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RESEARCH ARTICLE

THIS AWARENESS OF MULTIVITAMIN HAIR GROWTH USES AND BENEFIT OF SHAMPOO AND HAIR AMPULE IN SAUDI ADULTS

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Abstract

Despite of the lack evidence about using the multivitamins on the hair growth some information were collected from the mentioned references about the benefits of using multivitamin on the hair growth. **The aim** will be asses the attitude and practice of multivitamins for treatment of hair loss. These benefits were being mentioned in details and how these multivitamin work, some information about each vitamin. Some example of such vitamin like vitamin C and the vitamin B. the second information will be about the hair shampoo and the benefits from it, third title that will be considered as a new technique is the using of hair ampules. Some definition about hair and hair structure will be mentioned in the review. The theoretical part of **the methodology** will be describe by descriptive analytical methods and the practical part by the survey study and the data will be analyzes by statistical spss. The participant will be 200 hundred from both genders. The data will be collected and analyzed to evaluate the results. The result will be as we expected the majority of participant use the multivitamins for hair growth, the rest under the influence of other and the medical supervision or by pharmacist.

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Introduction:-

Dietary supplement and multivitamins use is common usage in Saudi adult population (Hamad A. Algaeeed, 2019).multivitamin is growing industry as healthy body need complete vitamins to maintain health (Hamad A. Algaeeed, 2019).multivitamin can use as an alternative term for multi minerals, multivitamins defined as a group of product with has different composition and characteristic that use as an alternative for the natural values minerals despite of the deviation of the normal values of vitamin there's always lacked awareness about taken the vitamins from outside source. systemic information about bioequivalence, bioavailability of vitamins in market and potential adverse drug interaction is scarce(Yetley, 2007). Multivitamins usually use to provide vitamins that found naturally in food, or to treat vitamin deficiency (lack of vitamins) that caused by pregnancy, digestive disorder or poor nutrition(Alsofyani et al., 2018).this micronutrient is very essential in normal hair turn over which occur normally in the hair follicle bulb(Almohanna et al., 2019). Hair loss may also occur from over taken or hyper vitaminosis(Alsofyani et al., 2018). One most of cases of hair loss is vitamin B deficiency essentially biotin or vitamin B6 and this occur in rare case such as high consumption of raw egg or patient under nutrition and naturally found in protein rich food. Biotin very important for hair growth(Alsofyani et al., 2018). Folate also very essential in hair follicle proliferation which important in nucleic acid formation. Another multivitamin is vitamin c which is very important in iron absorption increase the iron absorption tendency so what increase the growth of hair in case of iron deficiency anemia. selenium very important trace element in hair growth such people who not take the trace

amount of selenium such case called venton which describe as hair pigmentation loss(Almohanna et al., 2019).

As you maintain your hair health you should maintain the normal level of micronutrient. There are different formulas that contain the nutrient that need to maintain your hair health such as shampoo. The main purpose of this product is to act on the scalp and hair. Shampoo is a cosmetic product that contain a good ingredient that it convenient for use for application to hair(Lee & Cha, 2019). One of the good benefits of shampoo to remove dandruff due to its composition of natural oils which gives the power of extraction. For normal hair usually using shampoo containing (sodium lauryl sulfate) good ingredient for cleaning normal hair while dry hair usually using (sulfosuccinate) mild cleaning and excellent conditioner, finally for oily hair usually conditioner (sodium dodecyl sulfate). Another good combination should be combined with hair shampoo is conditioner which have an important role in hair shining and protection by decreasing the static charge(Lee & Cha, 2019) Thirty-two adult female Wistar-Bratislava rats were assigned to 4 groups. Two rectangular areas (2×4 cm) were shaved on either sides of the mid dorsal line (left side - control; right side - test area). Group I was treated topically with 2% minoxidil, group II with Aminexil, and group III with Kerium. Each rat received 0.3 ml of substance applied topically to the shaved dorsal skin every day for 28 days. Rats in group IV served as sham controls receiving no treatment. Hair regrowth was evaluated by trichoscopy (with a dermatoscope), grown hair weight (from a surface area of 1 cm²), and histopathological examination for skin thickness, follicle count, and percentage of anagen induction (morphometric assessment). The caffeine-containing active ingredient combination of Alpecin Caffeine Liquid keeps hair roots awake and contributes to extending their growth phases for longer than provided for by hereditary predisposition. When applied, it causes a fresh tingling on the scalp. Its active ingredients travel along the hair shaft and form a depot sufficient for up to 24 hours. The hair roots become more productive and hair growth is accelerated. Counteract premature hair loss at the source with Alpecin Caffeine Liquid.

