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A Clinical Evaluation on Importance of Lifestyle Factors in Pregnancy

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ABSTRACT
The goal to conceive during pregnancy is correlated with changes in lifestyle, very few women who had planned to become pregnant really alter their health behaviors or habits. Women's attempts to alter their lifestyle in order to get ready for pregnancy are influenced by their socioeconomic situation and medical history. These factors include their level of education, income status, perceived poverty, high-risk pregnancy, and previous abortions. Therefore, the action of seeking knowledge might be considered a motivational facilitator for making modifications to one's lifestyle both before and during pregnancy. This research was carried out in the department of Gynecology and Obstetrics and it involved a total of 128 female study participants. General information such as age, marital status, ethnicity, gestational age (in weeks), educational level, housing, number of children, pre-pregnancy body mass index (in kilograms per square meter), regularity of menstrual cycles, presence of nausea, history of miscarriage, history of benign gynecological conditions, smoking status; alcohol consumption, caffeine intake, mobile phone use (in hours per day), computer use (in hours per day), history of depression or schizophrenia and extent of bleeding were recorded. The number of patients with a body mass index (BMI) below 23 was 89, whereas the number of patients with a BMI greater than 23 was 39. There were 107 women who had regular menstrual periods, while there were 21 women who had irregular cycles. The comparison was statistically significant ($p<0.01$). Eighty three of the people experienced nausea, while 45 of them did not. However, 105 of the women did not have a history of past miscarriage, whereas 23 of them did. The lifestyle that one leads is a significant factor in pregnancy. There is a change in the hormone level that occurs throughout pregnancy, which might result in a miscarriage. Any additional difficulties that may arise during pregnancy can be avoided by adhering to a normal lifestyle.

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Key Words
Lifestyle in pregnancy, medical history high-risk pregnancy, abortions

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INTRODUCTION

The chance of a subsequent complete miscarriage ranges from 5.5-42.7% when vaginal bleeding occurs during the first trimester of pregnancy. A threatened miscarriage, which is defined as bleeding from the vaginal canal prior to the 20th week of gestation, happens in around twenty percent of all pregnancies. When a woman is threatened with a miscarriage, one in every three of them will ultimately experience a full miscarriage[1].

Other concerns that may arise in women who have such bleeding include antepartum hemorrhage, premature delivery, low birth weight, and other similar issues. A great number of studies have identified a variety of factors that can result in a total miscarriage during the first trimester of pregnancy. According to their findings, a number of indicators have been identified, including an increased maternal age, a high body mass index (BMI) prior to pregnancy and low serum progesterone levels. Additionally, lifestyle factors, including as physical activity, stress, cigarette smoking, alcohol use, caffeine consumption and so on, all have a significant influence in the development of the condition[2]. Maternal age the extent of vaginal bleeding, abdominal pain, gestational age at the commencement of bleeding, uterine size and fetal cardiac activity are some of the factors that are taken into consideration during clinical and ultrasonographic evaluation to determine the cause of bleeding. The exposure to electromagnetic fields (EMF) that is connected with equipment such as microwave ovens, the use of computers and mobile phone devices has been related in epidemiological studies to both the chance of developing leukemia and the loss of an early pregnancy prematurely. The use of mobile phones, computers and exposure to secondhand smoke for extended periods of time are becoming increasingly widespread. It is necessary to do study in order to determine whether or not these exposures are connected with the risk of losing a pregnancy that is threatened[3].

It has been hypothesized that taking fish oil supplements during pregnancy could protect women from experiencing a miscarriage that is at danger of occurring. A study that was carried out by Rossi and colleagues demonstrated that the utilization of DHA led to a decrease in the rate of spontaneous miscarriage in women who were diagnosed with antiphospholipid syndrome and had a previous history of recurrent miscarriages. However, the benefit of DHA in cases of random miscarriage remains uncertain. There should be education on the lifestyle variables that increase the risk of miscarriage and as a result the likelihood of having a miscarriage can be reduced[4].

