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Effect of Parity on Women's Health Promotion Lifestyle at the First Year after Childbirth

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Abstract

Aim: Health-promoting lifestyle (HPL) not only prevents diseases but also improves the individual's general health and well-being. Global burden of women's health problem in the postpartum period is enormous while few studies have been undertaken to examine the role of parity difference in women's lifestyle. The aim of this study was to assess the effect of parity on HPL among women in the first year after childbirth.

Methods: This cross-sectional study was performed in governmental health centers in Zanjan (Iran) in 2016 on 310 women. A proportionate stratified random sampling technique was used to select the participants. The questionnaire consisted of two parts; the first part assessed the socio-demographic and obstetric characteristics, and the second part was the "Health Promotion Lifestyle Profile II" (HPLP II). The data were analyzed using the SPSS software (ver. 22). Data analysis included the percentage, arithmetic average, and ANOVA tests.

Findings: The results showed that 53.9% of the women had one parity, 36.1% had two parities, and 10% had three and above parities. The mean total HPLP II was 131.28±15.37. The highest and lowest mean scores were dedicated to spiritual growth (25.64±4.50) and physical activity (14.68±3.41) domains, respectively. The women who had two parities had a higher score in health responsibility (25.63±4.39) and physical activity (15.41±3.66) domains than the other groups.

Conclusion: The health behavior of women was moderate. A statistically significant correlation was found between the number of parities and the health responsibility, nutrition, and physical activity, which are the domains of HPL.

Keywords: Parity, Healthy lifestyle, Postpartum period

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Introduction

Health-promoting lifestyle (HPL) not only prevents diseases or discomfort but also improves the individual's general health and well-being [1, 2]. Exercise, nutrition, inter-personal relationships, stress management, health responsibility and spiritual growth are different aspects of health promoting behaviors. All of these behaviors play an important role in women's health, specifically during pregnancy, delivery, and postpartum periods that are special periods in a woman's life cycle [3]. These behaviors can play an important role in reducing chronic diseases risk factors in women [4]. The aim of health promoting behaviors is to decrease the potential years of life lost in premature mortality, and ensure better quality of the remaining life [5]. So, adopting a healthy lifestyle has several benefits including increasing the quality of life, longevity, and productivity, as well as decreasing healthcare costs [6]. One of the causes of overweight and obesity in women is pregnancy [7]. Women during pregnancy and after childbirth face with lifestyle and weight changes. On the other hand, they are involved with new tasks and baby care; this situation can lead to reduce maternal self-care capabilities [8, 9]. Self care behaviors are an important component of a healthy lifestyle [10]. The majority of studies have focused on the incidence of postpartum depression and complications plus access to postnatal care services [11-13]. Health promoting lifestyle studies have mostly focused on people from certain age groups, genders, and racial origins. It has been shown that there is a positive or negative correlation between educational level, family type, age, marital and economic status, smoking, BMI, and health-promoting lifestyle [14-17]. Also various studies have examined the effect of the number of children with obesity [18], risk factors for cardiovascular diseases (CVDs) [19], and metabolic syndrome [20], while few studies have examined the lifestyle and health promotion behaviors in postpartum women, especially the effect parity (the number of births that a woman has had), on their lifestyle. Nazik et al. (2015) have assessed the effect of parity on healthy promotion lifestyle behavior in Turkish women. They showed that there was a significant relationship between the number of parities and the nutrition, health responsibility, and interpersonal relationship, which is the subscale of HPL [3]. So assessing the women's health-promoting behaviors during reproduction period can provide valuable information for designing appropriate intervention programs to promote women's health. To attain the Millennium Development Goals, women's HPL needs to be encouraged after delivery.

Objective

The aim of this study was to assess the effect

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of parity on HPL among women in the first year after childbirth.

Materials and Methods

This cross-sectional study was performed in 14 governmental health centers, Zanjan (Iran) in 2016 on 310 women who referred to the health centers. A proportionate stratified random sampling technique was used to select the participants. For this purpose, the list of women who had given birth last year was extracted; then samples for each governmental health center (14 centers) were selected randomly based on their proportion to the total sample size. The sample size was calculated based on the mean ±SD (2.83 ±1.35) HPLP II levels in a previous study [21].

The questionnaire consisted of two parts; the first part contained questions on socio-demographic and obstetric characteristics, and the second part was the "Health Promotion Lifestyle Profile II" (HPLP II). The data were analyzed using the SPSS software (ver.22). Data analysis included the percentage, arithmetic average, and ANOVA tests.

Instruments

Data were collected using a questionnaire, which had two parts. The first part was related to the women's socio-demographic and obstetric characteristics such as age, educational and occupational status, number of births, and kind of delivery.

