

MINOR DISCOMFORTS AMONG PREGNANT WOMEN ATTENDING IN BENI- SWEIF UNIVERSITY HOSPITAL

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Abstract

Most pregnant women suffer from minor discomforts during their pregnancy period. These minor discomforts are due to hormonal change. The common of minor discomforts are nausea and vomiting ,fatigue ,constipation ,heart burn, backache ,Dyspnea, leg cramps varicose vein, insomnia, urinary frequency, and leucorrhea.

Aim: The present study aimed to explore the magnitude and types of minor discomforts among pregnant women attending Beni-Sweif University Hospital. A sample of 90 pregnant women selected from those attending in the antenatal clinic of Beni-Sweif University Hospital. A structured interview questionnaire was developed and used for data collection to assess women's socio-demographic and obstetric characteristics, and pregnancy related to problems .

Based on data collection of the current study It can be concluded that the majority of the pregnant women complained from minor discomfort during pregnancy period these were; vaginal discharge,,frequency of urination, back ache ,nausea ,heart burn ,drowsiness difficult of breathing ,constipation heavy breast and muscles spasm. Recommendations Awareness raising programs must be conducted regarding importance of antenatal care to improve mothers' knowledge regarding minor discomfort . In- services training to all nurses and health care provider at maternal health services to update their knowledge ,increase their ability to care for pregnant mother with discomfort and instruct them to avoid their unhealthy lifestyle behaviors.

Introduction

Pregnancy is a normal process that results in a series of both physiological and psychosocial changes in the women. Some of these are temporary changes that occur only during pregnancy (Lowdermilk & Perry, 2007). Most pregnant women suffer from minor discomforts during their pregnancy period. These minor discomforts are due to hormonal change and metabolic change (Amasha & Heeba , 2013). Symptoms of discomforts are different from women to women through the different months of pregnancy.

The prevalence of minor discomforts is varying according to its type. Nausea and vomiting (morning sickness) are of the most common discomforts of the early pregnancy. Nausea and vomiting appear early in the first trimester (6 to 8 weeks) and subside by the end of 12 weeks of pregnancy's improve nausea and vomiting the pregnant women should be taken a piece of dry toast before getting up, small meals of high quality (protein) food. According to Avosor and Keskin 2012, fainting occurring in the first and second trimesters due to vasodilatation occurring under the influence of progesterone increasing of blood

volume. To improve fainting the ladies should be measuring the blood pressure, avoiding hard work, rest increasing fluids and taking balanced diet .

Fatigue occurs primary during the first and third trimester of pregnancy. In the first trimesters fatigue is usually related to physiological and hormonal changes. During the third trimester fatigue is usually related to physical discomforts and inability to sleeping To improve fatigue, the mother is advised to eat healthy food, taking naps during the day, increasing time exercise, and practicing relaxation techniques (Rice, 2006). According to Rosy , (20 10), hormonal change may cause headache during pregnancy especially during the first trimester. To relive from headache the ladies are advised to take rest , proper nutrition and adequate fluid intake which may help alleviate headache, symptoms. In severe headache the ladies go to the doctor to take. medicine. Heart burn is common during pregnancy particularly during the last trimester, it is described painful retrosternal burning sensation.

In some studies the prevalence of heart burns has been found to increase from 22% in the first trimester to 39% in the second trimester and 60 % to 70% in the third trimester women are advised to avoid spicy food, increase milk and milk productions and warm fluid (Archer,2006). Backache more than two third of the pregnant women experience back pain and almost one fifth experience pelvic pain .The pain increases with advancing pregnancy and interferes with work daily activities and sleep. Pennick &Young ,(2007), reported that backache improves by exercise program and postural education

given to the women as early in the pregnancy as possible may which prevent back pain or decrease pain. Many women experience leg cramps in the second trimester of pregnancy. .Both calcium and sodium chloride appear to help reduce leg cramps in the pregnancy(Jewell& Young, 2000). Dyspnea or shortness of breath occure in 60% of pregnant women. Dyspnea may occurs during the first trimester because of the progesterone . During the later half of pregnancy these symptoms result from the pressure of the uterus pushing upward on the diaphragm . It may be relieved by advising the women to sleep on additional pillows. Maintains good posture decreases anxiety as well as taking deep breathing (Klossner & Hatfied2010).

