

Preventive Behaviour of Anaemia Among Pregnant Women

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Abstract

Background: Anemia are the high incidence in underdeveloped countries which increases maternal morbidity and mortality and perinatal mortality. All pregnant women are at risk for becoming anemic. That's because they need more attention regarding prevention of anemia than usual. Therefore, the study aimed to assess pregnant women preventive behaviour towards anaemia and identify the associated factors. **Methods:** On a sample of 250 pregnant patients at Holy Kerbela's Obstetrics and Gynecology Teaching Hospital, a descriptive correlational analysis was done. A pilot study was conducted to establish the questionnaire's dependability before it was presented to experts for validation. Interviewing techniques were used to gather the data, which was then analyzed utilizing a descriptive and inferential statistical data analysis strategy approach. **Results:** The mean age 26 (± 7.13), (31.6%) were secondary school graduated, housewife with enough income and used health care providers as a source of information about anaemia prevention. Results of the study indicated that (56.4%) of the pregnant women exhibited poor preventive behaviour. There were significant differences in preventive behaviour with regard pregnant age ($p=0.001$), education level ($p=0.001$), monthly income ($p=0.002$) and sources of information ($p=0.010$). **Conclusions:** Holding training courses and seminars through health directorates and social media that actually help develop the preventive behavior of anemia in pregnant women, taking into consideration the young age groups and those with low incomes. Pregnant women and their families should get a manual handbook on anemia prevention and management that is written in plain language and attractively illustrated.

Keywords: Preventive Behaviour, Anaemia, Pregnant Women.

1. Introduction

A disease known as anemia occurs when there are not enough red blood cells (RBCs) to support the body's physiological requirements. A person's specific physiological requirements change according on their age, gender, altitude, smoking habits, and stage of pregnancy [1]. World Health Organization (WHO) cut-off points for anemia vary by age, sex, and pregnancy status based on the level of hemoglobin (Hg). Anemia is a global public health issue that affects both developing and industrialized countries [2]. It happens at every stage of life but is more common in small children and pregnant women. Due to the increased blood volume that occurs during pregnancy and the significant iron requirements of both pregnancy and childbirth, the risk is higher. Human health, social progress, and economic growth are all negatively impacted by anemia [3]. It is linked to higher rates of morbidity and mortality in women and children, as well as poor birth outcomes such preterm birth, low birth weight, and perinatal mortality, as well as lower workforce productivity in adults [4]. Over the past three decades, there have been numerous attempts to combat anemia, but little improvement has been noted, and it remains a problem for public health. Anemia frequency among Ethiopian women aged 15 to 49 increased from 17% in 2011 to 24% in 2016. In their most recent pregnancy, only 5% of women took iron supplements for 90 days or more, while 6% of women took deworming drugs [5].

Another factor can be the underestimating of the significance of anemia-causing factors other than iron deficiency [6].

The most prevalent haematological condition, anemia, is to blame for 40–60% of maternal fatalities in underdeveloped nations. High incidence causes an increase in maternal and neonatal mortality as well as morbidity and death in less developed nations [7]. Anemia is a possibility for all pregnant women. That's because they require greater care than usual in the prevention of anemia. However, the risk is increased if a woman is carrying multiples, has had two pregnancies recently, has a lot of morning sickness, or is a teenager [8]. Lack of nutritional information and the ensuing poor use of this knowledge can lead to issues like malnutrition and non-contagious diseases, which is one of the most significant causes of nutritional problems. Worldwide, more than two billion people suffer from iron deficiency anemia. According to the World Health Organization, 58 percent of expectant mothers in underdeveloped nations are anemic. Anemia during pregnancy can be fully avoided, though, if you are aware of how to prevent it and use the right techniques [9]. Therefore, the present study aimed to assess preventive behaviour of anaemia among pregnant women in Karbala Province/ Iraq.

2. Methods

A descriptive cross-sectional study to investigate the preventive behaviour towards anaemia among pregnant women. Throughout the non-probability sampling method, a purposive sample of (250)

pregnant who attending Obstetrics and Gynecology Teaching Hospital in Holy Kerbela / Iraq.