The second part was the HPLP II designed by Walker et al. (1995) [22] that was employed to assess the women's HPL. This scale is fully reliable and valid, and has been successfully tested in many countries. The Persian version of this questionnaire has also been standardized in Iran, and its validity and reliability have already been confirmed [23, 24]. The scale measures the health promoting behaviors in six dimensions with total of 52 items, which were devised with 4-item Likert scale: Never (1), Sometimes (2) Usually (3), and Always (4). *Health responsibility* comprised 9 questions. This dimension examines the level of responsibility and participation of people in their health. *Physical activity* has 8 questions. This dimension assesses the level of individual's physical activity. *Spiritual growth* has 9 questions; it evaluates the level of having a sense of purpose and satisfaction in individual. *Nutrition* dimension has 9 questions; it assesses the capacity to select an appropriate dietary pattern and food choices. *Stress management* has 8 questions; it evaluates people's ability to identify the sources of stress and adopting necessary stress management. *Interpersonal relations* has 9 questions; it assesses people's ability to establish interpersonal communication and its continuity within the near environment.

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The total score of health promoting behaviors ranged between 52 and 208, and the score of each sub-category was calculated independently. Thus, the range of scores for the sub-categories of Health Responsibility, Nutrition, Spiritual Growth and Interpersonal Relations was (0-36), while for the sub-categories of Stress Management and Physical Activity, this range was (0-32). In this scale, higher scores indicate the adoption of healthier behaviors and lifestyles. Parity was determined as a composite variable with three categories: one live birth, two live births, three and more live births.

Ethical considerations

Ethical approval was obtained from the Ethics Committee of the Research Department of Tehran University of Medical Sciences. After providing all the participants with sufficient information about the study, they were asked to sign a written consent form before participating. A face-to-face interview method was used to administer the questionnaires by the researcher.

Statistical analysis

Statistical analysis was performed using the SPSS software (ver. 20). In this analysis, quantitative variables were represented by mean and standard deviation, and stratified variables were represented by relative frequency and percentage. ANOVA tests were used to analyze the data.

Results

Table 1 shows the women's descriptive characteristics. The women's mean age was 28.82±5.16 years. The results showed that 53.9% of the women had one parity, 36.1% had two parities, and 10% had three and above parities. 82/9% of the women were housewives, and 40.3% of them had graduated from a university.

Table 1: Distribution of the women's descriptive characteristics

		Total N=310		One parity N=167		One parity N= 112		Three parities and above N= 31	
Variables		**S**	**%**	**S**	**%**	**S**	**%**	**S**	**%**
Age (year)	≤30	178	57.4	127	76	46	41.1	5	16.1
	>30	132	42.6	40	24	66	58.9	26	83.9
Education level	Diploma and lower	185	59.7	88	52.7	74	66.1	23	74.2
	Higher than diploma	125	40.3	79	47.3	38	33.9	8	25.8
Occupation	Housewife	257	82.9	137	82	95	84.8	25	80.6
	Employed	53	17.1	30	18	17	15.2	6	19.4
Delivery	NVD	155	50	90	53.9	52	46.4	13	41.9
	C/S	155	50	77	46.1	60	53.6	18	58.1
Breast feeding	yes	240	77.4	127	76	89	79.5	24	77.4
	no	70	22.6	40	24	23	20.5	7	22.6

NVD: Normal Vaginal Delivery; C/S: Cesarean Section

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The mean (±SD) scores of the participants in different dimensions of HPL were evaluated (Table 2). The mean (±SD) of the women's HPL was 131.28±15.37.

Table 2: Distribution, HPLP II and dimensions scores of the participants

HPLP II	Range scale 2	Min-Max 1	Mean ± SD
Physical activity	8-32	8-23	14.68 ±3.41
Stress management	8-32	8-28	17.15±3.73
Nutrition	9-36	16-32	23.90±3.09
Health responsibility	9-36	9-36	24.59±4.42
Interpersonal relationships	9-36	15-35	25.32±4.04
Spiritual growth	9-36	14-36	25.64±4.5
HPLP II total	52-208	83-167	131.28±15.37

The mean (±SD) of health responsibility domain in the women who had one child was 24.04±4.27; while this was 23.81±4.78 in the women with a parity of ≥3. The mean (±SD) of stress management domain in the women with one parity was 17.06±3.84; this was 16.71±2.90 in the women with a parity of ≥3. The women who had two parities had a higher score in health responsibility (25.63±4.39), and physical activity (15.41±3.66) domains, and total HPLP II (134.08±15.71) than the other groups. The mean (SD) of HPLP II in the women who had one child was 129.68±15.02; this was 129.84±15.0 in the women with a parity of ≥3. A statistically significant correlation was found between the number of parities and physical activity (p=0.012), nutrition (P=0.06), health responsibility (p= P=0.007), and total IHPLP II (p= P=0.05) (Table 3).

