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Assessment of pregnant women knowledge about iron deficiency anemia at obstetrics and gynecology hospital in Holly Karbala Governorate

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Abstract---Anemia which is associated with poor maternal and perinatal outcome, is the most common medical disorder and a risk factor in pregnancy causing 20-40% of maternal deaths directly or indirectly through cardiac failure, preeclampsia, antepartum hemorrhage, postpartum hemorrhage and puerperal sepsis. The study was aimed to assess knowledge of pregnant women about iron deficiency anemia at obstetrics and gynecology hospital in Karbala city and to find out the associations between Knowledge Levels and their Socio-Demographic and clinical Data. An accidental sample (N= 85) of pregnant women who attended the obstetrics and gynecology hospital

in Karbala city for receiving antenatal care was included in the study. The questionnaire utilized in data collection include; socio-demographic and clinical data, obstetric and health history and knowledge assessment, to assess the Knowledge of pregnant women regarding to Iron deficiency anemia. The findings indicated that the level of knowledge was moderate among pregnant women. The majority of participants (49.4%) have a High Knowledge and minority of them (24.7%) were of Poor Knowledge and 25.9% had fair Knowledge .The study concludes that the majority of pregnant women in Karbala city have moderate knowledge regarding iron deficiency anemia.

Keywords---pregnant women, obstetrics and gynecology, anemia.

Introduction

IDA is a frequent condition during pregnancy. The global prevalence of anemia in pregnancy is estimated to be approximately 41.8%; nevertheless, the percentage of iron deficiency without anemia is unknown. The overall iron requirement during pregnancy is significantly higher than in the no pregnant state, despite the temporary respite from iron losses incurred during menstruation [1,5,6]. This is due to an exponential increase of iron needs to expand the plasma volume, produce a greater quantity of red blood cells, support the growth of fetal-placental unit, and compensate for iron loss at delivery [2, 3]. IDA in pregnancy, if not diagnosed and treated, can have a significant impact on maternal and fetal health [4]. Pregnant women who suffer from anemia face a global public health issue that contributes to high rates of maternal death, morbidity, and low birth weight. Anemia affects around two billion people worldwide, and iron deficiency is thought to be the cause of about half of all cases of anemia [9]. According to estimates, 38% of pregnant women globally are anemic, with Africa and South East Asia having the highest percentages (62.3 and 53.8, respectively). The World Health Organization (WHO) research states that anaemia is directly responsible for 3.7% of maternal mortality in Africa. Prevalence of anemia in pregnant women is reported to be 29% in Ethiopia, which is a significant public health issue. The prevalence of anemia among pregnant women in Ethiopia, according to several research, ranged from 20 to 60% [10,7]. The most often used method to treat iron deficiency anemia, both internationally and domestically, is iron supplementation. Current recommendations from the World Health Organization and national guidelines for treating anemia during pregnancy include dietary diversity improvements, food fortification with iron, folic acid, and other micronutrients, daily iron and folic acid supplements for all pregnant women, and infection control. 58% of pregnant women in Ethiopia did not take any iron-folic acid pills throughout their most recent pregnancy, compared to just 5% of pregnant women nationwide who took IFAS for more than 90 days. An iron deficiency anemia in pregnant women can be reduced by 50%, according to a research on the significance of taking iron and folic acid supplements before conception [11,8]. Due to poverty, grand multiparity, premature pregnancies, pregnancies spaced by more than a year, poor socioeconomic position, illiteracy, and late booking of pregnant women at prenatal care facilities, pregnant women in underdeveloped

countries are at risk of anemia [12]. If the mother's understanding of the causes and methods for preventing anemia is enhanced, many of these risk factors can be reduced. Despite the fact that anemia has been recognized as a major issue for global public health for a number of years, little improvement has been seen, and both the global and local incidence of the condition remains high [13].

Methods

Study Design: Cross-sectional quantitative descriptive study design.

Sample and Sampling: Non-randomized accidental approach used through interview method via the questionnaire which designed for the data of 85 pregnant women gathered during the study period.

