HEALTH PROMOTION PRACTICES AND ITS RELATED FACTORS AMONG PREGNANT WOMEN IN SOUTH-WEST NIGERIA

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Abstract
Healthy lifestyle is a set of behavioural patterns that maintains a strong relationship with a person's optimal health. Some of the risk factors associated with poor pregnancy outcome are modifiable. This study assessed health promotion practices and its related factors among pregnant women attending antenatal clinics in Government Health Institution in Ile-Ife, Osun State. A cross-sectional study through stratified sampling technique was used to select 380 pregnant women from six Government Healthcare Institutions in Ile-Ife, Osun State. Participants who consented to participate completed a 69-item structured questionnaire on health-promoting lifestyle profile. Data were analysed using descriptive and inferential statistics. The mean age of the respondents was 29.54 ± 7.22. The overall score of the health promotion practices of respondents is high with a mean score of 147.72 out of 172. The health-promoting lifestyle frequently practiced by pregnant women is spiritual value/belief with the mean of 27.29 ± 1.96 while the least practiced is physical activity with the mean of 6.74 ± 3.53. Health responsibility and physical activity subscale are not adequately practiced despite their roles in the prevention and early detection of non-communicable diseases. A statistical relationship ($p<0.05$) is found between lifestyle practice and socio-economic variables. Therefore, it is imperative to integrate comprehensive health-promoting lifestyle activities in antenatal care services for positive pregnancy outcomes.

Keywords: Health Promotion Practices, Pregnant women, South-West.

Introduction
Health Promotion Practices (HPP) is a multi-dimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization, and fulfilment of the individual (Sonmezer, Cetinkaya & Nacar, 2012). Health Promoting Lifestyle (HPL) is of public health concern in the past decades due to its close association between non-communicable diseases (NCDs) and a healthy lifestyle (Aregbesola, 2012). NCDs are not only affecting older age groups, but it gradually affects women of reproductive age and women in pregnancy (Hussein 2016). NCDs in pregnancy include a large number of differential medical conditions, which can affect all organ and systems in the body which includes neoplasms, mental conditions, endocrine or metabolic conditions, conditions affecting the cardiovascular system, such as hypertension, and the haematological conditions such as anaemia (Hussein 2016).

Indirect maternal death is about one-third of all maternal deaths and these are consequences of previous existing diseases or disease aggravated by the physiological effect of pregnancy (Say, Chou and Gemmill, 2014). Modifiable factors such as unhealthy diet, poor nutrition, obesity, excess alcohol consumption, tobacco use, physical inactivity, choice of place of delivery, and Prevention of Mother to Child Transmission (PMTCT) are connected with poor pregnancy outcomes (Maiyaki & Garbati 2014 and Sola, Steven & Kayode et *al.,* 2011). The pregnancy period is a good time to accept health behavioural changes because the health status of pregnant women could be encouraged to change their lifestyle with regards to health promotion (Sola, Steven and Kayode et al 2011).

Health promotion practices emphases on six aspects, namely: physical activity, nutrition, health responsibility, spiritual growth, interpersonal relations, and stress management (Walker and Hill-Polerecky 1996). Studies in HPL have gained ground in many developed nations, most frequently practiced HPL domains among women are interpersonal relationships, spiritual growth & wellness while the least practised are health responsibility and physical activity (Cha 2010, Mirghafourvand et al 2014 and Joseph-Shehu & Irinoye 2015). However, the health-promoting lifestyle practice of pregnant women is relatively unexplored. Therefore, this study assesses the health-promoting lifestyle practice of pregnant women attending antenatal clinics in selected Government Health Institutions in Osun State. This is with the view to provide information that will guide the development of policy for antenatal education and counselling to empower women to achieve optimum

health and well-being in pregnancy and beyond for the benefit of the whole family.

Methodology

The study adopts a cross-sectional descriptive research design to evaluate health promotion practices and its related factors among pregnant women in a government hospital in Osun State. A stratified sampling technique was used to select 380 pregnant women who attended antenatal clinics from the three levels of health care. The sample comprises of 240 respondents from tertiary health institutions, 50 from the secondary health institutions, and 90 from primary health institutions. A self-administered structured questionnaire adopted from Health-Promoting Lifestyle Profile 11 (HPLP11) whose validity and reliability have been previously ascertained was used for data collection. The questionnaire was divided into three (3) sections, section A inquired questions about socio-demographic characteristics, Section B questions about obstetric characteristics, and section C questions on health promotion practices of the respondents respectively.