In spite of the fact that these studies and others have demonstrated that the goal to conceive during pregnancy is correlated with changes in lifestyle, very few women who had planned to become pregnant really alter their health behaviors or habits[5]. In addition, a number of studies have demonstrated that women's attempts to alter their lifestyle in order to get ready for pregnancy are influenced by their socioeconomic situation and medical history. These factors include their level of education, income status, perceived poverty, high-risk pregnancy, and previous abortions[6]. In addition, research indicates that women who are provided with pre-pregnancy health information are more likely to make adjustments to their everyday habits throughout pregnancy in comparison to those who are not prepared for pregnancy[5]. Therefore, the action of seeking knowledge might be considered a motivational facilitator for making modifications to one's lifestyle both before and during pregnancy.

The combination of inactivity and excessive energy consumption during pregnancy is linked to the development of overweight and obesity in the mother. This, in turn, may lead to diabetes in the mother, as well as overweight and obesity in the kid later in life, as well as a variety of other unfavorable health effects[7]. A meta-analysis revealed that engaging in physical activity greatly reduces the possibility of a cesarean section[7]. This is because it leads to a reduction in weight gain, which in turn leads to a reduction in the risk of developing diabetes, which is frequently accompanied by difficulties during birth. In addition, physically active pregnant women exhibit fewer symptoms of depression than those who do not[8]. As a result, the guidelines from Canada the United Kingdom and Denmark propose that pregnant women engage in moderate activity for a duration of thirty minutes per day, two to three times per week, depending on their particular fitness level. On the other hand, suggestions differ from country to country[8]. In general, it is recommended that pregnant women participate in sports that have a low risk of injury, such as Nordic walking, swimming, or yoga. Dive sports, contact sports, bodybuilding, and height sports are examples of high-impact activities that should be avoided[8-11].

MATERIALS AND METHODS

This research was carried out in the department of Gynecology and Obstetrics, and it involved a total of 128 female study participants. A written consent was obtained from each individual and they were all informed about the study. The study was given the go-ahead by the institution's ethics committee. Each of the participants was chosen from among the pregnant women who were in the second and third trimesters of their pregnancies and who had a prenatal care record that was currently being maintained at the health

facility. India possesses a sophisticated primary healthcare network that encompasses the health centers that are located at the primary level. Healthcare facilities that have lately been rebranded as Comprehensive Health Services Centers are associated with educational institutions that are in the medical field. The population that is covered by these centers receives a full package of health services, which includes prenatal care for the moms who are pregnant. As a result, they are the most suitable location to access the ladies who are pregnant. For the purpose of this study, we recruited participants from these centers, taking into consideration the possibility that each pregnant woman had a pregnancy care record at the health center. In order to be eligible for participation, participants needed to be in the second and third trimesters of their pregnancies, have access to the Internet and have used it for pregnancy-related purposes at least once within the previous month. Following the completion of a pilot study that came before the primary research, the sample size for correlation studies was determined by using the findings from the pilot study.

General information such as age, marital status, ethnicity, gestational age (in weeks), educational level; housing, number of children, pre-pregnancy body mass index (in kilograms per square meter), regularity of menstrual cycles, presence of nausea, history of miscarriage, history of benign gynecological conditions, smoking status, alcohol consumption, caffeine intake, mobile phone use (in hrs per day), computer use (in hrs per day), history of depression or schizophrenia and extent of bleeding were recorded.

For the purpose of determining the levels of stress experienced by the women in the month leading up to their arrival at the clinic, the 10-item Perceived Stress Scale (PSS) was an instrument that was utilized. Following the tabulation of the results, statistical analysis was performed on them.