Study Setting: The study was conducted at obstetrics and gynecology hospital in Holley Karbala governorate.

Number of Study Sample: The researcher determined the study sample size using the power analysis approach (Cohen's method). This method is applicable due to the variables that comprise it, which take into account things like significance level, power (strength), and size of effect. Power or strength is critical in determining the appropriate size of the study's sample for correlational or descriptive studies. Power can be defined as its capacity to identify links between dependent and independent variables. For nursing studies, the least acceptable power level is around 80 percent. According to the Pearson & Grove paper in 2013 Big, moderate, and small effect sizes were computed using three alternative thresholds: 0.10 for large effects, 0.30 for moderate effects, and 0.50 for minor effects. Alpha (α) was set at 0.05 for this investigation, which means that with infinite sampling, an erroneous answer has a 5% or less chance of being accepted. Thus, according to the subsequent criteria ($\alpha=0.05$, effect size=0.30, and power=0.80), a suitable size for sample ($n = 85$) required to conduct the current study. So, the researchers included 85 participants in this study. After completing the approval application forms, the scientific committee at the University of Warith Al-Anbyaa/ college of nursing council granted ethical approval. The formal ethical application forms contain restrictive regulations to safeguard the participants' safety and anonymity. The researcher visited the study setting and during initial meeting with the participant, the researcher obtained written consent from patients to be included in the sample, because ethical consideration is a critical aspect of nursing research; the purpose of ethical consideration is to protect both the researcher and the people involved. The current study's data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 22. These data are evaluated using two statistical methodologies that may aid in determining the outcomes. Among these methods are the following: The statistical data analysis technique entails the following measurements: Tables Frequencies and percentages = frequencies multiplied by 100/Sample size. Tables summarizing statistics, including (Mean of Score (M.S). Standard Deviation (S.D.): When interval or ratio data are gathered, the standard deviation is utilized to determine the variability. This statistic reflects the degree to which values deviate from the distribution's mean and Inferential statistics,

which is based on probability concepts, allows researchers to draw inferences about population parameters based on data from a sample (19_27).

