             |
| Routinely                                                                | 62 (16.2)              |
| Touch and I am touched by people I care about                            |                         |
| Never                                                                     | 10 (2.4)               |
| Sometimes                                                                | 119 (31.2)             |
| Often                                                                    | 212 (55.5)             |
| Routinely                                                                | 42 (11.0)              |
| Find ways to meet my needs for intimacy                                  |                         |
| Never                                                                     | 256 (67.0)             |
| Sometimes                                                                | 101 (26.4)             |
| Often                                                                    | 21 (5.5)               |
| Routinely                                                                | 5 (1.0)                |
| Get support from a network of caring people                              |                         |
| Never                                                                     | 11 (2.6)               |
| Sometimes                                                                | 119 (31.3)             |
| Often                                                                    | 157 (41.3)             |
| Routentially                                                             | 96 (24.7)              |
| Settle conflicts with others through discussion and compromise            |                         |
| Never                                                                     | 12 (2.9)               |
| Sometimes                                                                | 154 (40.4)             |
| Often                                                                    | 183 (48.0)             |
| Routentially                                                             | 33 (8.7)               |
| **Stress Management**                                                    |                        |
| Get enough sleep                                                         |                         |
| Never                                                                     | 32 (8.4)               |
| Sometimes                                                                | 140 (36.6)             |
| Often                                                                    | 160 (41.8)             |
| Routinely                                                                | 51 (13.3)              |
| Take some time for relaxation each day                                   |                         |
| Never                                                                     | 17 (4.2)               |
| Sometimes                                                                | 158 (41.4)             |
| Often                                                                    | 162 (42.4)             |
| Routinely                                                                | 46 (12.0)              |
| Accept those things in my life which I cannot change                     |                         |
| Never                                                                     | 10 (2.4)               |
| Sometimes                                                                | 116 (30.4)             |
| Often                                                                    | 212 (55.5)             |
| Routinely                                                                | 45 (11.8)              |
| Concentrate on pleasant thought at bedtime                               |                         |
| Never                                                                     | 23 (6.0)               |
| Sometimes                                                                | 251 (65.7)             |
| Often                                                                    | 98 (25.7)              |
| Routinely                                                                | 11 (2.6)               |
| Use specific methods to control my stress                                |                         |
| Never                                                                     | 109 (28.5)             |
| Sometimes                                                                | 186 (48.7)             |
| Often                                                                    | 80 (20.9)              |
| Routinely                                                                | 8 (1.8)                |
| Balance time between work and play                                       |                         |
| Never                                                                     | 59 (15.4)              |
| Sometimes                                                                | 181 (47.4)             |
| Often                                                                    | 134 (35.1)             |
| Routinely                                                                | 9 (2.1)                |
| Practice relaxation or meditation for 15-20 minutes daily                |                         |
| Never                                                                     | 37 (9.4)               |
| Sometimes                                                                | 218 (57.2)             |
| Often                                                                    | 115 (30.2)             |
| Routinely                                                                | 13 (3.1)               |
| Pace myself to prevent tiredness                                         |                         |
| Never                                                                     | 59 (15.2)              |
| Sometimes                                                                | 211 (55.4)             |
| Often                                                                    | 104 (27.3)             |
| Routinely                                                                | 9 (2.1)                |
Table 6. Comparison of HPL behavior domains by demographic characteristics

| Demographic          | Health responsibility | Physical activity | Nutrition | Spiritual growth | Interpersonal relation | Stress management |
|----------------------|-----------------------|-------------------|-----------|------------------|------------------------|-------------------|
|                      | n                     | Mean rank         | Test stats | P value          | Mean rank              | Test stats        | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank         | Test stats | P value          | Mean rank    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  | Mean rank         | Test stats | P value          | Mean rank         | Test styles...
| Demographic | Health responsibility | Physical activity | Nutrition | Spiritual growth | Interpersonal relation | Stress management |
|-------------|-----------------------|-------------------|-----------|-----------------|-----------------------|------------------|
|             | n                     | Mean rank         | Test stats | P value | Mean rank | Test stats | P value | Mean rank | Test stats | P value | Mean rank | Test stats | P value | Mean rank | Test stats | P value |
| Type of comorbidity | None                   | 207.92            | 11.489     | .009   | 226.32    | 35.292     | .001   | 193.79    | 1.621      | .655   | 222.99    | 29.142     | .001   | 205.79    | 13.115     | .004   |
|             | Hypertension           | 181.56            | 174.03     |         | 184.67    | 178.95     |         | 178.95    | 177.03     |         | 170.31    | 177.03     |         | 174.34    | 174.34     |         |
|             | Diabetes               | 149.60            | 140.81     |         | 205.70    | 149.78     |         | 212.74    | 212.74     |         | 174.34    | 212.74     |         | 174.34    | 174.34     |         |
|             | Others                 | 193.23            | 163.48     |         | 183.23    | 153.94     |         | 155.51    | 155.51     |         | 167.11    | 155.51     |         | 167.11    | 167.11     |         |