Study instruments

The questionnaire is one of the means to help collect data that contribute to achieving the results expected by the study, so the researcher designed this questionnaire, which aims to clarify the study objectives and significance by obtaining answers to the study questions.

Section-1: This section composed of socio-demographic information which include women age, education level, occupation, income/month, residents, history of anaemia and sources of information.

Section-2: Preventive behaviour of anaemia constructed according to the previous literature and consist of 13-items measured on 3-point of Likert scale such as (1×Never, 2×Sometime and 3×Always).

Validity and Reliability

Validity was determined by a panel of 11 arbitrators who were asked to comment on each component of the study questionnaire in terms of language appropriateness, correlation with the dimension of study variables to which it was assigned, and suitability for the study population. Data was obtained from pregnant to assess the questionnaire's reliability, and the test was delivered to 20 people from the study population who were not part of the initial sample. The Cronbach's alpha was found to be 0.87.

Data Collection

The data collection through the used interview techniques. After obtaining the approval of the Karbala Health Directorate and verifying the validity and reliability of the questionnaire. The researcher

interviewed study participants (Pregnant), explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The interview techniques was used on individual bases, and each interview took (15-20) minutes after taking the important steps that must be included in the study design.

3. Method of Statistic

A SPSS-24 were used analyzed the information was evenly distributed. For continuous variables, descriptive data is reported as mean standard deviation, and for categorical variables, it is shown as number (percent). Analysis of variance (ANOVA) and t-test to determine the differences in study variables. Statistical significance was defined as a p 0.05.

4. Results

Findings about participant ages show that the average age is 26 (± 7.13), with the biggest percentage of participants being in their 20s and 30s (44.4 percent). Regarding education, the majority of participants had completed secondary school (31.6 percent). When it came to occupation, housewives predominated (73.6 percent). In terms of monthly income, half of the study's sample had a modest income (51.2 percent). Findings relating to family types showed that most families were extended (51.6 percent). In terms of history of anemia, more than half of the study sample had a history of anemia, with urban inhabitants having the highest percentage (78%) on record. Pregnant women use health care providers to obtain information on anemia prevention, according to research-related data.

Table (1): Socio-Demographic Characteristics

SDVs	Classification	Freq.	%
Age/years (M \pm SD= 26 \pm 7.13)	<20years old	51	20.4
	20-29years old	111	44.4
	30-39years old	65	26.0
	\geq 40 years old	23	9.2
Education Level	Unable to read and write	38	15.2
	Read and write	55	22.0
	Secondary school	79	31.6
	Institute	53	21.2
	College and above	25	10.0
Occupation	Student	13	5.2
	Employed	53	21.2
	Housewife	184	73.6
Income/ month	Enough	70	28.0
	Somewhat Enough	128	51.2
	Not enough	52	20.8
Family Type	Nuclear	121	48.4
	Extended	129	51.6
Residents	Urban	195	78.0
	Rural	55	22.0
History of Anemia	Yes	182	72.8
	No	68	27.2
Sources of Information	Health Care Provides	137	54.8
	Internet	8	3.2
	Social Media	38	15.2
	Family & Friend	67	26.8

Preventive Behaviour	Freq.	%	M ± SD
Poor (M=13-21)	141	56.4	20.45±8.70
Moderate (M=22-30)	53	21.2	
Good (M=31-39)	56	22.4	
Total	250	100.0	

The results showed that the majority of pregnant women (56.4%) exhibited inadequate prevention behavior, as indicated by the low average of 20.45 (±8.70).

Age groups	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	P-value
Preventive Behaviour	Between Groups	14.695	3	4.898	12.404	.001
	Within Groups	97.140	246	.395		
	Total	111.834	249			

Findings demonstrated that there were significant differences in preventive behaviour of anaemia with regards pregnant women age (p=0.001).