Pregnancy is presumed to be a major contributory factor in the increased incidence of varicose vein in the women which can in turn lead to venous insufficiency and leg edema. Most common symptoms of varicose vein and edema are substantial pain experienced as well as night cramps numbness , tingling and the legs may feel heavy, varicose may develop in up to 40% of pregnant women. Varicose vein often improves three to four months following birth and edema generally reduces soon after birth (Bamigboye&Hofmer, 2006).

Insomnia in later weeks of pregnancy may have a variety of causes including physical discomfort and stress. To relieving from insomnia, the pregnant women should be taking warm bathing before bed time and pillow in inviting way that promotes rest. (Orsohan, 2008). Constipation is a common problem in late of pregnancy circulating progesterone may be a causes of showering gastrointestinal movement in mild and later pregnancy .Constipation often improves by intake of dietary supplements

in the form of bran, if the problem fails to resolve, stimulant laxative are likely to prove more effective. (Jewel & Youn, 2000).

In early pregnancy, women experience urinary frequency from the growing uterus compressing the bladder. Pregnant women often are fatigued because of nocturia and increased metabolic requirement. One cause of frequent urination in the first trimester is the increasing blood flow which diminishes during the second trimester, only to reappear in the third trimester and increasing glomerular filtration rates. According to Lowdermilk et al. (2010), high levels of estrogen in pregnancy result in marked shedding of superficial mucosal cells in vaginal discharge (Leucorrhoea). Some relieving measures are the avoidance of tight clothing; the mother should wear cotton underwear, wash with plain water twice a day, and take medicine as the doctor orders. During pregnancy, women refuse to take any medicine to relieve minor discomforts because any drugs may affect fetal development. Therefore, most women in developing countries return to their traditional or cultural practices. These women adhere to traditional practices aimed at restoring their health and preventing themselves and their babies from developing illness (Ngenda et al., 2003). Role of the community health nurse: The nurse can help pregnancy women gain a positive experience by providing information, suggestion, emotional support and ongoing reassurance to the mother and her partner. So, the nurse can focus on special needs of pregnant women to promote optimal maternal-child health.

Aim of the study: This study was carried out to explore the magnitude and types of minor discomforts among pregnant women attending Beni-Sweif University Hospital.

Technical Design:

Cross-sectional design was used

Sample

A sample of 90 pregnant women selected randomly from those attending antenatal care clinic of Beni-Sweif University Hospital, were chosen randomly at visit by the researcher.

Sample size

To calculate the sample size, a calculator was used. Assuming that back pain prevalence in pregnant ladies varies from 40-60% (Pennick & Young, 2007). At 95% significance level and 80% powers of the study, the calculated sample size was 70%, adding 20%, for improving collected data. So, the actual sample size was 90 women.

Tool of data collection:

A structured interview questionnaire was developed by the researchers and tested to collect data related to minor discomforts among pregnant women attending in Beni-Sweif University Hospital. It was written in Arabic language to facilitate communication with pregnant women. The structured interview questionnaire included the following:

- Demographic data, such as, age, address, education and occupation .
- Obstetrical data, such as data of last menstrual period, duration of pregnancy –number of previous pregnancies
- Questions related to minor discomforts among pregnant women such as, nausea, vomiting, faintness, fatigue,

headache ,heart burn, back-ache, dyspnea ,edema ,insomnia and anxiety ,breast change ,varicose-vein and leg cramps , and leucorrhea.

Administration design: After clarifying the aim of the study ,approval to carry out this study was obtained from the concerned authorities (Hospital Director).

- **Operational Design :** This design included the preparatory phase description , the pilot study, and filed work.
- **Preparatory phase:** Based on previous introduction and researches in journals ,magazine and computer search, the tools of the data collection were developed .
- **Pilot study :** After preparing the tools a study was tested on 10 pregnant women at the anti natal clinic in Beni-Sweif University Hospital. The questionnaire were clear and relevant and few words and items were modified.
- **Field work:** The data collection started from 6/2016 till 9/2016 .Data were collected through interview pregnant women during flow up visits 10 AM to 1 PM in the anti natal clinic in university hospital .

Ethical consideration :An approval was obtained from pregnant women to participate in the study. The researchers introduced them solve the aim of the study was illustrated to them, they were assure that their participation is voluntary and Wright to withdraw from the study at any time without given any reason

Statistical Design:

Collected data were coded, computed and statistically analyzed using the statistical package for social sciences version 16.0. of percentages χ^2 (Chi square) test was used. The differences was were presented as frequencies and considered significant at $P \leq 0.05$.