Table 3: Relationships between HPLP II and dimensions' mean scores and parity

HPLP II	Parity			Test and P value
	P1	P2	P3 and above	
Physical activity	14.17±3.17	15.41±3.66	14.81±3.36	F= 4.525, df= 2, P=0.012
Stress management	17.06±3.84	17.40±3.79	16.71±2.90	F= 0.517, df= 2, P=0.597
Nutrition	23.53±3.26	24.41±2.88	24±2.74	F= 2.74, df= 2, P=0.06
Health responsibility	24.04±4.27	25.63±4.39	23.81±4.78	F= 5.042, df= 2, P=0.007
Interpersonal relationships	25.42±3.81	25.30±4.15	24.87±4.89	F= 0.241, df= 2, P=0.786
Spiritual growth	25.46±4.25	25.92±4.84	25.65±4.57	F= 0.356, df= 2, P=0.701
HPLP II total	129.68±15.02	134.08±15.71	129.84±15.0	F= 2.939, df= 2, P=0.05

Discussion

This study is the first to evaluate HPL among the women of first year after childbirth in Iran. The results showed that the women got a moderate score in health behaviors. In the present study, the mean total score of HPL was

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131.28±15.37, which was higher than the study conducted on Turkish women (126.66±18.12) (3). In Anbari's study (2013) that was conducted on reproductive age women, aged 15–49 years, the women's health behaviors were also found to be intermediate (129.2 ± 20.9) [25].

The research results showed the mean scores of HPLP II dimensions from lowest to highest were: physical activity, stress management, nutrition, health responsibility, interpersonal relations, and spiritual growth, respectively, which were in agreement with Gokyildiz et al.'s study on Turkish pregnant women; however, it was less than the Iranian reproductive age [26]. These results seem logical given the fact that the women's lifestyles have been assessed one year after childbirth. Childbirth and motherhood could string women's spirituality growth; Thinking about pregnancy and stages of fetal development could increase their spiritual tendency [27, 28]. Women in the present study earned the lowest score in physical activity domain. This finding is consistent with other studies in different groups [17, 21]. The cause for the low scores from the physical activity domain may be due to childbirth. Delivery could cause physiological changes in women's body. It may also impose new responsibilities on them. Due to the fact that physical activity can cause positive changes in health, low physical activity indicates the need to develop an appropriate exercise program for this group of women.

We found a significant association between parity and physical activity, nutrition, health responsibility, interpersonal relationship dimensions, and total HPLP II; however, no association was found between other dimensions. These results are consistent with the findings of Nazik et al. (2015) on Turkish women (3) and Iranian post-menopausal women [29].

Conclusion

The health behavior of women in the present study was moderate. A statistically significant correlation was found between the number of parities and the health responsibility, nutrition, and physical activity, which are the domains of the HPLP II scale. Therefore, midwifes and health care providers have an important role in the development of healthy lifestyle behaviors among this group of women. They could recognize these women's special needs to help them promote HPL in their cultural structure.

Conflict of interest

There are no conflicts of interest.

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Authors' contributions

Khadijeh Hajimiri participated in performing and writing of the article; Elham Shakibazadeh, supervisor; Roya Sadeghi, supervisor and project designer, Ali Asghar Haeri statistical advisor; and Sakine Shab Bidar, scientific advisor.

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References

1. Stahl ST, Patrick JH. Perceived functional limitation and health promotion during mid-to late life: The mediating role of affect. New School Psychol Bull 2011;8(2):26-33.
2. Pender NJ, Murdaugh CL, Parsons MA. Health Promotion in Nursing Practice. 7th Edition, NJ: Pearson Prentice Hall 2014; p: 1-5.
3. Nazik H, Nazik E, Özdemir F, Gül Ş, Tezel A, Narin R. Effect of parity on healthy promotion lifestyle behavior in women. Contemp Nurs 2015; 50(2-3): 267-73.
4. Baheiraei A, Mirghafourvand M, Charandabi SM-A, Mohammadi E. Facilitators and inhibitors of health-promoting behaviors: the experience of Iranian women of reproductive age. Int J Prev Med 2013; 4(8): 929.
5. Bloom H. Preventive medicine. When to screen for disease in older patients. Geriatrics (Basel) 2001; 56(4): 41-5.
6. Erci B. The effectiveness of the Omaha System intervention on the women's health promotion lifestyle profile and quality of life. J Adv Nurs 2012; 68(4): 898-907.
7. Gunderson EP, Abrams B. Epidemiology of gestational weight gain and body weight changes after pregnancy. Epidemiol Rev 1999; 21(2): 261-75.
8. Ko SH, Chen CH. Comparison of health-promoting lifestyles between postnatal Han Taiwanese and indigenous women. JNR 2010; 18(3): 191-8.
9. Krummel DA. Postpartum weight control: a vicious cycle. J Am Diet Assoc 2007; 107(1): 37-40.
10. Dean K. Self-care components of lifestyles: the importance of gender, attitudes and the social situation. Soc Sci Med 1989; 29(2): 137-52.
11. Dennis CLE. Preventing postpartum depression part II: A critical review of