Are caffeine shampoos proven to promote hair growth?

Currently, there is no clinically viable evidence that they have a long-lasting effect on male pattern baldness, which occurs in men who have a sensitivity to DHT, and causes hair follicles in the scalp to weaken and shrink. Caffeine shampoo has not been proven to negate the effects of DHT in the long term. In 2018, the UK Advertising Standards Authority ruled that caffeine shampoo Alpecin must no longer advertise that it can "help to reduce hair loss" as there was no adequate evidence to support the claim. The German brand was established following a study in 2007 showing that caffeine caused hair follicles to regrow in a laboratory dish, but there is not enough evidence to prove that caffeine works with hair on the scalp. Consultant dermatologist Dr Sharon Wong from London Bridge Hospital, part of HCA Healthcare UK, is cautiously optimistic about caffeine shampoos in general but agrees that more research is needed. "In early stages of genetic hair loss or thinning, caffeine-containing shampoos may be helpful as a supportive treatment in addition to proven and licensed medical treatments for hair loss, such as topical minoxidil and Propecia [finasteride]," she states. "Whilst the results from predominantly lab-based studies are encouraging, larger randomised, controlled clinical trials on actual patients are required to draw more definitive conclusions." The caffeine molecule penetrates easily into the hair follicles but it remains questionable as to whether a sufficient concentration of caffeine can be delivered via a shampoo to maximise its potential benefits. The growth-enhancing effects of caffeine are likely to be greater with leave-on topical caffeine solutions, Wong suggests. "Caffeine shampoos are certainly worth trying as a preventative measure or in addition to medical treatments for hair loss in early stages of common balding for a potential additive effect," she adds. "However, it is not likely to make a difference in more advanced stages of hair thinning."

Problem Statement

Multivitamin is an alternative to multi minerals as we mentioned before group of compounds that needed in micro or macro amounts. We get these compounds in natural foods and we needed to complete our health program. If these compounds decrease than normal levels it will affect health badly especially on hair and this is our center of view. Some of this vitamin are found in abundance in our protein meals such as biotin or the vitamin B6 that needed to hair growth or folic acid that needed normally for hair cell proliferation or vitamin c that needed for hair loss due to iron deficiency anemia because it help in iron absorption. Another point that we mentioned is shampoo usage in hair growth and its benefits with hair conditioner. The benefit of every surfactant in different types of hair formula such as dry, oily, or normal.

This study will answer some questions.

Are there any beneficial effects for using multivitamins for hair growth?

What are these benefits?

What's the harmful effect that may appear from use these compounds?

Hair ampules as a modern technology have an effect on hair growth?

Study aims

To know what's the actual benefits of using multivitamins on hair growth.

To describe the mechanism of the multivitamin working on hair growth

To define the benefits of shampoo

To determine the useful way to use shampoo

To know more about hair injection ampules

To know what's the return backs from hair ampules

To know how to evaluate the type of hair shampoo.

To increase the awareness about the multivitamins use.

To describe the term "hypervitaminosis".

