

# Assessment of Dietary Patterns of the Adolescent Pregnant Woman

HAILA MALIK SABTY<sup>1</sup>, WISAM MASHAAN MUTTALEB<sup>2</sup>

<sup>1</sup>MSc. Student / College of the Nursing / University of Baghdad. Iraq

<sup>2</sup>Ph.D., College of the Nursing / University of Baghdad. Iraq

Corresponding author: Haila Malik Sabty, Email: [hila.malek1203@uobaghdad.edu.iq](mailto:hila.malek1203@uobaghdad.edu.iq)

## ABSTRACT

**Background:** Adolescent pregnancy, which is detrimental to the health of mother and child, is a common public health problem worldwide. It is one of the key issues concerning the reproductive health of women not only in developing countries but also in developed countries. There is growing awareness that early childbearing has multiple consequences in terms of maternal health, child health, and the overall well-being of society.

**Objectives:** The study aims to assess the dietary patterns of adolescent pregnant women.

**Methods:** The descriptive study design was conducted on (100) adolescent pregnant women attending the Al-Basrah Maternity and Children Hospital in Al-Basrah Governorate which was selected purposively. The study period was extended from the 1<sup>st</sup> of February 2022 to the 4<sup>th</sup> of April 2022. The Questionnaire format developed by the researcher depends on review articles

**Results:** This study showed that (75%) of studied adolescent pregnant women had moderate dietary patterns, (24%) of them had low dietary patterns, and only (1%) of them had high dietary.

**Conclusions:** This study concluded by evaluating all the dietary patterns of pregnant teenage girls that the food patterns were somewhat acceptable to pregnant teenage girls.

**Keywords:** Assessment, Dietary Patterns, Adolescent Pregnant Woman.

## INTRODUCTION

Adolescent pregnancy is a national and international problem that costs money to the adolescent, her child, and society. Sixteen million women aged 15–19 years give birth to 11 percent of the world's 300 million adolescents. Although it is a serious health and social problem worldwide, more than 90% of cases occur in developing countries and carry considerable risk (Braine, 2009). Adolescents are responsible for 23% of all impairments and disorders caused by pregnancy and delivery worldwide (Holness, 2015). Adolescent pregnancies have been linked to an increased risk of eclampsia (Ganchimeg et al., 2014; Indarti et al., 2020), puerperal endometritis, and stillbirth (Althabe et al., 2015), and low birth weight (LBW) in studies conducted in high- and low-income countries. Maternal nutrition is critical during pregnancy for both the mother and the child's health. Pregnant women's nutritional status has been linked to poor delivery outcomes (Abu-Saad & Fraser, 2010) and low perinatal survival. Decreased physical and cognitive development in infancy and nutrition-related metabolic illnesses in adulthood (Black et al., 2013; Ahmed & Tseng, 2013). Starting in the second trimester of pregnancy, women should increase their calorie intake by around 300 kcal per day, but do so by eating more vegetables and fruit, whole grains, low-fat dairy or alternatives, or lean meat, fish, or alternatives, rather than more energy-dense, nutrient-poor meals (Katamay et al., 2007). It's critical for pregnant adolescents to have a varied diet. According to research, dietary variety has been linked to optimal nutrient intake (Ruel, 2003). Dietary variety has been linked to better pregnancy outcomes in the past. Individual dietary variety scores for mothers have been proven to protect against low birth weight (Abubakari & Jahn, 2016). Poor eating habits can lead to nutritional deficiencies and hurt both the mother and the child during pregnancy. (Lumey, 2014). found that severe protein and energy deficiency lowers birth weight. Ca intake is linked to a lower risk of pre-eclampsia and premature birth (Hofmeyr et al., 2018). Maternal Fe insufficiency can lead to anemia and raises the risk of low birth weight and preterm delivery.

## METHODOLOGY

A non-probability "purposive sample" of (100) pregnant women attending the Al Basra Maternity and Children Hospital in Al-Basra Governorate. The descriptive study design approach is done by interrogating members of the study population. The study period was extended from the 1<sup>st</sup> of February 2022 to the 4<sup>th</sup> of April 2022. The correlational approach interrogates the study participants about assessing their dietary patterns of adolescent pregnant women. Since the problem of the study is related to the present, and its study will be done through direct interrogation, this

study aims to assess the dietary patterns of adolescent pregnant women. . The study was conducted at Al-Basrah Maternity and Children's hospital, which receives high-risk pregnancies for investigation and treatment. The study was conducted in the gynecology and obstetrics ward (public and private wards), an outpatient clinic at Al-Basrah Maternity and Children's hospital in Al-Basrah Governorate. The hospital was chosen for the following reasons: This is the only hospital dedicated to maternity in Al-Basrah Governorate, and this hospital receives all cases related to maternity.