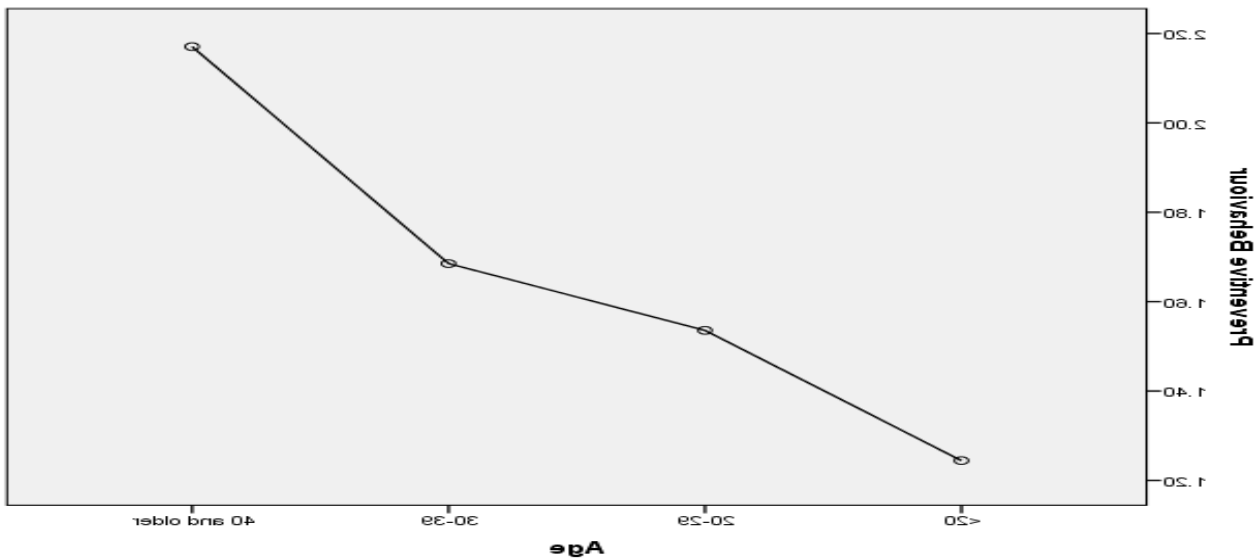


Figure 1. Distribution of Preventive Behaviour according to Age Groups

Education Level	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	P-value
Preventive Behaviour	Between Groups	18.571	4	4.643	12.196	.001
	Within Groups	93.264	245	.381		
	Total	111.834	249			

Findings demonstrated that there were significant differences in preventive behaviour of anaemia with regards pregnant women education level (p=0.001).