Data analysis: Descriptive analysis was performed on the data. Absolute frequencies, percentages, mean values, p-values for all differences ($p<0.05$) and standard deviations were the different statistical measures that we utilized. An investigation into the likelihood of providing "wrong answers" (that is, answers that were in contrast with the prevalent scientific knowledge) to questions concerning the effects of consuming alcohol, smoking, drinking coffee, nutrition, avoidable nutrition, supplements, medication, oral health the type of physical activity, the intensity of physical activity and a vegan diet was carried out using multivariate logistic regression analyses. As soon as we discovered that a particular value did not align with the most recent recommendations found in the relevant literature, we deemed that value to be an error. Each and every test was carried out with a confidence level of 95%, using a significance level of $\alpha = 0.05$.

RESULTS

There were 106 women who were under the age of 34, while there were 22 women who were beyond the age of 34. 109 of them were married, The number of patients with a body mass index (BMI) below 23 was 89, whereas the number of patients with a BMI greater than 23 was 39. There were 107 women who had regular menstrual periods, while there were 21 women who had irregular cycles. The comparison was statistically significant ($p<0.01$). Eighty three of the people experienced nausea, while 45 of them did not. However, 105 of the women did not have a history of past miscarriage, whereas 23 of them did. Table 1.

It was found that 102 patients had a positive history of termination of pregnancy, 113 patients had gynecological diseases, 117 patients had a history of smoking during pregnancy, 35 households had a history of smoking, 87 patients had a positive history of caffeine intake, 81 patients had a history of using their mobile devices for more than four hours, 61 patients had a history of using their computers for more than four hours, 21 patients had a history of drinking alcohol during their pregnancy, 23 patients had a history of depression, 49 patients had a high stress score, 101 patients had a history of spotting bleeding during pregnancy and 13 patients had threatened to have an abortion. The discrepancy was statistically substantial ($p<0.05$).

DISCUSSIONS

When it comes to the foetus, it has extremely detrimental effects. Unhealthy lifestyle choices can put a woman in danger of having an abortion. The current study was carried out with the purpose of identifying the numerous lifestyle factors that contribute to the risk of having an abortion. We discovered that ladies over the age of 34 were 17 years old. Within the population of women who participated in the current research, advanced maternal age was found to be a major risk factor for miscarriage. At the time of presentation, women who were at least 34 years old had a higher probability of experiencing a total miscarriage compared to women who were younger. This is in line with the findings of prior research, which demonstrated that the likelihood of a miscarriage is substantially higher in pregnant women who are of a more advanced age[12,13].

The number of patients who had a body mass index (BMI) below 23 was 84, whereas the number of patients who had a BMI greater than 23 was 34. There were 102 women who had regular menstrual periods, while there were 16 women who had irregular cycles.

Table 1: Demographic data of patients

Age	No.	p-value
<34 years	106	0.02
>34 years	22	
Marital status		
Married	109	0.02
Single	19	
Education		
High school	105	0.01
Secondary school	23	
Housing		
Public	117	0.01
private	11	
No. of children		
0	102	0.02
1	17	
>2	9	
BMI (Kg m^{-2})		
<23	89	0.1
>23	39	
Regular menstrual		
Yes	107	0.01
No	21	
Nausea		
Yes	83	0.02
No	45	
History of miscarriage		
Yes	23	
No	105	0.01

Table 2: Data of patients

History of termination of pregnancy	No.	p-value
Yes	21	0.01
No	107	
Gynecological disease		
Yes	15	0.05
No	113	
Smoked in pregnancy		
Yes	11	
No	117	0.02
1 or more smokers in household		
Yes	35	0.05
No	93	
History of alcohol consumption		
Yes	21	0.01
No	107	
Perceives stress score		
Low	79	
High	49	0.05
Caffeine intake		
Yes	87	0.01
No	41	
Computer usage		
0-1	26	0.4
1-4	41	
>4	61	
Mobile usage		
0-1	20	0.01
1-4	27	
>4	81	
History of depression		
Yes	23	
No	105	0.01
Amount of bleeding		
Spotting	101	0.2
Wet pad	27	
Threatened miscarriage		
Yes	13	0.01
No	115	