Results:

Table (1) shows the characteristics of the studied women (90 pregnant ladies). The age of 90 studied pregnant ladies ranges from 18.0 to 45.0 years with 30.40 ± 7.26 years. Those having age 20 - < 30 are 42.8% and from 30 - < 40 are 37.8%. The percentages of rural and urban women in the studied sample 52.2% , 47.8% of them respectively less education, while secondary and university education are 38.2% and 42.2% respectively and 37.8% of them are working. As regards obstetric history, almost of them has no previous pregnancies and they are gravid, a while 27.8% are 2nd gravid , 33.3% are 3rd gravid and 5.6% are 4th gravid. The percentages of those in the 1st, 2nd and 3rd trimesters are 21.1%, 38.9% and 40.0% respectively.

Table (1): Characteristics of the Studied Women (n = 90) .

Characteristics	Items	No	%
Demographic characteristics			
Age (years)	< 20	7	7.8
	20 –	38	42.8
	30 –	34	37.8
	40 +	11	12.2
	Range: 18.0 – 45.0	Mean ± SD = 30.40 ± 7.26	
Residence	Rural	47	52.2
	Urban	43	47.8
Education	Illiterate	1	1.1
	Primary	8	8.9
	Preparatory	8	8.9
	Secondary	35	38.2
	University	38	42.2
Work	Working	34	37.8
	Not working	56	62.2
Obstetric characteristics			
No of Previous pregnancies	0	30	33.3
	1	25	27.8
	2	30	33.3
	3	5	5.6
Order of the current pregnancy	1	30	33.3
	2	25	27.8
	3	30	33.2
	4	5	5.6
Current Pregnancy period	1 st trimester	19	21.1
	2 nd trimester	35	38.9
	3 rd trimester	36	40.0

Table (2) shows the distribution of the pregnancy related problems and their relation to pregnancy duration. Suffering from nausea is recorded in 70.0% of the studied pregnant women and it is significantly higher in the 1st trimester 94.7% than 2nd 80.0% and 3rd trimesters 47.2%. Also, 45.6% of them are suffering from vomiting and it is significantly higher in the 1st trimester. Forty percent are suffering from headache, 73.3% from acidity, 62.2%

from drowsiness and 45.6% from heavy breasts with no significant difference by the period of pregnancy. Back pain is recorded in 73.3%, difficult breathing 50.0%, frequent urination 70.0% and constipation 40.0% with significant increase in the 3rd trimester than first and second ones. Muscle spasm (38.9%) and difficult sleeping 74.4% are significantly lower the 2nd than trimester than first and third ones. While leg varicosity 30.0% and increased vaginal discharge 64.4% are significantly increase in the 3rd trimester than 1st and 2nd ones.

Table (2) Distribution of Minor Discomforts Among Pregnant Women (n= 90).

Pregnancy related problems	Items	Total (90)		1 st trimester (19)		2 nd trimester (35)		3 rd trimester (36)		X2 p-value
		No	%	No	%	No	%	No	%	
Nausea	Yes	63	70.0	18	94.7	28	80.0	17	47.2	$\chi^2=16.097$ P 0.000
	No	27	30.0	1	5.3	7	20.0	19	52.8	
Vomiting	Yes	41	45.6	16	84.2	19	54.3	6	16.7	$\chi^2=24.635$ P 0.000
	No	49	54.4	3	15.8	16	45.7	30	83.3	
Headache	Yes	36	40.0	10	52.6	16	45.7	10	27.8	$\chi^2=3.980$ P 0.137
	No	54	60.0	9	47.4	19	54.3	26	72.2	
Acidity	Yes	66	73.3	13	68.4	26	74.3	27	75.0	$\chi^2=0.302$ P 0.860
	No	24	26.7	6	31.6	9	25.7	9	25.0	
Back pain	Yes	66	73.3	8	42.1	27	77.1	31	86.1	$\chi^2=12.740$ P 0.002
	No	24	26.7	11	57.9	8	22.9	5	13.9	
Drowsiness	Yes	56	62.2	14	73.7	17	48.6	25	69.4	$\chi^2=4.635$ P 0.099
	No	34	37.8	5	26.3	18	51.4	11	30.6	
Difficult breathing	Yes	45	50.0	5	26.3	17	48.6	23	63.9	$\chi^2=7.070$ P 0.029
	No	45	50.0	14	73.7	18	51.4	13	36.1	
Frequent urination	Yes	63	70.0	8	42.1	22	62.9	33	91.7	$\chi^2=15.938$ P 0.000
	No	27	30.0	11	57.9	13	37.1	3	8.3	
Constipation	Yes	36	40.0	3	15.8	13	37.1	20	55.6	$\chi^2=8.389$ P 0.015
	No	54	60.0	16	84.2	22	62.9	16	44.4	
Muscle spasm	Yes	35	38.9	2	10.5	19	54.3	14	38.9	$\chi^2=9.923$ P 0.007
	No	55	61.1	17	89.5	16	45.7	22	61.1	
Heavy breasts	Yes	41	45.6	6	31.6	15	42.9	20	55.6	$\chi^2=3.051$ P 0.218
	No	49	54.4	13	68.4	20	57.1	16	44.4	
Leg varicosity	Yes	27	30.0	2	10.5	11	31.4	14	38.9	$\chi^2=4.820$ P 0.090
	No	63	70.0	17	89.5	24	68.6	22	61.1	
Difficult sleeping	Yes	67	74.4	17	89.5	30	85.7	20	55.6	$\chi^2=11.344$ P 0.003
	No	23	25.6	2	10.5	5	14.3	16	44.4	
Increase vaginal discharge	Yes	58	64.4	3	15.8	21	60.0	34	94.4	$\chi^2=34.072$ P 0.000
	No	32	35.6	16	84.2	14	40.0	2	5.6	