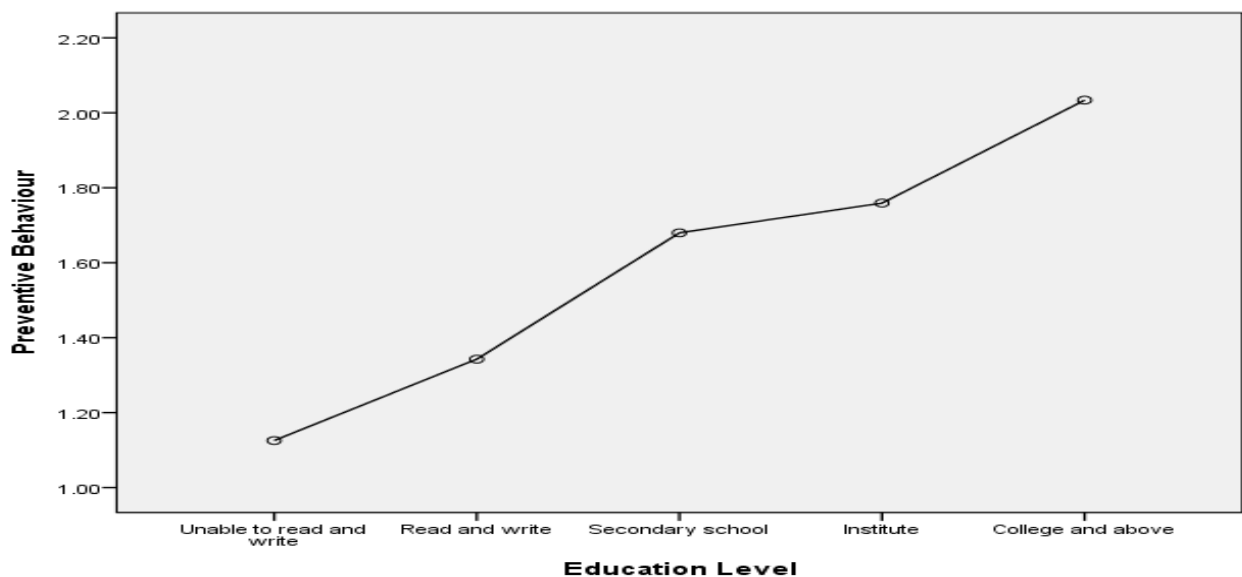


Figure 2. Distribution of Preventive Behaviour according to Education Level

Occupation	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	P-value
Preventive Behaviour	Between Groups	.198	2	.099	.219	.803
	Within Groups	111.636	247	.452		
	Total	111.834	249			

Findings demonstrated that there were no anaemia with regards pregnant women occupation significant differences in preventive behaviour of (p=0.803).

Income	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	P-value
Preventive Behaviour	Between Groups	9.342	2	4.671	11.256	.002
	Within Groups	102.493	247	.415		
	Total	111.834	249			

Findings demonstrated that there were significant differences in preventive behaviour of anaemia with regards pregnant women monthly income (p=0.002).