Results

1. Socio-Demographic Characteristics of Pregnant Woman's

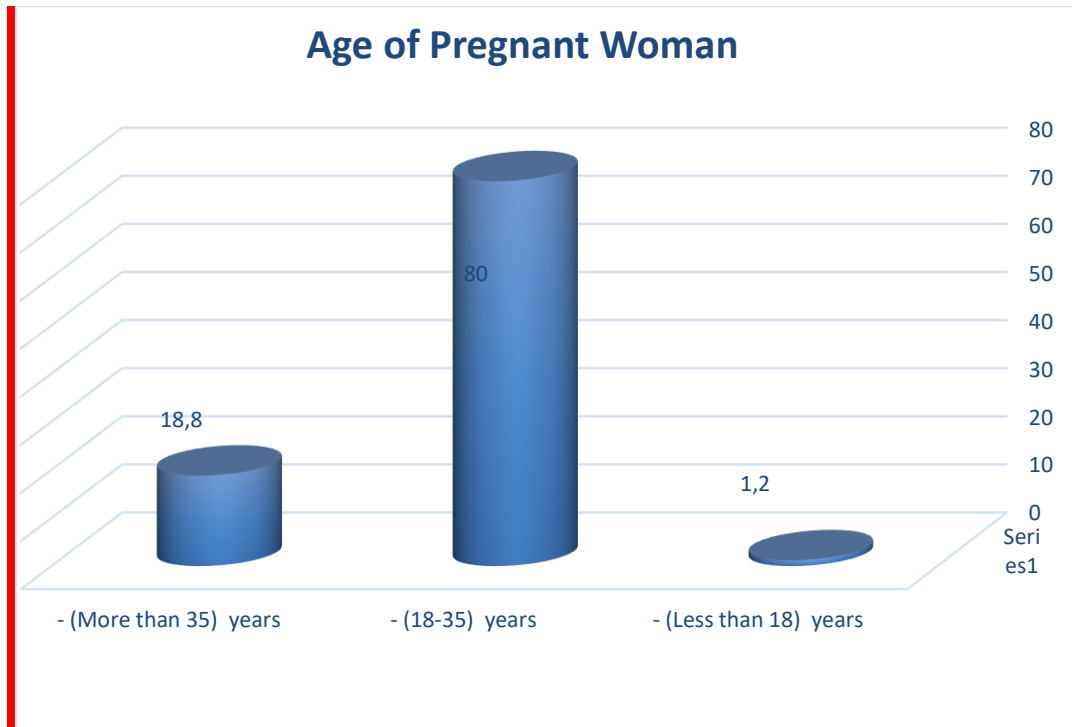


Figure (1) Distribution of age of Pregnant Women's

This figure showed that the majority of age of Pregnant Women's (80 %) was (18-35) years and the minority (1.2 %) of them have less than 18 years.

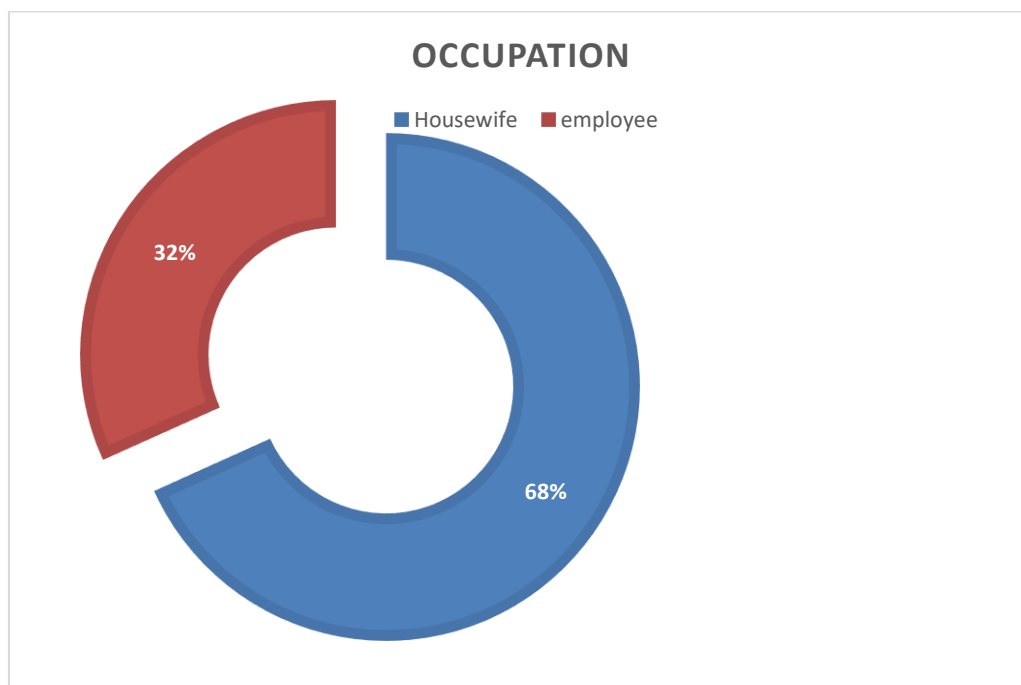


Figure (2) Distribution of the Pregnant Women occupation

This figure showed that the majority of the work of Pregnant Women's (68 %) was housewife and the minority (32 %) of them were employee.