Literature Review:-

Abstract:

Background:

Despite the lack of evidence which support the hypothesis that usage of multivitamins is effective in preventing hair fall, their use is still prevailing. Although recent studies demonstrated interference of certain vitamins with certain analytical investigations, they are still practically in use without medical supervision and/or control. Aim: To assess the Attitude and Practice of Using Multivitamins for treatment of Hair Fall. Methods: A total number of 1015(females and males) were participated in this study. They aged 18 or more responded to questionnaires on their perception and previous experience with the use of multivitamins. Results: 44% of the participants used multivitamins for hair fall treatment, and only 37.4% recommended using them under medical supervision. The rest were influenced by social media (18.7%) friends and family (17.3%) by themselves (15%), and pharmacists (10.6%). 33.3% carried out blood tests prior use and only (15.3%) had a follow up blood test. Figure 1. Shows side effects such as abdominal pain, diarrhea and constipation were observed in (18.5%). (57.3%) reported noticeable improvement in hair fall and it was significantly associated with the use of multivitamins for more than 3 months ($p < 0.01$). Figure 2. Indicates that (63.5%) agreed on their effectiveness for hair fall treatment and (61.4%) would attribute the effect to other factors. Conclusion: Additional studies are required towards to validate and justify the benefit or downside of multivitamins for hair fall. Knowledge about the misuse of multivitamins is crucial to avoid unnecessary harm.

Introduction:

Hair fall (alopecia) in medical terms, is one of the common causes to visit the dermatology clinic. It's a problem of women, men and children. Almost one-half of men and one-third of women experience hair falling during their lifetime^{1,2}. Hair fall can be divided to scarring and non-scarring. Non-scarring alopecia include androgenetic alopecia (AGA), telogen effluvium (TE), and alopecia areata (AA), with androgenic alopecia being the most common among men and women^{3,4}. AGA is an androgen-related condition in genetically predisposed individuals, different presentation could be noticed in men and women, in women usually it's confined to the crown, sparing the frontal hairline¹, while in men the frontal hairline and the crown are the usual sites of hair thinning^{2,5}. Alopecia areata (AA) is an immune-mediated disease causing temporary or permanent hair loss. It's well-defined round patches mainly affecting the scalp^{6,7}. Telogen effluvium (TE), is a form of non-scarring alopecia characterized by diffuse, often acute hair shedding. It could be triggered by metabolic stress, hormonal changes, or medications. Furthermore, some events could trigger (TE) including acute febrile illness; severe infection; major surgery; severe trauma; postpartum hormonal changes, hypothyroidism; discontinuing estrogen-containing medication; crash dieting; low protein intake; heavy metal ingestion; and iron deficiency⁸. Different treatments are used in treating the different types of hair fall. Most known and used and prescribed treatments are supplements and vitamins. In a study conducted in Saudi Arabia 2012, the attitude and practice of dermatologists was assessed regarding prescribing minerals and vitamins for their patients who suffer from hair fall. Out of 144 dermatologists 60% recommended using vitamins and minerals for treating at least one type of hair loss. The used supplements include:

zinc, iron, vitamin D and biotin. It was mainly prescribed for acute telogen effluvium (62%)⁹. Unfortunately, sufficient studies are few that assess the knowledge and practice of the population regarding the use of multivitamins for hair fall, as well as the possible harm that could be caused when they are being used inappropriately. This study aimed at investigating the attitude and practice of females and males in Saudi Arabia regarding the use of multivitamins for hair fall. Furthermore, it aimed to assess the population's perspective on their effectiveness for treatment of hair fall.