The Instruments of the study have been planned and constructed by the researcher after extensive studying of relevant literature and previous articles. The instrument is used for data collection, which includes the parts below. Part 1: Socio-demographic data: This section collects demographic data from the patient through face-to-face interviews. It includes (8) items relative to age, residence, level of education, occupation status, Monthly income, Weight before pregnancy (kg), Height, and Current weight: (kg). Part II: Reproductive information: This section deals with pregnant mothers' reproductive history (7 questions) which includes: Age at marriage, pregnancies number, the number of living children, the number of dead children, number of previous abortions, age at first pregnancy, and the number of births. Part III: A: The number of times to eat and the selected foods: This part of the questionnaire consists of (10 parts ) related to dietary patterns, including Dietary Patterns related to Grains, cereals, and tubercles, Dietary Patterns related to Bread, cakes, and cookies, Dietary Pattern related to Fruits, Dietary Patterns related to Vegetables, Dietary Pattern related to Vegetables, Dietary Patterns related to Milk and dairy, Dietary Pattern related to Meat, Fish, and Eggs, Dietary Pattern related to Fatty Food, Dietary Pattern related to Beverage, Dietary Pattern related to Sweets, Diet related to nuts. Part III: B) Food Habits: This part of the questionnaire (2 parts) relates to food habits, including healthy and unhealthy habits. SPSS for Windows Version 25 was used to conduct statistical analysis.

## RESULTS

Table 1: Descriptive Statistics of Socio-Demographic Variables SDVs

Variables	Classification (N.100)	Freq.	%
Age	14-Less than 17	15	15.0
	17-19 years old	85	85.0
Residents	Urban	51	51.0
	Rural	49	49.0
Education level	Not read and write	27	27.0
	Read and write	24	24.0
Occupation	Elementary school	33	33.0
	Intermediate school	16	16.0

	Employment	8	8.0
	Housewife	86	86.0
	Unemployment	6	6.0
Income/ monthly	Sufficient	15	15.0
	Sufficient to a certain limit	62	62.0

BMI	Insufficient	23	23.0
	Normal (18.5-24.9)	37	37.0
	Overweight (25.0-29.9)	63	63.0
	Total	100	100.0

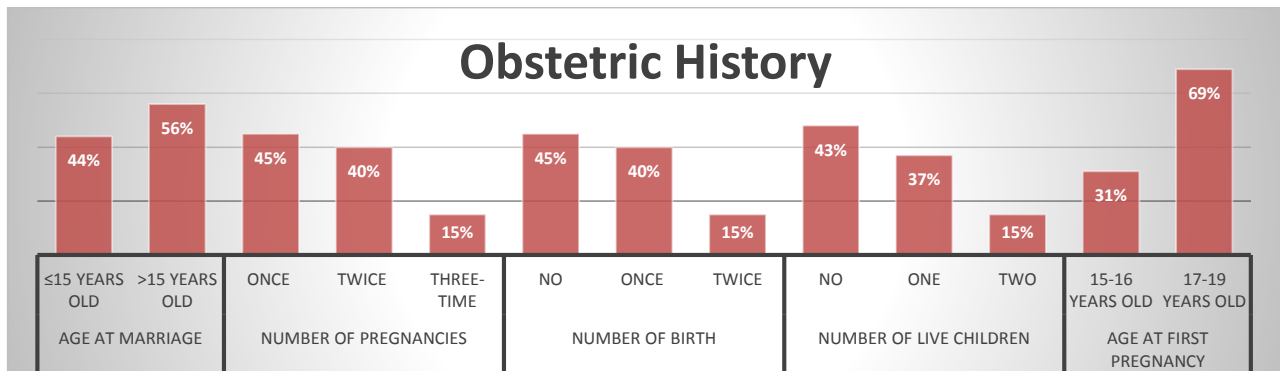


Figure 1: Descriptive Statistics of Pregnant Obstetric History

Table 3: Dietary Patterns related to Grains and Cereals

List	Grains and Cereals items	M.s ± SD	Ass.
1	Rice (1 cup)	3.50±1.068	High
2	Beans (one pot)	0.72±0.877	Low
3	beans (one bowl)	1.87±0.366	Moderate
4	Lentils (one bowl)	1.70±0.659	Moderate
5	Popcorn (a quarter cup)	1.03±0.744	Low
6	Pasta (a quarter cup)	1.29±0.844	Low
7	Beans (one pot)	0.92±0.734	Low
8	Bulgur (half a cup)	0.58±0.900	Low

(M.s) Mean of scores, (SD) Standard deviation  
(Low consumption 0-1.33; Moderate consumption =1.34-2.66; High Moderate consumption = 2.67-4)