The findings of Saraswat and colleagues are consistent with this finding.The fact that 14 and 18 had a positive history of past miscarriage demonstrates that a history of miscarriage can actually lead to a miscarriage in the future as well. The results of Lashen *et al*.[16] are comparable to these findings. Fifty of the 16 patients had a positive history of having their pregnancy terminated, and 10 of them had gynecological diseases. 112 of the patients had a history of smoking during their pregnancy, 30 of the patients had at least one household that had a history of smoking, of the patients had a history of drinking alcohol while they were pregnant and 82 of the patients had a positive history of consuming caffeine. Clearly, smoking and drinking alcohol both have negative effects on the developing foetus. Maconochie and his colleagues believe that this is correct. There have been sixteen authors who have proposed the part that changes in the progesterone hormone play in pregnancy, and women who are pregnant are at a high risk of having their abortions endangered[17].

Seventy Eight of them had a history of using their mobile devices for more than four hrs and 58 of them had a history of using their computers for more than four hrs. This demonstrates that excessive usage of mobile devices and computers can be a triggering factor that leads to a childbirth termination. Depressive symptoms are another significant contributor to the occurrence of miscarriage. According to our research,[18] of the participants had a favorable history of depression. Having a high stress score was 44. At this point, the findings of Ong *et al*.[18] are in agreement with this.Additionally, of the participants were of the opinion that searching for health information online did not instill confidence in them that they could effectively manage their health and communicate their experiences with others on their health concerns. On the other hand, they believed that the act of searching for information pertinent to pregnancy on the internet did not adequately prepare them for the potential adverse effects on their health. Additionally, they placed a considerable amount of importance on information obtained online. Among the most important elements that influence the behavior of seeking health information online and using online information to enhance health, trusting the accuracy of information found online and feeling that obtaining information online can help to improve health care are among the most important ones[19-21]. As a result, the level of trust that people have in online health information has been the subject of numerous research. Some of these studies have demonstrated that people who use the internet are skeptical of the information that they get online, while others have established the Internet as a trustworthy source. It is possible to increase public trust in online health information by providing women with the ability to validate the information that is received from the internet, by having regulatory organizations monitor the contents of the internet and by encouraging more active participation from health experts in the development of online health information[19-21]. According to our research, the

average score on the information and presentation subscale was similarly considered to be moderate. All of this indicates that the respondents are unable to easily use health websites and the content that they include. According to the findings of a number of studies, this is also one of the most difficult obstacles that stands in the way of making efficient use of the Internet as a source of health information[22,23]. The information that is offered online ought to be presented in a manner that may be utilized by the people who are the intended audience[22]. The development of acceptable guidelines and the presentation of information pertaining to pregnancy in accordance with those standards the incorporation of the perspectives of users in the design of health websites the provision of information in a manner that is more methodical and the appropriate utilization of images and visual aids are all potential applications. The final subscale, which was titled "understanding and motivation," received a mean score that was just modest. This indicates that the material regarding pregnancy that was made available to participants online was not entirely understandable by them, and it did not motivate them to take an active role in the management of their health by providing them with sufficient encouragement. In general, the most important criteria for determining whether or not online health information is beneficial are its readability, understandability, reliability and actionability. Including visual aids such as simple images and charts in the online information to make them more understandable, using a common language, defining and explaining the terms appropriately, categorizing the information with specific titles, presenting information in logical sequence and providing practical summaries can help to promote the understandability of online health contents for pregnant women, which can, in turn, encourage them to apply such information in their health promotion[22,23].