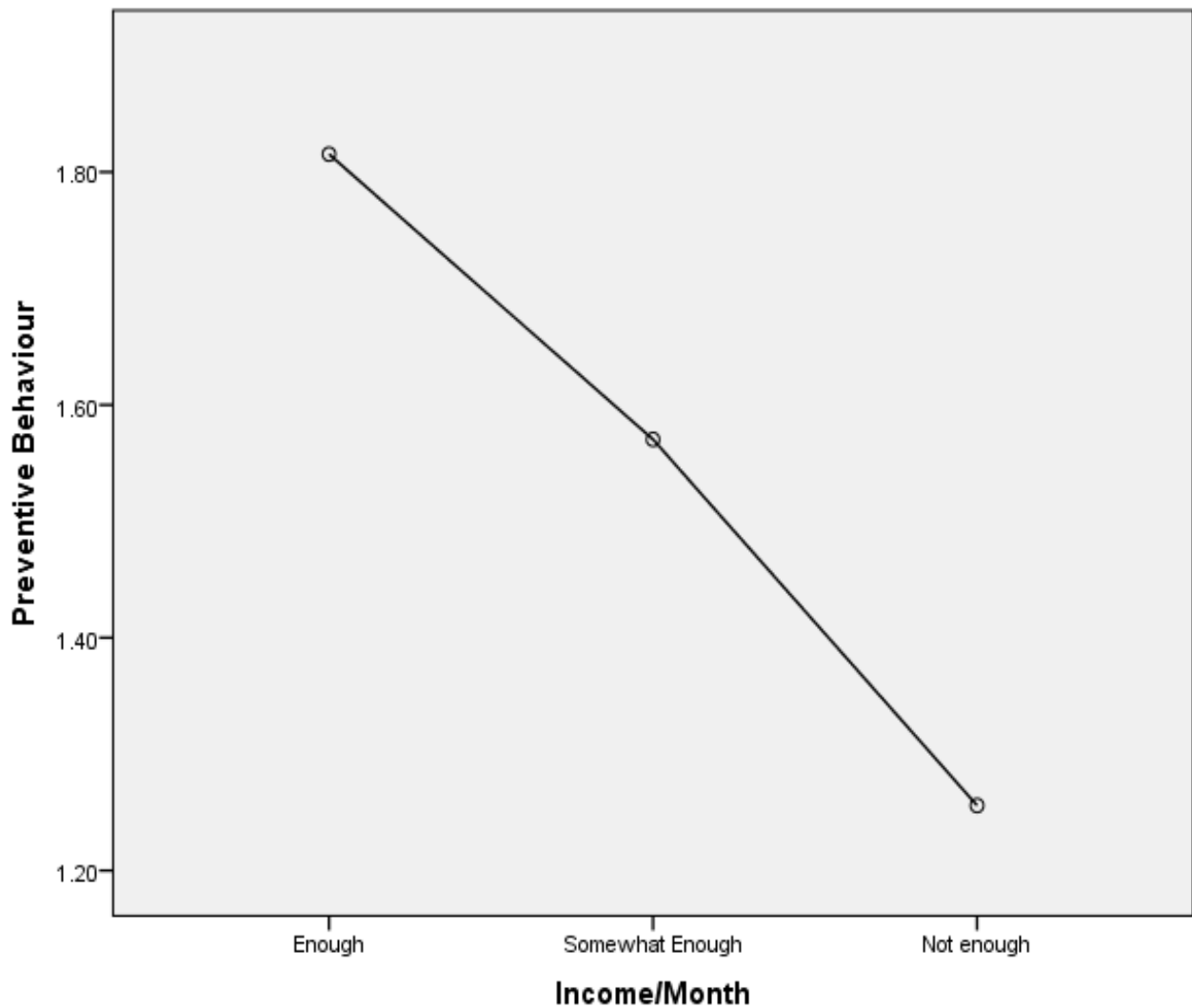


Figure 3. Distribution of Preventive Behaviour according to Monthly Income

Variables	Type	Mean	SD	t-value	d.f	P-value
Preventive Behaviour	Nuclear	1.5830	.68087	.215	248	.830
	Extended	1.5647	.66252			

Findings demonstrated that there were no anaemia with regards pregnant women type of family (p=0.830).

Variables	Residents	Mean	SD	t-value	d.f	P-value
Preventive Behaviour	Urban	1.5570	.66258	.734	248	.464
	Rural	1.6322	.69950			

Findings demonstrated that there were no significant differences in preventive behaviour of anaemia with regards pregnant women residents (p=0.464).

Table (9): Statistical Differences in Preventive Behaviour with regards Pregnant History of Anaemia

Variables	History	Mean	SD	t-value	d.f	P-value
Preventive Behaviour	Yes	1.5943	.66900	.822	248	.412
	No	1.5136	.66154			

Findings demonstrated that there were no significant differences in preventive behaviour of anaemia with regards pregnant women history of anaemia (p=0.412).

Table (10): Statistical Differences in Preventive Behaviour with regards Pregnant Sources of Information

Sources of Information	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	P-value
Preventive Behaviour	Between Groups	4.998	3	1.666	3.836	.010
	Within Groups	106.837	246	.434		
	Total	111.834	249			

Findings demonstrated that there were significant differences in preventive behaviour of anaemia with regards pregnant women sources of information (p=0.010).