Table 4: Dietary Patterns related to Bread, Cakes, and Cookies

List	Bread, cakes, and cookies items	M.s ± SD	Ass.
1	Biscuits (one slice)	2.98±1.044	High
2	Salty pastries (pies) (1 slice)	1.61±0.983	Moderate
3	Lahem Bajeen (one slice)	1.28±0.753	Low
4	Pizza (one slice)	1.32±0.827	Low
5	Kleicah (single slice)	1.32±0.750	Low
6	Cake (one slice)	1.80±1.082	Moderate
7	white bread (one slice)	3.31±0.464	Moderate
8	Brown wheat bread (one slice)	0.12±0.477	Low
9	Oat bread (one slice)	0.12±0.607	Low
10	Brown toast (one slice)	0.22±0.811	Low
11	White toast (one slice)	0.60±1.255	Low
12	Rice bread (one slice)	0.42±0.727	Low
13	Berker (single slice)	1.02±0.942	Low

(M.s) Mean of scores, (SD) Standard deviation  
(Low consumption 0-1.33; Moderate consumption =1.34-2.66; High Moderate consumption = 2.67-4)

Table 5: Dietary Patterns related to Fruits and Vegetables.

List	Fruits items	M.s ± SD	Ass.
1	Pineapple (one medium size)	0.47±0.610	Low
2	Banana (one medium size)	2.54±0.989	Moderate
3	Orange (one medium size)	2.51±1.210	Moderate
4	Lemon (one medium size)	2.97±0.904	High
5	Apple (one medium size)	3.05±0.845	Moderate
6	Mango (one medium size)	0.64±0.893	Low
7	Lalang(one medium size)	1.90±1.314	Moderate
8	Pomegranate (one medium size)	2.48±0.784	Moderate
9	Kiwi (one medium size)	1.86±1.206	Moderate
10	Dates (3 pcs)	2.17±1.511	Moderate
11	dried fruit (1/4 cup)	0.64±1.210	Low
12.	lettuce (one medium size)	2.04±1.503	Moderate
13.	Cauliflower (medium size)	0.11±0.469	Low
14.	beetroot (one bowl)	0.26±0.561	Low
15.	Pahalgam (one bowl)	0.50±0.611	Low
16.	Cucumber (one medium size)	2.10±0.846	Moderate

17.	Green pepper (one medium size)	0.62±1.042	Low
18.	Tomato (one medium size)	2.76±0.805	High
19.	Mushrooms (1 cup, cooked)	0.18±0.519	Low
20.	Pickled vegetables (1/2 cup)	2.41±1.386	Moderate

(M.s) Mean of scores, (SD) Standard deviation  
(Low consumption 0-1.33; Moderate consumption =1.34-2.66; High Moderate consumption = 2.67-4)

Table 6: Dietary Patterns related to Milk and Dairy

List	Milk and dairy items	M.s ± SD	Ass.
1	Yogurt (1/2 cup)	2.02±1.406	Moderate
2	Cheese (1/4 cup)	2.56±1.821	Moderate
3	Full Cream Milk (1 cup)	0.88±1.628	Low
4	Low-fat liquid milk (1 cup)	0.46±1.149	Low
5	Powdered Milk (1 cup)	1.42±1.551	Moderate
6	Cow's milk (1 cup)	0.24±0.683	Low

(M.s) Mean of scores, (SD) Standard deviation  
(Low consumption 0-1.33; Moderate consumption =1.34-2.66; High Moderate consumption = 2.67-4)

## DISCUSSION

**Part One: Discussion of the Demographic Data:** Findings revealed that(85%)of adolescent pregnant women were in the age group (17-19) This may be due to the social habits of some families in Iraq to marry their daughter at this age group because they think that they will be able to be the mother and manage their life, or it may be due to poverty that forces families to marry daughters at this age. The study result agrees with the study results that revealed (71.5%) of the pregnant adolescents were in their late adolescence (16–19 years) (Amugsi et al., 2015). Regarding residency, most of the adolescent pregnant women residence at in urban were (51%); this may be due to most adolescent pregnant women who attend the hospital living in the urban area, while not all adolescent pregnant women in rural areas attend the hospital, different reasons: culture, believes, values, as well as selected home delivery rather than hospital delivery. The results of this study are in agreement with the results of a study conducted in Iraq in Basra Governorate in 2020 on 100 pregnant women who underwent an assessment of risk factors and complications of pregnancy-induced hypertension for pregnant Women. This disagrees with the study results of Bairwa, et al., (2020) most of the study subjects were rural dwellers (70%).