Table (1) Distribution of the Pregnant Woman's by their Socio-Demographic Characteristics through Frequency and Percentage

No.	Variables	Groups	(n = 85)	
			F.	%
1.	Age	- (Less than 18) years	1	1.2
		- (18-35) years	68	80.0
		- (More than 35) years	16	18.8
		Total	85	100
2.	Place of residence	Urban	74	87.1
		Rural	11	12.9
		Total	85	100
3.	Education Level	does not read and write	4	4.7
		Reads and writes	4	4.7
		Primary school	23	27.1
		Middle school	13	15.3
		Secondary school	8	9.4
		College and above	33	38.8
		Total	85	100
4.	Occupation	Housewife	58	68.2
		employee	27	31.8
		Total	85	100

5.	Family monthly income	enough	36	42.4
		not enough	14	16.5
		Somewhat enough	35	41.2
		Total	85	100.0

This table shows that the majority of the study sample (80 %) concerning the age of pregnant woman are (18-35) years. In addition, the major group of the place of residence (87.1%) is from City. Regarding the subjects' levels of education the results show that the majority of the study sample (38.8%) is college and above. The above table also shows, that the majority of the participants occupation (68.2%) are house wife. Regarding the family monthly income, the majority of the study sample (42.4%) are enough.

Table (2) Distribution of the Pregnant Woman's by their Clinical Characteristics through Frequency and Percentage

No.	Variables	Groups	(n = 85)	
			F.	%
1.	Age at marriage	- (Less than 18) years	27	31.8
		- (18-35) years	58	68.2
		Total	85	100.0
2.	Age at first pregnancy	- (Less than 18) years	9	10.6
		- (18-35) years	74	87.1
		- (More than 35) years	2	2.4
		Total	85	100.0
3.	Pregnancy number	< 3 or = 3	49	57.6
		(4-6)	28	32.9
		(7 & More)	8	9.4
		Total	85	100.0
4.	Number of Birth	< 3 or = 3	85	100.0
5.	Number of Miscarriages	No Miscarriages	45	52.9
		< 3 or = 3	38	44.7
		(7 & More)	2	2.4
		Total	85	100.0
6.	number of children born alive	No Born	3	3.5
		< 3 or = 3	62	72.9
		(4 & 6)	20	23.5
		Total	85	100.0
7.	Do you suffer from chronic health problems during the current pregnancy?	yes	19	22.4
		no	66	77.6
		Total	85	100.0
8.	if the answer was yes	diabetes	7	8.2
		blood pressure	8	9.4
		respiratory diseases	4	4.7
		Other	3	3.5
		There are no diseases	63	74.1
		Total	85	100.0

9.	The number of visits to the Maternal and Child Care Center during the current pregnancy	- No visit	17	20.0
		- (1-3) visit	40	47.1
		- (4 or More) visit	28	32.9
		Total	85	100.0

The table shows that the Age at marriage majority of the study sample (68.2%) are (18-35) years and the minority of them (31.8%) was (Less than 18) years. In addition the Age at first pregnancy (87.1) was (18-35) years and the majority of Pregnancy number (57.6) was < 3 or = 3. Regarding the Number of Miscarriages (52.9) was no Miscarriages and the number of visits to the Maternal and Child Care Center (47.1) was (1-3) visit.

Table (3): Statistical Distribution of Overall Pregnant Women's Knowledge

Overall items	Ratings	(N = 85)		M.	S.D.	Assessment
		Frequenc y	Perce nt			
Level of knowledge	Good Knowledge	42	49.4	1.75	0.830	Moderate
	Fair Knowledge	22	25.9			
	Poor Knowledge	21	24.7			

M.S: Mean of score (2), cut off point = (0.66), mild (1-1.66), Moderate (1.67-2.33), severe (2.34-3).

Table (3) shows that the pregnant responses to knowledge Items is at moderate level. This table reveals that the majority of participants (49.4%) have a High Knowledge and minority of them (24.7%) were of Poor Knowledge through the total scores.