When it came to the detrimental health impacts of alcohol consumption during pregnancy on their children, women who had statutory health insurance were at a considerably higher risk of underestimating and erroneously estimating the harmful effects of alcohol consumption. The results of sensitivity analyses revealed that a greater proportion of women who had private health insurance were provided with information by their gynecologist regarding lifestyle-related risk factors. On the other hand, a greater proportion of women who had statutory health insurance did not receive information from their gynecologist regarding lifestyle-related risk factors during their pregnancy. Individuals who have private health insurance may have a higher level of knowledge because their health insurance status may be connected with the amount of time that a gynecologist spends with them over the course of their appointment. There was no evidence to suggest that having health insurance had any impact on the number of people who were aware of the negative consequences that smoking during pregnancy had on the health of the offspring. It's possible that the effects of smoking during pregnancy are more well-known among the general population than the effects of drinking alcohol during pregnancy. This could be an explanation for the difference[24,25]. Because of this, we are of the opinion that the women who were questioned and who had private health insurance would gain advantages from receiving more extensive supervision, which would include information on the effects of alcohol intake during pregnancy, which would be offered by their gynecologists. Therefore, statutory health insurance firms ought to adopt initiatives in order to raise the understanding of lifestyle-related risk factors that are associated with pregnancy.

The strengths and applications of this study were accompanied by a few limitations along its course. First of all, the research was conducted using a cross-sectional methodology, consequently the findings are susceptible to the limitations that are associated with cross-sectional studies, second the study did not include a control group, however, conducting a study with a control group can provide a more accurate picture; third, the data that were analyzed in this study were self-reported and fourth the research was conducted within a particular socio-economic and cultural context, which restricts the possibility of generalizing the findings to other societies.

CONCLUSION

The lifestyle that one leads is a significant factor in pregnancy. There is a change in the hormone level that occurs throughout pregnancy, which might result in a miscarriage. Any additional difficulties that may arise during pregnancy can be avoided by adhering to a normal lifestyle. Information about the impacts of consuming alcohol, smoking and following a vegan diet should be the primary emphasis of interventions aimed at improving pregnant women's knowledge of health-related risk factors during pregnancy. In addition, interventions must to provide general advice regarding diet and supplementation during pregnancy. It is possible that giving information in gynecological care settings through face-to-face interactions between pregnant women and health professionals could be an effective method for improving pregnant women's knowledge of lifestyle-related risk factors during pregnancy. Perhaps it would be beneficial for future research to include a greater number of women who come from lower income and education categories.