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nonbiological interventions. Can J Psychiatry 2004; 49(8): 526-38.

12. Gibb S, Hundley V. What psychosocial well-being in the postnatal period means to midwives. Midwifery 2007; 23(4): 413-24.
13. Sadat Z, Kafaei Atrian M, Masoudi Alavi N, Abbaszadeh F, Karimian Z, Taherian A. Effect of mode of delivery on postpartum depression in Iranian women. J Obstet Gynaecol Res 2014; 40(1): 172-7.
14. Enjezab B, Farajzadegan Z, Taleghani F, Aflatoonian A, Morowatisharifabad MA. Health promoting behaviors in a population-based sample of middle-aged women and its relevant factors in Yazd, Iran. Int J Prev Med 2012; 3(Suppl1): S191.
15. Lin YH, Tsai EM, Chan TF, Chou FH, Lin YL. Health promoting lifestyles and related factors in pregnant women. Chang Gung Med J 2009; 32(6): 650-61.
16. Sonmezer H, Cetinkaya F, Nacar M. Healthy life-style promoting behaviour in Turkish women aged 18-64. Asian Pac J Cancer Prev 2012; 13(4): 1241-5.
17. Baheiraei A, Mirghafourvand M, Charandabi SM, Mohammadi E, Nedjat S. Health-promoting behaviors and social support in Iranian women of reproductive age: a sequential explanatory mixed methods study. Int J Public Health 2014; 59(3): 465-73.
18. Bakhshi E, Eshraghian MR, Mohammad K, Foroushani AR, Zeraati H, Fotouhi, Siassi F, Seifi B. The positive association between number of children and obesity in Iranian women and men: results from the National Health Survey. BMC Public Health 2008; 8(1): 213.
19. Hardy R, Lawlor D, Black S, Wadsworth M, Kuh D. Number of children and coronary heart disease risk factors in men and women from a British birth cohort. BJOG 2007; 114(6): 721-30.
20. Cohen A, Pieper CF, Brown AJ, Bastian LA. Number of children and risk of metabolic syndrome in women. J Womens Health (Larchmt) 2006; 15(6): 763-73.
21. Chen CM, Kuo SF, Chou YH, Chen HC. Postpartum Taiwanese women: their postpartum depression, social support and health-promoting lifestyle profiles. J Clin Nurs 2007; 16(8): 1550-60.
22. Walker SN, Sechrist KR, Pender NJ. The health-promoting lifestyle profile: development and psychometric characteristics. Nurs Res 1987; 36(2): 76-81.
23. Zeidi I, Hajiagha A, Zeidi B. Reliability and validity of Persian version of the health-promoting lifestyle profile. JMUMS 2012; 22: S103.
24. Mohamadian H, Ghannaee M, Kortdzanganeh J, Meihan L. Reliability and construct validity of the Iranian version of

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health-promoting lifestyle profile in a female adolescent population. Int J Prev Med 2013; 4(1): 42-9.

25. Anbari K, Mostafavi SM, Ghanadi K. Health Promoting Behaviors in Women of Khorramabad City in Western Iran in 2013. Women Health Bull 2015; 2(1): e22162.
26. Gokyildiz S, Alan S, Elmas E, Bostanci A, Kucuk E. Health-promoting lifestyle behaviours in pregnant women in Turkey. Int J Nurs Pract 2014; 20(4): 390-7.
27. Grace SL, Williams A, Stewart DE, Franche RL. Health-promoting behaviors through pregnancy, maternity leave, and return to work: effects of role spillover and other correlates. Women Health 2006; 43(2): 51-72.
28. Jesse DE, Reed PG. Effects of spirituality and psychosocial well-being on health risk behaviors in Appalachian pregnant women. J Obstet Gynecol Neonatal Nurs 2004; 33(6): 739-47.
29. Sehhatie F, Mirghafourvand M, Momeni K. Health promoting behaviors among postmenopausal women in Langroud City, Iran. Health 2015; 1(3): 158-62.

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