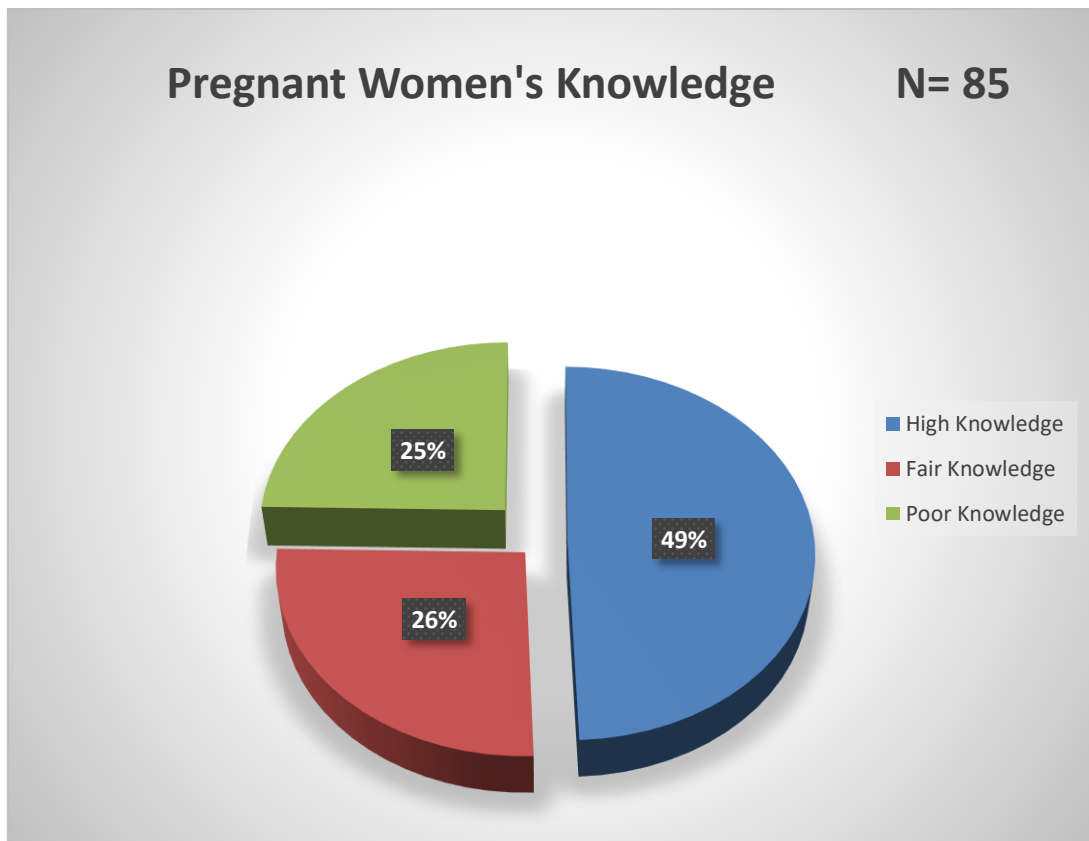


Figure (3) Distribution of Pregnant Women's According to Knowledge level

This figure showed that the majority of Knowledge level (49.4 %) was High Knowledge and the minority (24.7 %) of them have poor Knowledge.

Table (4): Relationship between the overall Knowledge of pregnant and their Socio-Demographic and clinical Data

N.	Demographic & Clinical Data	Chi-Square Value	df	p-value
1.	Residence	5.482 ^a	2	0.065 N.S.
2.	Age	3.484 ^a	4	0.480 N.S.
3.	Level of Education	48.176 ^a	10	0.000 H.S.
4.	The occupation	10.492 ^a	2	0.005 H.S.
5.	Family monthly income	18.721 ^a	4	0.001 H.S.
6.	Age at marriage	11.900 ^a	2	0.003 H.S.

7.	Age at first pregnancy	24.287 ^a	4	0.000 H.S.
8.	Pregnancy number	10.739 ^a	4	0.030 S.
9.	Number of Birth	0	---	---
10.	Number of Miscarriages	10.488 ^a	4	0.033 S.
11.	Number of children born alive	7.610 ^a	4	0.107 N.S.
12.	Do you suffer from chronic health problems during the current pregnancy?	4.575 ^a	2	0.102 N.S.
13.	If the answer was yes (suffer from chronic health problems)	11.103 ^a	8	0.196 N.S.
14.	The number of visits to the Maternal and Child Care Center during the current pregnancy	7.542 ^a	4	0.110 N.S.