Methodology:-

Study design and participants: A quantitative cross-sectional study design was conducted during the period from November 2019 to February 2021 in Saudi Arabia. The study followed the principal of Helsinki declaration and was approved by Research and Ethical committee at Princess Norah University. It encompassed 1015 participants, both males and females. Inclusion criteria for participation required being aged 18 and above. The target population size was based on 50% prevalence and 95% confidence interval. The sample calculated was around 400 but was increased to 1000 to compensate the incomplete data. All participants were informed that the study is completely anonymous and voluntary, and all data collected is intended to be kept private. Participants were given instructions on how to fill the questionnaires and any queries were cleared. **Study instruments and statistical analysis:** Data were collected as self-administered questionnaire, with 515 participants from Princess Noura University students, health care workers and patients waiting areas at King Fahad Medical City and Prince Sultan Military Medical City, neighbors, friends, and family members. An online survey was also done on google forms with 500 total participants. The questionnaires consisted of 17 close ended questions and were formulated based on previous literature. It was translated into Arabic and checked by an Arabic linguistic expert to check for consistency. It includes: demographics, participants believe, previous experience, observed side effects and the results of using the multivitamins. The data were coded, entered and analyzed using the SPSS version 23. Descriptive analysis in terms of means was used to describe the criteria for the study sample. P-value less than 0.05 was considered statistically significant. **Results:** A total of 1015 agreed to participate in the study. Table 1: the demographic data of the participants.

	Percentage
Online	49.3%
Offline	50.7%
Male	40.1%
Female	59.9%

Age Groups

18-21	42.7%
22-29	37.2%
30-39	12.8%
Above 40	7.3%

Education

University	50.5%
High school	47.6%
Less than high school	1.9%

Income

Less than 5000 SR/month	58.1%
5000-10,000 SR/month	19.5%
More than 10,000 SR/month	22.4%

The data were collected by two different means, 500 participants answered an online questionnaire and 515 participants answered a self-administered paper questionnaire. The study included an age group Attitude and practice regarding the use of multivitamins for hair fall... 6840 between the age of (18 to 65), with an arithmetic mean of 25. (59.9%) of the participants were female and (40.1%) were male. The highest level of education was university (50.3%).

Table 2:- The geographic distribution of the study.

Central Region	70.8%
Western Region	24.7%
Eastern Region	3.7%
Northern Region	0.2%
Southern Region	0.5%

The majority (80.6%) of the participants reported that they experienced hair fall, of which (44%) of them used multivitamins as a treatment for the hair fall. The use of multivitamins was higher in female population (45.9%), comparing to male population in which only (19.5%) of them used multivitamins. Graph 1. Additionally, the consumption of multivitamins was more in those who had low income (54.6%).

Discussion:-

The standard components that multivitamins contain include: vitamin C, A, E, K, D, B12, B6, Thiamin, Riboflavin, Pantothenic acid, Niacin, Folic Acid, Biotin, Iron, Zinc and many more. Although the previous literature showed uncertainty about the role of multivitamins in treating hair fall, they are being used widely. In our study, 44% of those who suffered from hair fall used multivitamins, majority of which did not carry out the necessary medical investigations. A study was done on 296 healthy individuals to evaluate the association between Androgenic Alopecia and low serum levels of 25- hydroxyvitamin D, and the results concluded that there's no significant association between the two¹¹. Although vitamin D has an important role in anagen initiation¹², there's not enough data to support its effectiveness in treating hair fall. Furthermore, no sufficient data proved that biotin can be effective in treating hair fall¹³. On the other hand, iron supplements were shown to reduce the mean percentage of telogen hair when used for 6 months in women who suffered from chronic Telogen Effluvium¹⁴.

Conclusion:-

Although multivitamins are being prescribed and used in treating hair fall, more efforts are needed towards validating the benefit or downside of multivitamins for hair fall. Improvement of knowledge's about the misuse of multivitamins is greatly important to avoid unnecessary harm.

Statistical design

Data was analyzed using the statistical Package for Social Sciences (SPSS) version 36. The first part of data was descriptive data, which were revised, coded, tabulated, and statistically analyzed using the proportion percentage, arithmetic means, standard deviation, and range. The second part of data dealt with, relation between different variables. The mean and standard deviation of the total score were calculated.

Degrees of Significance of the results were:

Non-significant (NS) if $p > 0.05$

Significant (S) if $p < 0.05$

Highly Significant (HS) if $p < 0.01$

Table (1):- Socio Demographic data from (quiz 2 – quiz6).