The modified questionnaire has 43 items with six subscales which encompasses Nutrition, Physical Activity, Health responsibility, Stress management, Interpersonal Relationship, and Spiritual values. Likert scale was used to evaluate items of each subscale, and the score of the Likert scale ranges from never (1), sometimes (2), often (3) to routinely (4). Ethical approval was obtained for the study from the Institute of Public Health, Obafemi Awolowo University, Ile-Ife. Participation was made voluntary as the questionnaire was administered to respondents who consented to participate in the study. Descriptive and inferential method of analysis was used with the aid of Statistical Package for the Social Sciences (SPSS) version 20.

Results

A total of 380 respondents returned the questionnaires, the response rate is 95%. The socio-demographic characteristics of the respondents are presented in table 1. The respondent's age ranges from 18-48 years with the mean age of 29.54 years ±7.22J. The majority of the respondents (92.4%) are married while only few (7.6%) are single. Two hundred and forty-eight (65.3%) of the respondents are Christians while one hundred and twenty-nine (33.9%) are Muslims. One hundred and ninety-three (50.8%) are educated up to the tertiary level, one hundred and thirty-three (35%) are educated up to secondary school level while only fifty-four (14.2%) have only primary or no formal education. One hundred and seventy-eight (46.8%) of the respondents are traders while ninety-six (25.3%) are civil servants. The average monthly income of two hundred and seven (54.5%) of the respondents earn less than 20,000 naira, while only fifty-six (14.8%) earn 61,000 naira or more. One hundred and eighty-three (48.2%) of the respondents' husbands are civil servants while one hundred and seventy-one (45.0%) are traders. The average monthly income of one hundred and fifty (39.5%) husbands is below 20,000 naira while one hundred and thirty-three (34.9%) earn 61,000 naira and above.

Table 1:
Socio-Demographic Characteristics of the Respondents n=380

Characteristics		Frequency	Percentage (%)
Age	18-25	120	31.6
Mean age= 29.54(±7.22)	26-33	129	33.9
	34-41	121	31.8
	42-49	10	2.6
Marital status	Single	29	7.6
	Married	351	92.4
Religion	Christian	248	65.3
	Muslim	129	33.9
	Traditional	3	0.8
Educational	Level	13	3.4
	None	41	10.8
	Primary	133	35.0
	Secondary	193	50.8
	Tertiary		
Occupation	Civil servant	96	25.3
	Full housewife	60	15.8
	Trader	178	46.8
	Farmer	19	5.0
	Others	27	7.1

Husband's Occupation	Civil servant	183	48.2
	Trader	171	45.0
	Farmer	26	6.8
Average monthly income (Naira)	<20,000	207	54.5
	21,000-40,000	78	20.5
	41,000-60,000	42	11.1
	61,000-80,000	28	7.4
	81,000-100,000	8	2.1
	>100,000	20	5.3
Average husband monthly income (Naira)	<20,000	150	39.5
	21,000-40,000	44	11.6
	41,000-60,000	53	45.3
	61,000-80,000	66	17.3
	81,000-100,000	43	11.3
	>100,000	24	6.3

The obstetric characteristics of the respondents are presented in figure 1. Two hundred and fifteen (56.6%) of the respondents are in the third trimester, one hundred and forty-two (37.4%) are in the second trimester while only twenty-three (6.1%) are in the first trimester of pregnancy. However, two hundred and seventy-six (72.6%) have no history of preterm delivery, two hundred and eight (54.7%) have no history of miscarriage, two hundred and ninety-six (77.9%) have no history of diabetes in pregnancy and two hundred and eighteen (57.4%) have no history of hypertension in pregnancy. Meanwhile, two hundred and seventy-eight (73.2%) have the intention for future pregnancy while only one hundred and two (26.8%) have completed their family size.