NS: Non-Significant at $P > 0.05$, S: Significant at $P < 0.05$, HS: high significant at p-value less than 0.01.

Table (4) shows that there is a high significance between Knowledge of pregnant women and their Level of Education, occupation, Family monthly income, Age at marriage, and Age at first pregnancy at p-value < 0.01 , and significance in relation with Pregnancy number and Number of Miscarriages at p-value < 0.05 . While there is a non-significant relationship with the remaining variables.

Discussion

The study showed that the majority of age of Pregnant Women's (80 %) was (18-35) years and the minority (1.2 %) of them has less than 18 years. The study showed that the majority of Pregnant Women's occupation (68 %) was a housewife and the minority (32 %) of them were employed. The study showed that the majority of the study sample (80 %) Concerning the age of the pregnant woman are (18-35) years. In addition, the Major group of participants regarding residency (87.1%) is from urban.

Regarding the Subjects' levels of education, the results show that the majority of the study Sample (38.8%) is college and above. Regarding the family monthly income, the majority of the study Sample (42.4%) are enough the study showed in concerning Age at marriage majority of the study sample (68.2%) are (18-35) years and the minority of them (31.8%) was (Less than 18) years. In addition, the Age at first pregnancy (87.1) was (18-35) years and the majority of Pregnancy number (57.6) was < 3 or $= 3$.

Regarding the number of miscarriages (52.9) were without Miscarriages and the number of visits to the Maternal and Child Care Center (47.1) was (1-3) visit. The study findings shows the level of knowledge among pregnant women. Findings indicates that the level of knowledge was Moderate among pregnant women in the present study sample. The study showed that the pregnant responses to knowledge items which affect the pregnancy is at moderate level.

The study showed that the majority of participants (49.4%) were of High Knowledge and minority of them (24.7%) were of poor knowledge through the total scores. Concerning the relationship between the overall Knowledge of pregnant women and their Maternal Socio-Demographic and clinical Data the study showed that there is a high significance relationship between Knowledge of pregnant and Level of Education, occupation, Family monthly Income, Age at marriage, and Age at first pregnancy, and Significance in relation with Pregnancy number and Number of Miscarriages. While there is a non-significant relationship with the remaining variables.

In 2022 a study conducted concerning with Knowledge on anaemia and benefit of iron-folic acid supplementation among pregnant mothers attending antenatal care in Woldia town, Northeastern Ethiopia. Its findings shows that the majority of the study respondents have good level of knowledge about iron deficiency anemia. Also the study illustrate that there is a significant relationship between pregnant women knowledge and their level of education. This study findings are in consistent with the current study findings. This agreement comes because it is a fact that knowledge comes from education and progress in the academic stages [14].

Another study which conducted in Baghdad in 2022 regarding Knowledge about Anemia in Pregnancy among Females Attending Primary Health Care Centers, the study findings indicates that overall knowledge score of the participants about anemia in pregnancy showed that 60% had fair knowledge. There were statistically significant associations between knowledge score and age of females, educational level, occupation, and parity. This study also is in agreement with the current study findings. All of these demographic and clinical characteristics pushes participants knowledge forward [15].

Conclusions

According to the study findings the study concludes that: Pregnant women in Holly Karbala have moderate knowledge concerning iron deficiency anemia, Higher levels of education push pregnant women's knowledge about iron deficiency anemia forward and Pregnant women's knowledge about iron deficiency anemia affected by their occupation, monthly income, age at marriage, age at first pregnancy, pregnancy number, and finally by number of miscarriage.