Demographic characteristics		Numbers	Percentage	main	Median	Std. Deviation
Q2: Did you Agree to Participate in this study		203	99.5 %			
Q3 Where did you live	Western Region	25	12.3 %	2.16	2.00	.845
	Central Region	145	71.1 %			
	North Region	12	5.9 %			
	Eastern Region	12	5.9 %			
	South area	7	3.4 %			
Q4 Gender	Female	149	73.0 %	1.27	1.00	.443
	Male	54	26.5 %			
Q5 Social states	Single	98	48.0 %	1.51	2.00	.501
	Married	104	51.0 %			
Q6 Age	(18-30) years	111	54.4 %	1.52	1.00	.624

	(31-45) years	78	38.2 %			
	(46-60) years	14	6.9 %			

Table (1) shows that, according to socio demographic data, 12.3% of study sample were from Western Region, the majority of them (71.1%) were from Central Region, 5.9% were from North Region, and from Eastern Region, 3.4 % were from South area. The majority of them (73%) were females, and 26.5% were male. According to social states 51 % were married, and 48 % were single. 54.4% were at age (18-30) years, 38.2% were at (31-45) years, and 6.9 % only were at (46-60) years.

Medical History	Numbers	Percentage %	main	Median	Std. Deviation
Q7: Did You Have any chronic disease	46	22.5 %	.23	.00	.420
Q8 If the previous question is yes: what is the disease					
No disease	2	1.0 %	5.15	4.00	4.298
Hyperthyroidism or hypothyroidism	13	6.4 %			
Hypertension	5	2.5 %			
Mitral valve relaxation	1	.5 %			
Polycystic ovaries Syndrome (Female)	8	3.9 %			
Systemic lupus	1	.5 %			
Diabetes	10	4.9 %			
Celiac Disease	1	.5 %			
Vitiligo	1	.5 %			
cholesterol	1	.5 %			
ulcerative colon	1	.5 %			
Asthma	3	1.5 %			
Irritable Bowel Syndrome – IBS	1	.5 %			
Schizophrenia	1	.5 %			
epilepsy	2	1.0 %			
Multiple Sclerosis	2	1.0 %			
Q9 Have you been diagnosed with one of the following diseases?					
Alopecia areata (appear as bald patches on your scalp)	7	3.4 %	.04	.00	.193
Androgenetic alopecia (hair loss that mainly affects the upper and frontal part of the scalp)	11	5.4 %	.06	.00	.240
Alopecia Universalis (complete hair loss in the scalp and all hair areas on the body)	3	1.5 %	.02	.00	.131
telogen effluvium (diffuse hair loss and hair thinning all over the scalp)	20	9.8 %	.11	.00	.314

Table (2):- Medical History (quiz 7 – quiz9).

Table (2) shows that 22.5% of study sample have chronic disease, 6.4 % with Hyperthyroidism or hypothyroidism, 4.9% have Diabetes, 1.5% have asthma, .5 % have celiac disease and the same ratio for, vitiligo, cholesterol, ulcerative colon, irritable bowel syndrome – IBS, and Schizophrenia. also 9.8% have telogen effluvium, 5.4 Androgenetic alopecia, 3.4 % Alopecia areata, and 1.5 % of them have Alopecia Universalis

Figure (1):- Medical History.