Mann-Whitney test (p ≥ 0.05); Kruskal-Wallis test (p ≥ 0.05)
3.6 Comparison of Health Promoting Lifestyle Behavior Domains among patients with Gynecological problems by Demographic Characteristics

Significant difference (p ≤ 0.05) in health promoting lifestyle behavior was observed among patients of gynecological problems residing in different setting, having different marital status, different types of gynecological problem and educational background. Patients with gynecological problem residing in rural settings, married, who had ovary cyst and more educated had comparatively improved health promoting lifestyle behavior. While no significant difference (p ≥ 0.05) among health promoting lifestyle behavior was observed in relation to other demographic characteristics (Table 6).

4. DISCUSSION

Gynecological problems are greatly affecting women health worldwide and especially in developing countries due to lack of advanced reproductive health facilities and poor health promoting lifestyle behavior that have negative impact on health related quality of life of women [2]. Due to prolonged treatment patients, physical, social and emotional discomfort is common among patients which tend to reduce treatment outcomes. Improved HPL behavior has a direct positive impact on patient’s quality of life [10]. The results of the present study reported low health promoting lifestyle behavior was low among women. Lowest scores for HPLP II were observed in the domain of physical activity followed by the domain of health responsibility. Health responsibility among the women was quite low and they did not report unusual signs and symptoms to physicians or health care professionals and often did not follow planned exercise. The findings are in line with a study conducted in Iran which reported low mean score for physical activity domain of HLPL [16]. Furthermore, the current study reported that nutrition pattern was not limited in terms of often eating breakfast and limiting sugar use. These findings are in concordance with the study findings from Korea which reported that unhealthy dietary patterns is identified among major risk factors for poor QoL [17]. HPLP II is a prominent predictor of health and has been widely used tool for providing useful information regarding health promoting lifestyle impact on patient’s quality of life. The role spiritual growth among patients of gynecological problem was reported highest among other domains. Similar findings were reported from a study conducted in Iran which showed highest score related to spiritual growth [18]. The results of the present study showed highest mean score for interpersonal relations as compared to other domains but their relations were limited in regards to never discuss problems, needs for intimacy, showing concern and love to others. The findings are consistent with as study from Iran which reported highest interpersonal relation score [19]. The results of the present study showed mean score for Stress management was moderate. These findings are in consistent with a study conducted in Korea which reported highest score for stress management [20]. Furthermore, the results of the present study revealed that the overall health promoting lifestyle behaviors were found poor among unmarried, younger and women with poor socioeconomic & educational background and those from urban areas. This might be due to decreased support, increased societal pressure, and poor dietary & physical activity patterns. These findings are consistent with studies conducted in Korea, Iran and India [8,19,20].

5. CONCLUSION

The results of this study revealed low health-promoting behaviors among women with gynecologic problems in Pakistan. Furthermore, the women’s score of spiritual growth, stress management, and interpersonal relations was higher than that of nutrition and physical activity. Therefore, it appears necessary to perform health education programs emphasizing nutrition and physical activities and establish counseling centers for teaching the health-promoting behaviors to the women for improving their overall quality of life. Unfortunately, women health has not been the prime concern in Pakistan for the last few decades especially in rural and tribal areas. However, it is high time for all the stakeholders to prioritize women health and devise special policies and interventions for promoting healthy lifestyle behaviors among them to uplift their living standards as being majority of the country’s population.

CONSENT AND ETHICAL APPROVAL

Study approval was taken from the Ethical Committee of Hamdard University (BASR-84-
Verbal and written consent were obtained prior to data collection. Respondents were ensured of the confidentiality of their responses along with full right to withdraw from the study at any time.

COMPETING INTERESTS
Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/67131