Figure (1) show that the response of the studied women according to their suffering from pregnancy related problems. Most of the women consult doctors 91.1%, take rest 70.0% and take fluid and home material 63.3%.

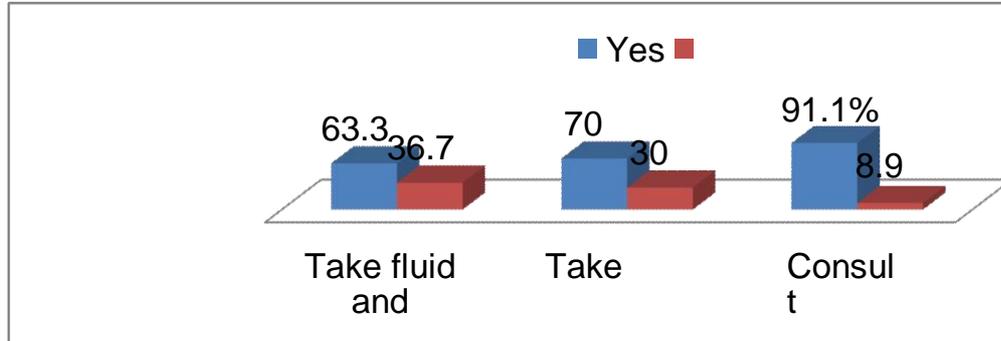


Table (3): Relationship between minor discomforts, demographic and visiting obstetric doctors

Character	Item	No	Visiting doctors				Significance test
			Yes (82)		No (8)		
			No	%	No	%	
Age group (years)	< 20	7	7	100.0	0	0.0	$\chi^2=2.229$ P= 0.526
	20 –	38	34	89.5	4	10.5	
	30 –	34	30	88.2	4	11.2	
	40 +	11	11	100.0	0	0.0	
Residence	Rural	47	43	91.5	4	8.5	$\chi^2=0.017$ P = 0.895
	Urban	43	39	90.7	4	9.3	
Education	Basic & less	17	13	76.5	4	23.5	$\chi^2=6.120$ P = 0.047
	Secondary	35	34	97.1	1	2.9	
	University	38	35	92.1	3	7.9	
Work	Working	34	31	91.2	3	8.8	$\chi^2=0.000$
	Not working	56	51	91.1	5	8.9	
Previous pregnancies	0	30	28	93.3	2	6.7	$\chi^2=1.427$ P = 0.699
	1	25	23	92.0	2	8.0	
	2	30	26	86.7	4	13.3	
	3	5	5	100.0	0	0.0	
Current pregnancy period	1 st trimester	19	18	94.7	1	5.3	$\chi^2=2.061$ P = 0.357
	2 nd trimester	35	30	85.7	5	14.3	
	3 rd trimester	36	34	94.4	2	5.6	

Table (3) shows the relationship between demographic, characteristic of the studied women and visiting doctors. No statistically significant differences of percentage visiting obstetric doctors in relation to age, residence, working, history of previous pregnancies and period of current pregnancy. However, the percentage of visiting doctors is significantly higher among secondary 97.1% and university educated 92.1% than those less educated 76.5% . work in relation to more than more than three fifth of the pregnant ladies not working .Also, the current study results revealed that one third of the mother were no previous pregnancy.