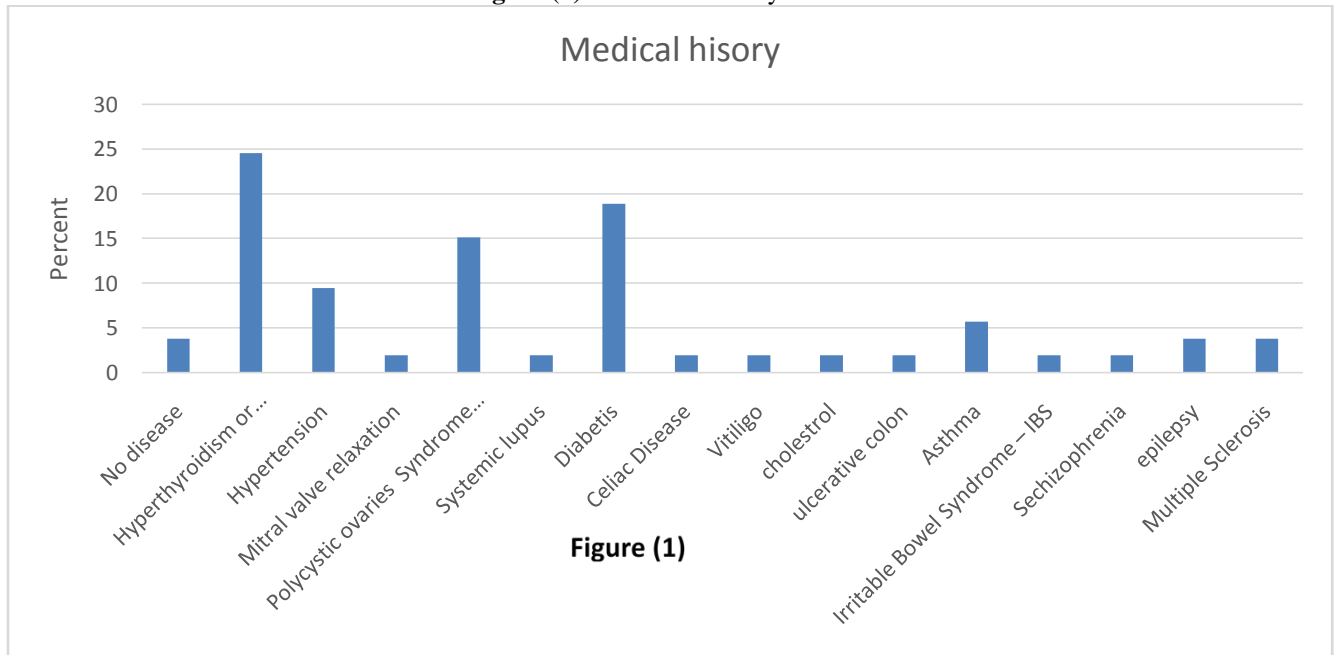


Figure (1) shows that, the majority of them have hyperthyroidism and hypothyroidism, and diabetes. The minority of them have mitral valve relaxation, systemic lupus, Celiac disease, vitiligo, ulcerative colon, and schizophrenia.

Figure (2):- Diagnosed Disease.