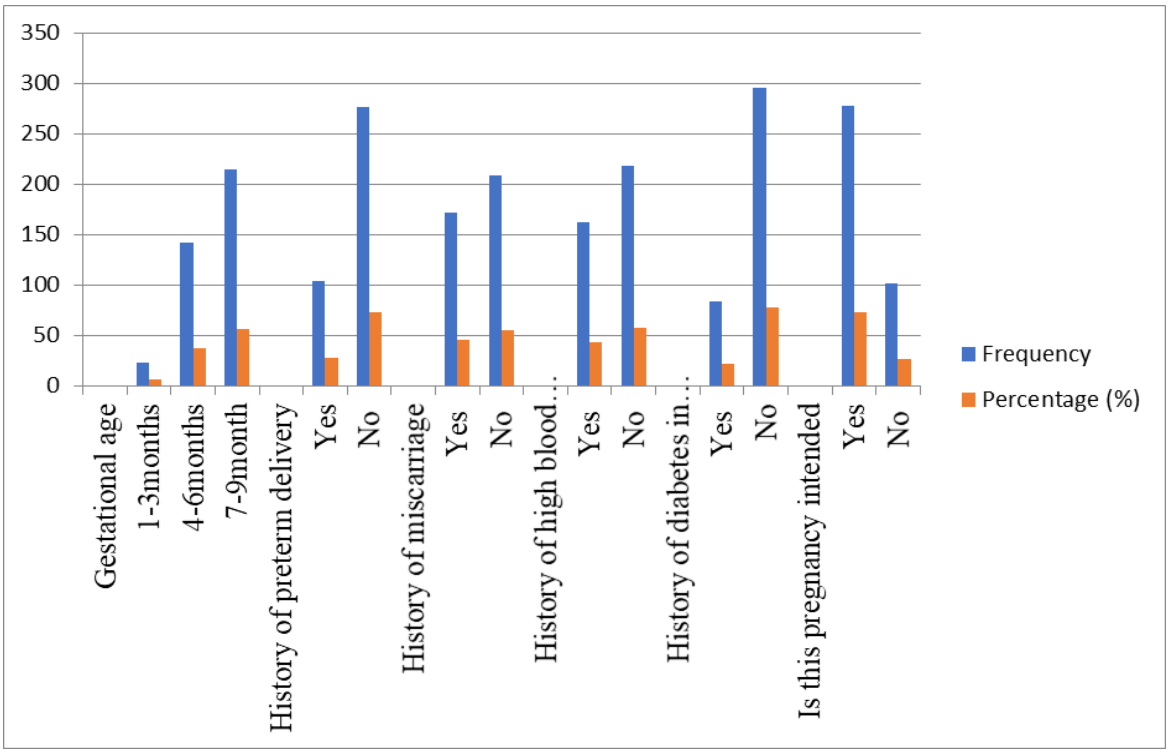

FIG 1: Obstetric Characteristics of Respondents

The health promotion practice of respondents is presented in table 2. The mean score of the health promotion practices among pregnant women is 147.72 (SD=14.37) out of 172. The highest mean (27.29 out of 28) is for Spiritual values followed by the mean of interpersonal relations (38.34 out of 40), stress management mean (26 out of 28), mean of nutrition (21.76 out of 24), mean of health responsibility (27.58 out of 36) and the least mean is the physical activity (6.74 out of 24). The mean score of health responsibility and physical activity is found to be lower in proportion to the mean score of the other dimensions.

Table 2:
Health Promotion Practices of Respondents (n=380)

HPC	Range	Mean	% of mean	SD
Nutrition	16-24	21.76	90.7	1.96
Physical activity	4-16	6.74	42.1	3.53
Health responsibility	13-36	27.58	76.6	7.82
Stress management	16-28	26.00	92.9	2.31
Interpersonal relations	30-40	38.34	95.9	2.59
spiritual value	21-28	27.29	97.5	1.75
Overall health-promoting lifestyles practice	**111-172**	**147.72**	**85.9**	**14.37**

The subscales of health promotion practices are positively statistically significant (p< 0.01) to overall health promotion practices (Table 3). Health responsibility has the highest correlation with overall health promotion practice (r = 0.902, p = 0.01), while spiritual values and believe has the lowest (r = 0.443, p = 0.01).

Table 3:
Pearson correlation coefficient among subscales of health promotion practices profile

T promoting	1.00						
Nutrition	.651**	1.00					
P. Activity	.709**	.384**	1.00				
Health resp	.902**	.509**	.625**	1.00			
Stress mgt	.502**	.330**	.137**	.259**	1.00		
Spiritual	.443**	.210**	.084	.269**	.181**	1.00	
Interpersonal relation	.618**	.361**	.214**	.335**	.551**	.536**	1.00

** Correlation is significant at the 0.01 level (2-tailed).

One-way analysis of variance and T-test of socio-demographic factors associated with health promotion practices is presented in table 3. There is significant statistical relationship between age (p=0.000), marital status (p=0.000), level of education (p=0.000), occupation (p=0.000), husband occupation (p=0.000), average monthly income (p=0.000), husband monthly income (p=0.000) and health promotion practices of the respondents.