Discussion:

Concerning demographic characteristics the current study findings indicated that for more than two thirds ,their age was for more than thirds age was in the age group from 20-< 30, with a mean age of 30.40 ± 7.26 years. As for residence, rural women under study represented more than half .Regarding their level of education ,the highest percentages representing less than two fifths were secondary education and more than two fifths were university graduates. As regards work of obstetric women, more than there fifths are not working. Considering minor discomforts among the studied pregnant women as nausea this study finding recoded the highest percentage in the first trimester representing most of them ,followed by the second trimester accounting for the majority and the least in the third trimester in less than half of them .As for vomiting , the highest percentage of the pregnant women complained from vomiting especially in the first trimester . Headache as another minor discomfort

detected in this study was reported by two fifths of the pregnant women. This finding is consistent with that of Rosy (2007) who mentioned headache as of the causes that affected pregnant women. As regards constipation this study revealed that forty percent of the women is significant and increased in the third trimester than first & second trimester this is consistent with (Jewell and Young, (2010) motioned that constipation is a common problem in the late pregnancy due to circulating of progesterone which may be a causes of slower gastrointestinal movement in later of pregnancy.

Concerning varicose vein and leg edema, results of the present study revealed that near one third of pregnant women are affected from varicose vain and leg edema this is an accordance with (Magillcuerden,2011) mentioned that forty 40.0%) of the pregnant women affected from varicosese vein and leg edema.Concerning frequency of urination ,the current study finding indicated that, less than three fourths which increased in the third trimester to reach most of the women who referred frequency of to be urination due to pressure enlargement on the uterus. This finding is in accordance with Klossner and Hatfied, (2010) who mentioned the same cause of frequency of urination during pregnancy .

Regarding difficult of breathing results of present study revealed that half of the pregnant women complains from difficult of breathing which increased to be less than two third in the third trimester of pregnancy. This a is result from pressure of the uterus pushing upward on the diaphragm. . This finding is consistent with that Calzolan and Dalgeish mentioned as cause of Dyspnea.

Concerning back pain, the present study result revealed that less than three fourths of the women were suffering from back pain. This finding is consistent with that of Pennick and Young , (2007) who mentioned that more than two –thirds of pregnant women were suffering from back pain.

Regarding heart burn the finding of present study indicated that less than three fourth in the study affected from heart burn this is consistent with (Archer , 2006) said to heart burn increase from 22% in the first trimester to 39% in second trimester and its increased from 60 to 70% in the third trimester

.Concerning vaginal discharge (Leycorrhea), the finding of present study indicated that less than two third of the mothers complain from vaginal discharge and significantly increase in the third trimester than first and second trimester this is in accordance with Puirman et al, (2010 mentioned that vaginal discharge is increasing in the late of pregnancy

Concerning difficult of sleeping (Insomnia) , the current study result revealed that less than three fourths of the pregnant women were suffering from difficulty of sleeping due to physical discomforts, stress, nocturia or caffeine intake . This finding is consistent with (Orshan,(2008) who mentioned this cause and insomnia that occurs and increases in the third trimester . While, regarding muscle spasm , and highest in the second trimester than first and third trimesters .

Regarding distribution of the studied women according to their responses to pregnancy related problems,

the findings of the present study indicated that most of the women consult the doctor , less than three fourths take rest, fluid and home materials were taken by less than two thirds & table 3 statistically .

Concerning the relationship between the characteristics of the studied ladies and visiting doctors insignificant difference of were found for doctor in relation to residence, work , history of previous pregnancies, and the current pregnancy period . On the other hand , the majority of the women visiting the doctor were significantly higher and mostly university educated than those were less education representing more than three quarters of the study sample (table3) .

In Egyptian cultures there are harmless and harmful traditions and beliefs used by pregnant women to relieve common minor discomforts during pregnancy.

Conclusion

Based on the findings of the current study, it can be concluded that the majority of the pregnant women complain from minor discomforts during pregnancy period, these were, vaginal discharge, frequency of urination ,backache, nausea ,heart burn ,drowsiness, difficult of breathing , constipation heavy breast and muscle spasm.

Recommendations

In service training to all nurses and health care provides at maternal health services to update their knowledge, ,increase their ability to care for pregnant mothers with minor discomforts and instruct them to avoid their unhealthy lifestyle behaviors.