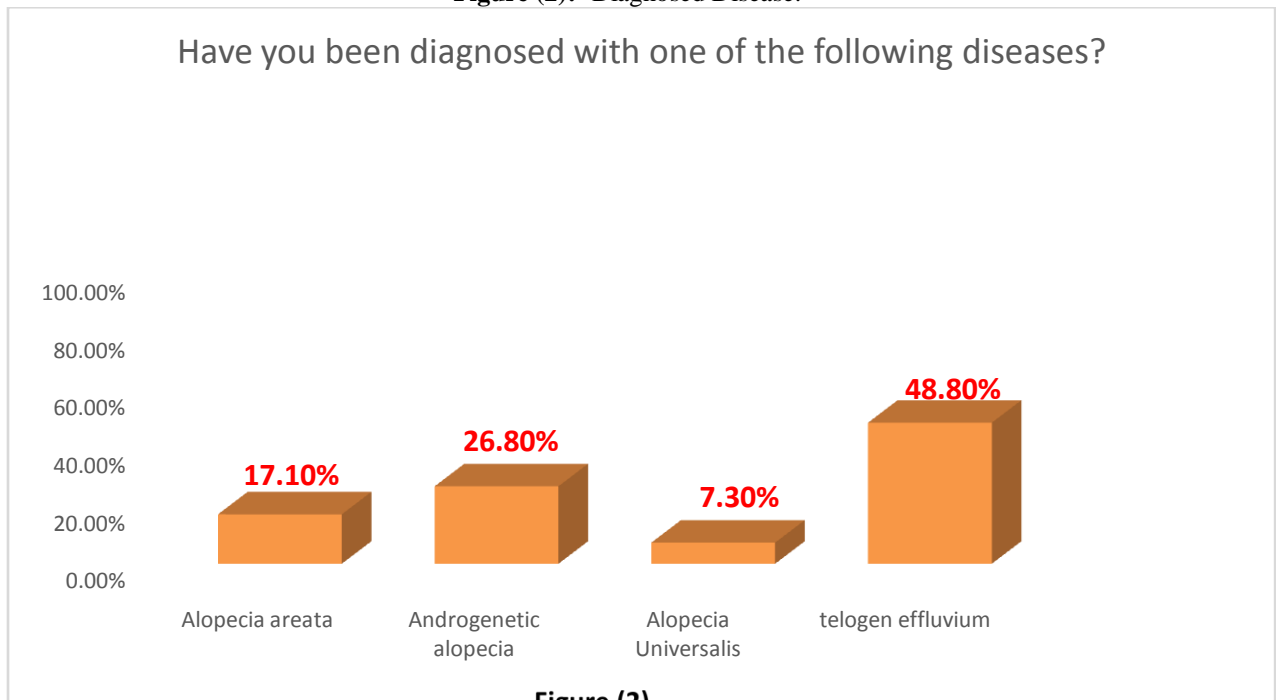


Figure (2) shows that, the majority of them (48.8 %) have telogen effluvium, and the minority of them (7.3) have alopecia universalis

Practical Questions

Figure (3):- Have you tried changing shampoo to prevent hair loss? (Q 10)

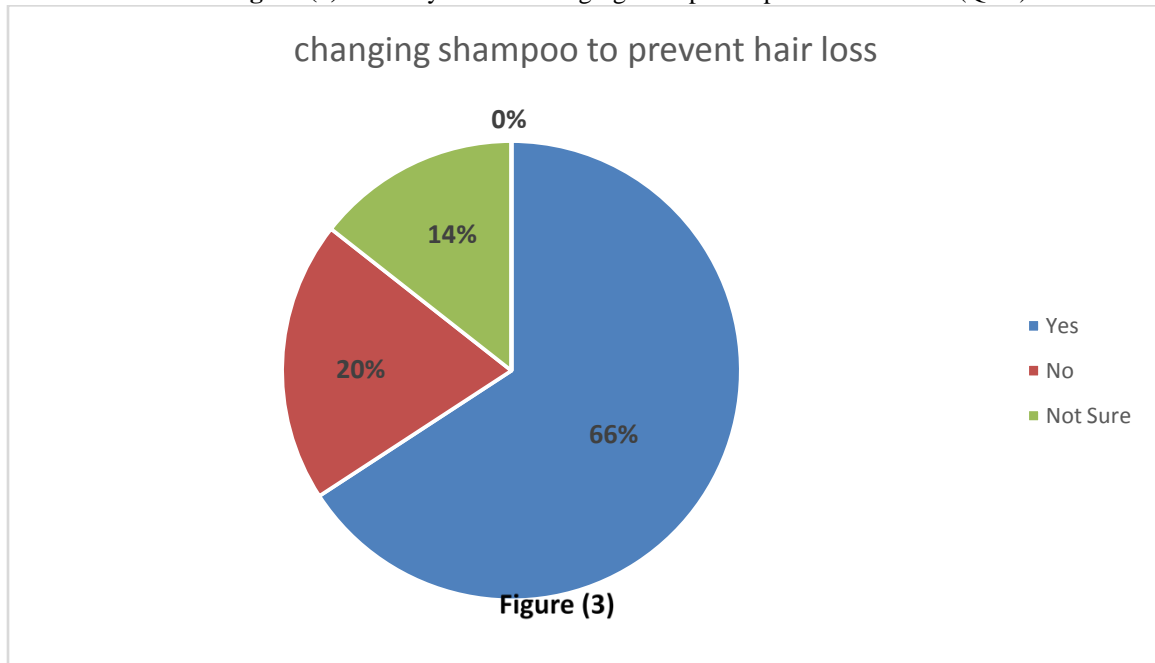


Figure (3) shows that, 66% of study sample tried to change shampoo to prevent hair loss, 20% of them did not try, and 14 % of them were not sure

Figure (4):- Do you use one of the following products? Q 11.