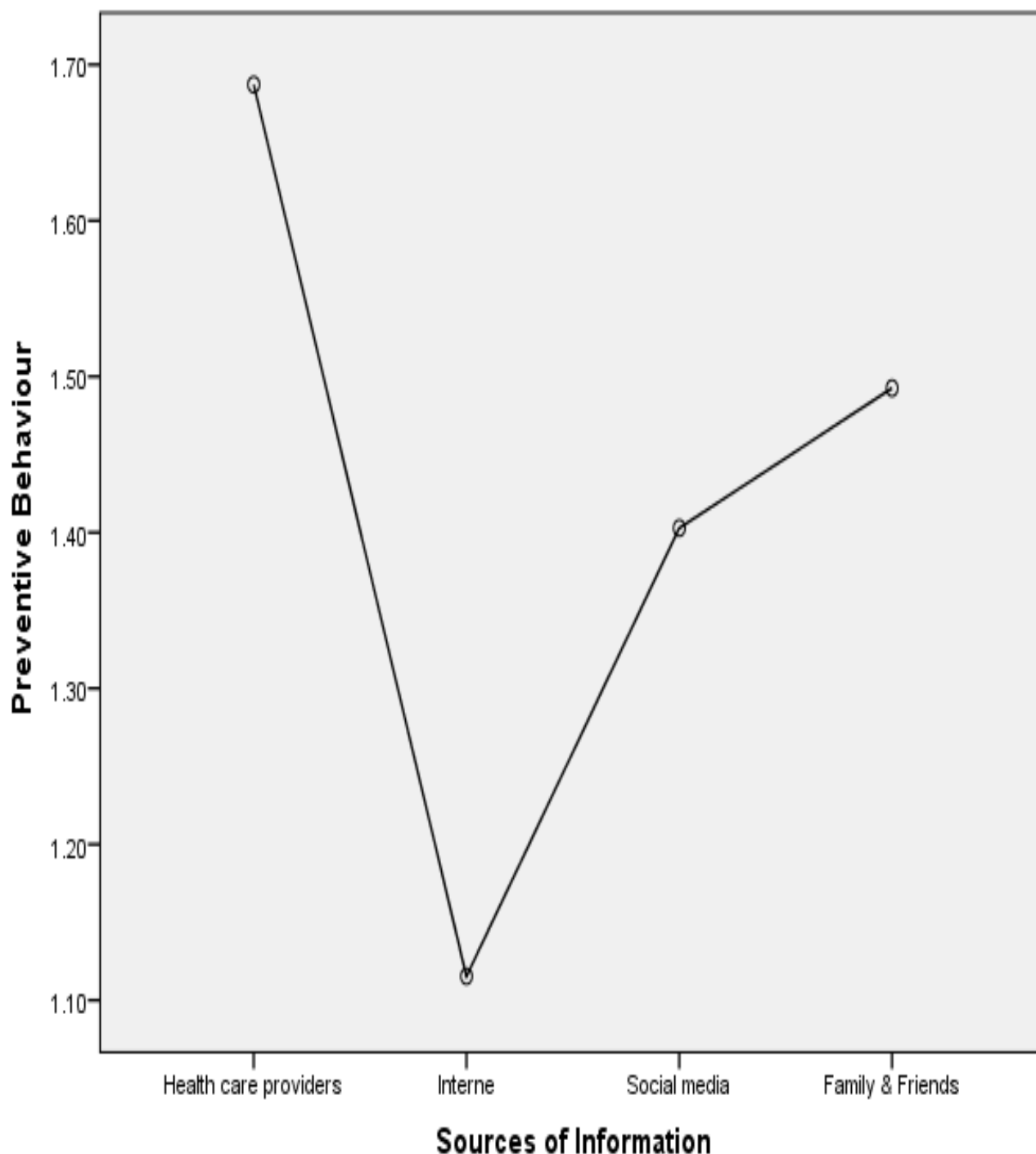


Figure 4. Distribution of Preventive Behaviour according to Sources of Information

5. Discussion

The results of the current study showed that 56.4% of pregnant women displayed inadequate anemia prevention behavior, as indicated by a low average of 20.45 (± 8.70). The results of this study were slightly better than those of a previous study conducted in a Kathmandu teaching hospital, which found that only 34% of mothers had adequately implemented preventative behaviors related to the prevention of anemia during pregnancy. This minor discrepancy can result from changes in study location and time period [10].

According to study results, half of the study participants receiving ANC at West Shoa Zone Governmental Hospitals have poor preventive behaviors regarding prevention of anemia during pregnancy. This is because of a number of factors, including education, residency, having a nuclear type of family, and prior anemia history, which have been found to significantly affect preventive behaviors regarding prevention of anemia during pregnancy [11].

The significant prevalence of anaemia in Bangladesh and other Asian nations suggests that it is a serious public-health concern that requires attention to preventative interventions based on the inadequate preventive behavior of anaemia. According to a study conducted in Ethiopia, the total prevalence of anemia was 41.9 percent, which is very identical to our findings regarding inadequate preventative behavior. According to a study conducted in India, out of 66 pregnant women, 40.92% had mild, 54.54 % had moderate, and 4.54 % had severe anemia [12].