Table 4:
Analysis of variance and t-test of Socio-demographic Factors associated with Health-Promoting Lifestyle Practice

Characteristics	N	Mean	SD	p-value
Age				
18-25	120	135.5833	11.68248	0.000*
26-33	129	155.8837	11.72579	
34-41	121	151.4628	11.21163	
42-49	10	142.6000	11.35488	
Marital status				
Single	29	132.4828	12.13796	0.000*
Married	351	148.9744	13.82594	
Religion				
Christian	248	148.1169	14.42636	0.474
Muslim	129	147.1473	14.41576	
Traditional	3	139.0000	.00000	
Educational level				
None	13	138.8462	4.77574	0.000*
Primary	41	130.7561	10.79764	
Secondary	133	139.0752	9.04754	
Tertiary	193	157.8705	10.18725	
Occupation				
Civil servant	96	158.8958	11.05820	0.000*
Full housewife	60	139.9500	9.90193	
Trader	178	146.3427	14.01494	
Farmer	19	139.5789	4.10035	
Others	27	140.0000	16.43870	
Husband's Occupation				

Civil servant	183	156.1093	12.05204	0.000*
Trader	171	140.1813	12.47854	
Farmer	26	138.1923	4.24282	
Average monthly income (N)				
<20,000	207	142.0193	12.39870	0.000*
21,000-40,000	78	150.8721	13.98974	
41,000-60,000	42	158.6122	11.76119	
61,000-80,000	28	152.7826	14.64413	
81,000-100,000	8	166.9000	1.96921	
>100,000	20	160.8000	5.01996	
Average husband monthly income(N)			12.68254	
<20,000	150	139.7923	13.93340	0.000*
21,000-40,000	44	146.5556	10.98844	
41,000-60,000	53	152.8824	8.80772	
61,000-80,000	66	155.7442	9.87660	
81,000-100,000	43	158.2941	7.81837	
>100,000	24	163.5758		

The level of significance is set at P<0.05

Also, a one-way analysis of variance and T-test of obstetric characteristics associated with health promotion practices is presented in table 4. There is significant statistical relationship between gestational age (p=0.000) & pregnancy intention (p=0.004) and the health promotion practices of respondents while histories of preterm delivery, miscarriage, hypertension, and diabetes in pregnancy are not statistically related to the health-promoting lifestyle practice of respondents.

Table 5:
Analysis of Variance and t-test of Obstetric Characteristics associated with Health-Promoting Lifestyle Practice

Characteristics	N	Mean	SD	p-value
Gestational age				
1-3months	23	144.8261	16.06988	0.000*
4-6months	142	150.6127	13.22626	
7-9month	215	146.1116	14.66628	
History of preterm delivery				
Yes	104	148.2115	12.38122	0.65
No	276	147.5290	15.07445	
History of miscarriage				
Yes	172	147.3605	14.70323	0.61
No	208	148.1256	14.06102	
History of high blood pressure in pregnancy				
Yes	162	147.3580	14.59712	0.68
No	218	147.9817	14.23534	
History of diabetes in pregnancy				
Yes	84	149.8452	10.59836	0.62
No	296	147.1115	15.23859	
Is this pregnancy intended				
Yes	278	149.1079	13.59215	0.004*
No	102	143.9216	15.77483	

The level of significance is set at p<0.05

Discussion

The age range of respondents is between 18 to 48 years, and majority of the respondents are married, about two-thirds of the respondents are Christians, while one-third are Muslims. The tertiary institution is the highest educational level for about half of the respondents, while about one-third highest educational level is secondary school education. This implies that there is an improvement in girl child and women education in the study area which is a vital step in the women empowerment program. Almost half of the respondents are traders while about a quarter are civil servants, of which half of the women earn below 20,000 naira monthly and only a few (about one-sixth) earn above 60,000 naira monthly, this could be as a result semi-urban nature of the study area characterized by few industries and institution that provide good-paying jobs to women.

Obstetric characteristics of the respondents showed that half of them are in the third trimester, one-third are in the second trimester and only a few are in the first trimester of pregnancy. Almost half of the respondents have the history of hypertension in pregnancy and about one-quarter have the history of diabetes in pregnancy, this implies an incidence of non-communicable disease in pregnancy cannot be ignored. This is an indicator that health care workers need to create awareness and sensitize women on the benefit and prompt usage of healthcare services in their locality.