References

1. Al-Sattam, Z., Hassan, S., Majeed, B., & Al-Attar, Z. (2022). Knowledge about Anemia in Pregnancy among Females Attending Primary Health Care Centers in Baghdad. *Open Access Macedonian Journal of Medical Sciences*, 10(B), 785-792.
2. Annamraju, H., & Pavord, S. (2016). Anaemia in pregnancy. *British Journal of Hospital Medicine*, 77(10), 584-588.
3. Api, O., Breyman, C., Çetiner, M., Demir, C., & Ecdar, T. (2015). Diagnosis and treatment of iron deficiency anemia during pregnancy and the

- postpartum period: Iron deficiency anemia working group consensus report. *Turkish journal of obstetrics and gynecology*, 12(3), 173.
4. Bizuneh, A. D., & Azeze, G. G. (2022). Knowledge on anaemia and benefit of iron-folic acid supplementation among pregnant mothers attending antenatal care in Woldia town, Northeastern Ethiopia: a facility-based cross-sectional study. *Journal of Health, Population and Nutrition*, 41(1), 1-8.
 5. Blumfield, M. L., Hure, A. J., Macdonald-Wicks, L., Smith, R., & Collins, C. E. (2013). A systematic review and meta-analysis of micronutrient intakes during pregnancy in developed countries. *Nutrition reviews*, 71(2), 118-132.
 6. Bothwell, T. H. (2000). Iron requirements in pregnancy and strategies to meet them. *The American journal of clinical nutrition*, 72(1), 257S-264S.
 7. Breyman, C. (2015, October). Iron deficiency anemia in pregnancy. In *Seminars in hematology* (Vol. 52, No. 4, pp. 339-347). WB Saunders.
 8. Getahun W, Belachew T, Wolide AD. Burden and associated factors of anaemia among pregnant women attending antenatal care in southern Ethiopia: cross-sectional study. *BMC Res Notes*. 2017;10(1):276.
 9. Goonewardene, M., Shehata, M., & Hamad, A. (2012). Anaemia in pregnancy. *Best practice & research Clinical obstetrics & gynaecology*, 26(1), 3-24.
 10. Jufar AH, Zewde T. Prevalence of anaemia among pregnant women attending antenatal care at Tikur Anbessa Specialized Hospital, Addis Ababa Ethiopia. *J Hematol Thromboemb Diseases*. 2014;2(1):2329-8790.
 11. Keneni B, Jayanthigopal DB. Assessment of knowledge and practice towards prevention of anaemia among pregnant women attending antenatal care at Government Hospitals in West Shoa Zone, Ethiopia. *J Health Med Nurs*. 2018;50:2422-8419.
 12. Lopez, A., Cacoub, P., Macdougall, I. C., & Peyrin-Biroulet, L. (2016). Iron deficiency anaemia. *The Lancet*, 387(10021), 907-916.
 13. Parisi, F., Berti, C., Mandò, C., Martinelli, A., Mazzali, C., & Cetin, I. (2017). Effects of different regimens of iron prophylaxis on maternal iron status and pregnancy outcome: a randomized control trial. *The Journal of Maternal-Fetal & Neonatal Medicine*, 30(15), 1787-1792.
 14. Rahmati S, Delpisheh A, Parizad N, Sayehmiri K. Maternal anaemia and pregnancy outcomes: a systematic review and meta-analysis. *Int J Pediatr*. 2016;4(8):3323-42.
 15. Santi, L. K. S., Sudewi, A. A. R., Duarsa, D. P., & Lesmana, C. B. J. (2021). The effect of pregnancy massage on level of depression, anxiety and stress in pregnant women. *International Journal of Health & Medical Sciences*, 4(2), 220-225. <https://doi.org/10.31295/ijhms.v4n2.1692>
 16. Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Get vaccinated when it is your turn and follow the local guidelines. *International Journal of Health Sciences*, 5(3), x-xv. <https://doi.org/10.53730/ijhs.v5n3.2938>
 17. WHO. Iron Deficiency Anaemia: Assessment, Prevention, and Control. A guide for programme managers, Geneva: World Health Organization. 114 p; http://apps.who.int/iris/bitstream/10665/66914/1/WHO_NHD_01.3.pdf. accessed October/2017. 2001.