Regarding educational level, most of the participants in the study sample were primary school graduates (33%) of the adolescent pregnant women were primary school graduates for different reasons: socioeconomic status, attitude, values, habits, especially Al-Basrah society is a tribal (clannish) society that does not allow many women to be educated. Regarding Occupation, most adolescent pregnant women were housewives (86%). This is

due to the economic conditions that Iraq is going through from financial crises and the lack of job grades. Another reason is the husband's unwillingness (refusal) to work for his wife. The study result agrees with the study revealed that (44%) of adolescent pregnant women have no formal education. The majority of mothers (80.7%) were housewives, and the rest were farmers and worked in private businesses, respectively. (Ayele et al., 2016)

As for the family's monthly income, participants in the study sample are Sufficient to a certain limit for their monthly income to meet their needs of 62%. This is due to several reasons, including This is due to several reasons, including the husband may not be an employee but works as a freelancer. The income he receives is somewhat sufficient for the family's needs, And the wife may not be an employee, but she has a profession such as sewing that helps the husband with the needs of the family. About the body mass index (BMI), most adolescent pregnant women show overweight (63.0%). This may be because pregnant teenage women do not have enough knowledge of good healthy nutrition during pregnancy and may eat a lot of sweets, soft drinks, and fast food. The study result agrees with study results (Lacerda et al., 2007) among adolescent pregnant women living in Rio de Janeiro found the prevalence of 24.7% for overweight and obesity. The average weight gain in pregnancy is 13.3 kg.

**Discussion of the Reproductive Information:** The results show that adolescents who got pregnant married at more than 15 years old (56%) and had once pregnancies (primigravida) (45%). And (45%) of them no have birth, and (48%) of them no had live children, and (69%) had their first pregnancy at the age of over 15 years. The results that appeared in the table agree with the results of a study conducted in Iraq in Baghdad in 2009, which is the assessment of the nutritional status of adolescent pregnant women. Shows that the period between marriage and first pregnancy in most the married female adolescent is less than one year (92.9%); most of them are primigravidae (73.5%), (36%) are multigravida (46%) become pregnant for the second time in less than one year between pregnancies, (82.7%) of them no had alive delivery, (6%) has dead deliveries, (13%) has one abortion. Most pregnant adolescents are in the second trimester of pregnancy (65.3%).

**Discussion Dietary Patterns:** The results in a table (3) showed that adolescent pregnant women consume grain-related dietary patterns in low quantities, except for rice, consuming high amounts. Because it is known that the eastern community loves to eat rice. The results of this study are in agreement with the results of studies conducted by (Karimy & Mirglobayat, 2017) and (Farahaninia et al., 2013), adolescent pregnant women consumed insufficient amounts of grain. Therefore, it is assumed that pregnant teenage women eat rice in low quantities to reduce diabetes and maintain a healthy weight.

The results appeared in Table (4) that pregnant teenage women consume bread and cake in low quantities, except for biscuits they consume in high quantities. The percentage of biscuit consumption was high because pregnant teenage girls do not have sufficient knowledge of good healthy nutrition during pregnancy. They are supposed to consume biscuits in low quantities to prevent diabetes and maintain a healthy weight. The results of this study, according to the results of a study by Montazerifar et al., that pregnant adolescent women under 18 years of age (especially in the third trimester of pregnancy) and those with less than or normal consumption of bread and cereals, consumption of bread and cereals was below the standard weight (Montazerifar et al., 2014).

The results appeared in the table (5) related to fruits and vegetables that pregnant teenage women consume fruits in moderate quantities and vegetables in low quantities, except for lemons and tomatoes, which they consume in high quantities because most teenage pregnant women want to eat citrus fruits during pregnancy and do not have sufficient knowledge of good nutrition during pregnancy. The results of this study are in agreement with the results of a study conducted in Iran in the year

(2020) evaluating dietary patterns and related factors in pregnant women who were referred to health centers in Qom, Iran, and the results of the study indicate that eating the fruit was desirable. Results of the study by (Karimy & Mirglobayat, 2017). It showed that 43% of pregnant women ate the right amount of fruits. The results also showed that the consumption of dairy products and vegetables was much less than the recommended daily intake.

The results are shown in Table (6) related to milk and its derivatives are that pregnant teenage girls consume milk in low quantities, and the reason may be their unwillingness to eat milk or their lack of knowledge of the importance of milk for the health of the mother. And the fetus. The results of this study are in agreement with those of other studies on milk consumption of pregnant adolescent girls in different countries that most of them in Bangladesh do not consume milk. While in France and Canada, milk and dairy products were among the most consumed. Another study by Montazerifar et al. found that insufficient consumption of milk and dairy products was more prevalent among people under 18 years of age (Montazerifar et al., 2014). In studies by Abedini et al. and Karimi et al., findings regarding the consumption of dairy products were consistent with those of the current study.

## CONCLUSION

This study concluded that the dietary patterns of teenage pregnant women are acceptable in terms of carbohydrates and fruits, while the intake of vegetables and dairy products is less than the recommended daily level. The study found that there are foods that the mother eats that can affect her health and the health of the fetus

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