The overall score of health promotion practices of respondents is high. The respondents engaged more in the spiritual subscale which have the highest mean score, with almost all the content adequately practiced. This may be associated with the culture and belief system of the community and it indicates spiritual wellbeing which is a very important component of health (World Health Organization 2006). There is an important relationship between spirituality and health-promoting behaviours among sheltered homeless women (Hurlbut, Robbins, and Hoke 2011). The finding is similar to the study among rural women in Nigeria by Joseph-Shehu and Irinoye 2015 and the study among adolescent girls by Golmakani, Naghibi, Moharari, et al 2013, they all found out that significant relationship exists between spiritual growth and lifestyle. The interpersonal relationship is the second-highest subscale frequently practiced by the respondents. This could be linked with a communal system where everybody cares for each other. Result of this present study is similar to previous studies in which respondents also frequently engage in interpersonal relationship subscale which is essential for social and mental wellbeing (Golmakani, Naghibi, Moharari, et al 2013, and Mehri Solhi & Garmaroudi 2016).

The third subscale of health-promoting lifestyle which is most frequently practiced by respondents is stress management demand for this subscale could be due to the physiologic demand of pregnancy. According to Joseph-Shehu & Irinoye (2015), shows that stress management have direct link with interpersonal relationship, this finding is similar to previous studies by Mirghafourvand, Baheiraei, & Nadjat et al (2014). The fourth subscale practised by the respondents is nutrition with almost all the items adequately practiced, although only about one-third of the respondents have never craved for substance with no nutritional value and only half of the respondents routinely takes their prenatal vitamins. The present finding is similar to previous ones where respondents also have a high score in nutrition (Tesfay, Gebrehiwot, Bruh *et al* 2015). However, the stress management subscale ranked fourth in a report of Joseph-Shehu & Irinoye (2015) and its content is moderately practised. Also, the study of Golmakani, Naghibi, Moharari et al (2013) among adolescent girls reveal a low score for the nutrition subscale. Hence, there is a need to create awareness on how to control craving for substances of no nutritional value and the importance of prenatal vitamins in pregnancy and health and outcome.

This study also reveals that respondents are poor at taking health responsibility, only about half of its content adequately practise giving a lower mean score when compared to other subscales. This is significant as it prompts intervention in the light of the need for self -responsibility to prevent many of the diseases accounting for increased morbidity and mortality among women most especially non-communicable diseases, like breast cancer, cervical cancer, and hypertension which require individual action for prevention and prompt action. This finding is consistent with previous studies where respondents are also poor at taking personal responsibility for health (Joseph-Shehu & Irinoye 2015 and Golmakani, Naghibi, Moharari et al 2013).

The least subscale practised by respondents is physical activity and almost all of its contents are not adequately practised. American College of Obstetricians and Gynaecologists (2016) recommends that pregnant women should exercise for at least 30minutes per day. Despite numerous benefits and the low risk associated with prenatal exercise, this result shows that respondents did not make effort to exercise. This could be due to inadequate knowledge of the benefits of prenatal exercise, non-availability of physical activity facility or misconception about the danger of exercise in pregnancy which calls for further studies in this direction. Our finding is similar to previous studies (Cha 2010; Golmakani, Naghibi, Moharari et al 2013; Joseph-Shehu & Irinoye 2015 and Mehri, Solhi, Garmaroudi et al 2016). These findings support that women are most frequently engaging in self-actualization and pay less attention to physical activity. Also, their study shows that physical activity did not correlate with any of the study variables such as health responsibility, interpersonal relations, and stress management.

The related factors to health promotion practices of the respondents, and correlation analysis show that the subscales of health promotion practice in health promoting lifestyle profile have a positive correlation to overall health promotion practices. Health responsibility have the highest correlation while spiritual values have the lowest correlation to the overall health-promoting lifestyle practice, this corroborates the findings of Golmakani, Naghibi,

Moharari et al (2016) and Mohammadian, Eftekhar, Taghdisy et al (2013) that health responsibility has a maximal correlation to the overall health-promoting lifestyle practice. Also, these findings imply that pregnant women who assume personal responsibility for health will most likely have a good health-promoting lifestyle practice. A statistical relationship is found between health promotion practices and age, marital status, level of education, occupation, husband occupation, average monthly income and husband monthly income on one-way analysis of variance and t-test of the socio-demographic variable while the obstetric variable is statistically significant to overall health-promoting lifestyle practice, gestational age, and pregnancy intention. This support of submission of previous studies by Tesfay, Gebrehiwot, Bruh et al 2015; Thaewpia, Clark, Howland et al (2012); and Paulik, Boka, Kertesz (2010) in their study found that income, parity, and unplanned pregnancy were related factors to health promotion practices.

Conclusion and recommendations

It is necessary to prioritize instituting comprehensive health-related educational programs in antenatal care in the direction of physical, mental, social, spiritual, and psychological wellbeing, with emphasis on health responsibility and physical activity such that women will be empowered to improve their health positively and be able to prevent common chronic diseases during pregnancy period.

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