References

- Amasha, H., & Heeba, M. (2013) : Maternal awareness of pregnancy normal and abnormal signs : Exploratory Descriptive study , Department of Obstetric and Gynecological Nursing, Faculty of Nursing , Port Said University, Egypt. IOS Journal of Nursing and Health Sciences (IOSR-JNHS) 2(5Nov. De) : 39-45 available at www.iosejournals.org.
- Archer,C. (2006): How to achieve a healthy pregnancy. Retrieved at <http://ezinearticles.com/?How-to-Achieve-A-Healthy-pregnancy&id=365130>
- Bamigbye, A.A.& Hofmeyr, GJ. (2006): Intervention for leg edema and varicosities in pregnancy .What evidence? Eur J Obstet Gynecol Reprod Biol. Nov./29 (1): 3-8. Available at <http://www.ncbi.gov/ubmed/16678328>.
- Calzolan, A., & Dalgeish, D. (2014): Anatomical and physiological change in pregnancy. Relevant to Anesthesia, World Anesthesia Tutorial of the Week, www.anesthesial.com.uk/worldanesthesia
- Fser, D.& Cooper, M. (2003) :Myles: Text book for midwives, 14th ed. ,Churchill livingstone:London, pp. 13, 216-219.
- Htesly,J. & McClurej, (2003): Leg cramps and restless legs syndrome during pregnancy. Journal of Midwives & Women Health, 54(3):211-218.
- Isbir, G., & Mete, S. (2010): Nursing care of nausea and vomiting in Pregnancy. .Roy Adaptation Model, ,Nursing Science Quarterly; 23(2) :148 - 155.
- Jewell, D.,(2002):Nausea and vomiting in early pregnancy .Clin Evid 7:1277-83.
- 9-Jewell D.& Young G.((2000): Intervention for treating constipation in pregnancy . Clin Evid, 7 :1277-83 .
- Jewell, D.J. Young, G. (2001): Intervention for treating constipation in pregnancy. Cochrane Database Syst Rev CD001142,<http://www.ncbi.nlm.gov/pubmed/11405974>.
- Klossner, J., & Hatfield, N. (2010): Introductory maternity & pediatric nursing .2 nd ed. pp145-151. Wolters Kluwer Lippincott Williams & Wilkin Philadelphia London .
- Lowdermilk, D. & Perry, T. (2007): Maternity & women health care, 9th ed. Mosby Company ,China, pp380,381 .
- Lowdermilk, D. Berry,S. Cashion K. (2010): Maternity nursing 10th ed. Anatomy and physiology of pregnancy ,Mosby Elsevier: Philadelphia pp.190,273 .
- Nancy, J. Karen, B. Megan, Philpottes, P. & david, I. (2009): A nurse & Drivid quality improvement program to improve prenatal outcomes. Journal of prenatal & Neonatal Nursing : July/September, 24(1) :250.
- Ngenda G., Langer, A., Kunchaisit , C., Romero,M., Rojas, G., Al-Osimy, M .,et al. (2003) :Womens ' opinions on antenatal in Brazilian Southeast : a clinical qualitative study in cuba, Thailand Saudi Arabia and Argentina , BMC. Public Health .3(1):17.
- Orshan S. (2008) :Maternity ,Newborn & Women's Health Nursing ,

- 1st ed., Chapter 13: High risk pregnancy ,Pp,476-480 ,Lippincott Wiliams&Wilkin,NewYork.
- Pennick, V.E.& Young G.(2007) : Intervention for preventing and Young treating pelvic Cochrane Database Sys Rev , Apr. ,(2):CDOO1139.Available at :<http://www.ncbi.nih.gov/pumcd/1744503> .
 - Rice.,R. (2006) : Home care nursing practice: Concept and application 4 th ed. mosby Elsevier philadelphia.
 - Rosy, M (2010). A study to Assess the knowledge and practice regarding minor disorders of pregnancy and incidence among the mothers who attend OPD In selected hospitals,,Rajiv Gandhi University of health Sciences Bangalore , Karnataka, ,A.E & C.S Pavan College of Nursing , Kolar .
 - Quinla, J D. Hill DA.,(2003):Nausea and vomiting of pregnancy. .Am Fam Physican:68:121.
 - Smith, S.A. Michel Y., (2006): A pilot study on the effect of aquatic exerises on discomforts of pregnancy .J Obstet. Gynecol Nurses, ;35: 315-323.