REFERENCES

1. Gracia, C.R., M.D. Sammel, J. Chittams, A.C. Hummel, A. Shaunik and K.T. Barnhart, 2005. Risk factors for spontaneous abortion in early symptomatic first-trimester pregnancies. Obstet. Gynecol., 106: 993-999.
2. Furneaux, E.C., A.J. Langley-Evans and S.C. Langley-Evans, 2001. Nausea and vomiting of pregnancy: Endocrine basis and contribution to pregnancy outcome. Obstetri. Gynecol. Survey, 56: 775-782.
3. Yaron, Y., Y. Ochshorn, S. Heifetz, O. Lehavi, Y. Sapir and A. Orr-Urtreger, 2002. First trimester maternal serum free human chorionic gonadotropin as a predictor of adverse pregnancy outcome. Fetal. Diagnosis. Ther., 17: 352-356.
4. Cleary-Goldman, J., F.D. Malone, J. Vidaver, R.H. Ball and D.A. Nyberg *et al*., 2005. Impact of maternal age on obstetric outcome. Obstet. Gynecol., 105: 983-990.
5. Poels, M., H.F. van Stel, A. Franx and M.P.H. Koster, 2017. Actively preparing for pregnancy is associated with healthier lifestyle of women during the preconception period. Midwifery., 50: 228-234.
6. Goossens, J., D. Beeckman, A.V. Hecke, I. Delbaere and S. Verhaeghe, 2018. Preconception lifestyle changes in women with planned pregnancies. Midwifery., 56: 112-120.
7. Domenjoz, I., B. Kayser and M. Boulvain, 2014. Effect of physical activity during pregnancy on mode of delivery. Am. J. Obstet. Gynecol., 211: 401-401.
8. Evenson, K.R., R. Barakat, W.J. Brown, P. Dargent-Molina and M. Haruna *et al*., 2013. Guidelines for physical activity during pregnancy. Am. J. Lifestyle. Med., 8: 102-121.
9. Korsten-Reck, U. and K. Marquardt, 2009. Schwangerschaft und Sport: Pregnacy and Sports. Dtsch. Z. Sportmed., 60: 117-121.
10. Sulprizio, M., J. Kleinert, 2016. Sport In Der Schwangerschaft. 1st Edn., Berlin Heidelberg, Germany,
11. Schild, R.L., 2015. Soziale vorsorge und allgemeine beratung in der schwangerschaft. Der. Gynäkologe., 48: 736-740.
12. Rochebrochard, E.D. and P. Thonneau, 2002. Paternal age and maternal age are risk factors for miscarriage, results of a multicentre European study. Hum. Reprod., 17: 1649-1656.
13. Rochebrochard, E.D. and P. Thonneau, 2003. Paternal age =40 years: An important risk factor for infertility. Am. J. Obstet. Gynecol., 189: 901-905.
14. Saraswat, L., S. Bhattacharya, A. Maheshwari and S. Bhattacharya, 2010. Maternal and perinatal outcome in women with threatened miscarriage in the first trimester: A systematic review. BJOG. Int. J. Obstet. Gynaecol., 117: 245-257.
15. Lashen, H., 2004. Obesity is associated with increased risk of first trimester and recurrent miscarriage: Matched case-control study. Hum. Reprod., 19: 1644-1646.
16. Maconochie, N., P. Doyle, S. Prior and R. Simmons, 2007. Risk factors for first trimester miscarriage-results from a uk-population-based case-control study. BJOG. Int. J. Obstet. Gynaecol., 114: 170-186.
17. Basama, F. and F. Crosfill, 2003. The outcome of pregnancies in 182 women with threatened miscarriage. Arch. Gynecol. Obstet., 270: 86-90.
18. Ong, C.Y.T., A.W. Liao, K. Spencer, S. Munim and K.H. Nicolaides, 2000. First trimester maternal serum free ß human chorionic gonadotrophin and pregnancy associated plasma protein a as predictors of pregnancy complications. BJOG. Int. J. Obstet. Gynaecol., 107: 1265-1270.
19. Bagherzadeh, R., T. Gharibi, B. Safavi, S.Z. Mohammadi, F. Karami and S. Keshavarz, 2021. Pregnancy; an opportunity to return to a healthy lifestyle: A qualitative study. BMC. Preg. Childbirth., Vol. 21 .10.1186/s12884-021-04213-6
20. Sun, Y., Y. Zhang, J. Gwizdka and C.B. Trace, 2019. Consumer evaluation of the quality of online health information: Systematic literature review of relevant criteria and indicators. J. Med. Inter. Res., Vol. 21 .10.2196/12522
21. Ayani, S., F. Sadoughi, R. Jabari, K. Moulaei and H. Ashrafi-Rizi, 2020. Evaluation criteria for health websites: Critical review. Front. Health. Inf., Vol. 9 .10.30699/fhi.v9i1.235
22. Liu, S., R. Zhang and X. Lu, 2019. The impact of individuals' attitudes toward health websites on their perceived quality of health information: An empirical study. Telemed. E-Health., 25: 1099-1107.
23. Visla, J., A. Shatola, D.H. Wisner and U. Shaikh, 2019. Understandability and actionability of online information on hypertension. Popul. Health. Manage., Vol. 22 .10.1089/pop.2019.0037
24. Peadon, E., J. Payne, N. Henley, H. D'Antoine and A. Bartu *et al*., 2010. Women's knowledge and attitudes regarding alcohol consumption in pregnancy: A national survey. BMC. Public. Health., Vol. 10 .10.1186/1471-2458-10-510
25. Walsh, R.A., S. Redman, M.W. Brinsmead and J.L. Fryep, 1997. Predictors of smoking in pregnancy and attitudes and knowledge of risks of pregnant smokers. Drug. Alcohol. Rev., 16: 41-47.