Numerous factors, including the age of the mother, her level of education, her income, and the low number of pregnancies, may contribute to her lack of awareness of the hazards of anemia during pregnancy. Pregnant women require more media and health facility management-led awareness campaigns. At the GMERS Medical College in Gandhinagar's department of obstetrics and gynecology. After our single teaching session, there was a noticeable improvement in the adherence to anaemia therapy and related preventive measures among pregnant women [13].

There were only pregnant age, education level, monthly income and sources of information as factors associated with their preventive behaviour which are discussed as follows:

Findings demonstrated that there were significant differences in preventive behaviour of anaemia with regards to pregnant women's age ($p=0.001$). The significant differences were in favor of the older age groups (≥ 40 years), which recorded the highest average of preventive behaviour, in contrast to the young age groups (< 20 years), which recorded the lowest average of preventive behaviour, meaning that the analysis of variance confirmed that the higher the age, the greater the awareness of the

welder in the practices of preventive behavior from anemia (Fig. 1). This finding comes in agreement with findings of Tashara, pregnant women who are young age groups is inadequate practice of preventive anaemia due to less awareness of anaemia and its associated dangers [14]. On the other hand, young ages have no awareness of prevention practices because they have fewer pregnancies than older ages [15]. The Department of Health and decision makers must take into consideration the age of the pregnant woman in the educational aspect.

Findings demonstrated that there were significant differences in preventive behaviour of anaemia with regards to pregnant women's education level ($p=0.001$). The differences were in favor of those who graduated from the bachelor's degree, unlike those who did not graduate (illiterate) (Fig. 2), that is, the higher education is significantly associated with improved preventive behaviour. So, the educational level is an influential and important factor in preventive behaviour of anaemia, and the difference between an educated mother and an uneducated mother is great. This factor should be considered in improving preventive behavior practices in anemia. This finding is supported by findings of Chowdhury et al, in which literacy of women had a significant association with the use of antenatal care services as education has an impact on awareness of use of health services among the population [16]. The education level plays an important role in adherence with anaemia prevention during pregnancy and depends on pregnant degree [17]. There was a significant correlation (positive) between anaemia prevention and level of education in the study of Abujilban et al, as being preventive behaviour of anaemia associated with higher education levels [18].

Analysis of variance confirmed that there were significant differences in preventive behaviour of anaemia with regards to pregnant women's monthly income ($p=0.002$). Through the results, the economic situation or monthly income plays an important role in the preventive behavior of anemia, as pregnant women with sufficient monthly income were the best preventive behavior than those who had an average and insufficient monthly income (Fig. 3). This finding is supported by study findings in Dhaka city, which revealed that the low-income group comprised a higher portion of anaemic patients ($n = 53$) compared to the high-income group ($n = 6$), and income was also associated with maternal anaemia [16]. Results of a study in Pakistan showed that patients with a monthly income of less than Rs 5,000 had a haemoglobin value which was 1 g/dL lower than those with a monthly income of greater than Rs 5,000 [19]. With consistent findings, there was a positive correlation between anaemia preventive behaviour and socio-economic status (income), as those who have sufficient monthly

income can provide the requirements for the prevention of anemia, including the nutritional aspect [20].

Findings demonstrated that there were significant differences in preventive behaviour of anaemia with regards pregnant women sources of information ($p=0.010$). Almost (54.8%) of the study sample use health Institutions (health care providers) as a source of their information, and it is considered one of the best sources that provide them with consultations related to the prevention of anemia. Whereas, pregnant women who use the Internet as a source of information about the prevention of anemia scored the lowest arithmetic mean in the practices of preventive behavior, unlike those who use health institutions (Fig. 4). This results come in agreement with findings from Iraqi pregnant, confirmed that there were significant relationship between practices of preventive anaemia and pregnant sources of information [21].

6. Conclusion

Holding training courses and seminars through health directorates and social media that actually help develop the preventive behavior of anemia in pregnant women, taking into consideration the young age groups and those with low incomes. Pregnant women and their families should get a manual handbook on anemia prevention and management that is written in plain language and attractively illustrated.

Ethical Clearance

"All experimental protocols were approved under the Health Directorate, Iraq and all experiments were carried out in accordance with approved guidelines".

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