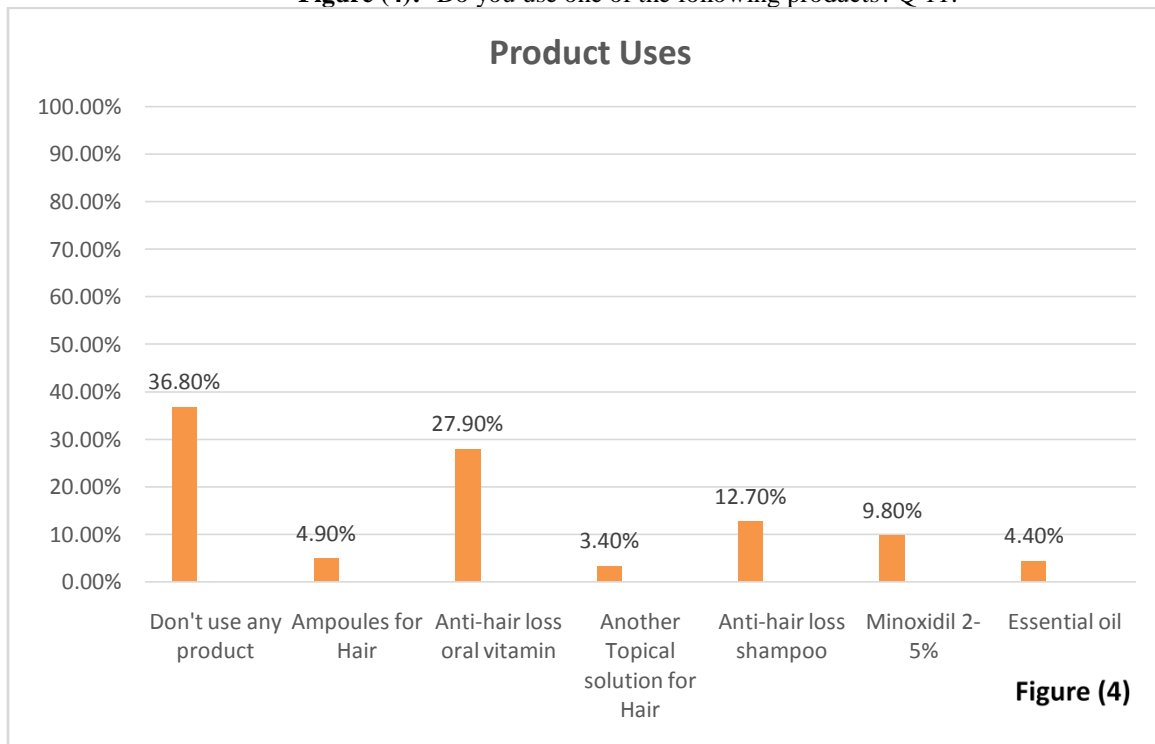


Figure (4) shows that 36.8% of the study sample didn't use any product, 27.9 % of them use anti hair loss oral vitamin, 12.7 use anti hair loss shampoo, 9.8 % use minoxidil 2-5 %, 4.9 use ampoules of hair, 4.4 use essential oil, and 3.4 % use another topical solution for hair

Table (3):- Personal Experience of using shampoo products (quiz 10- quiz 16):

Quizzes	Number	Percentage	main	Median	Std. Deviation
Q 11 Do you use one of the following products?					
Don't use any product	75	36.8 %	1.98	2.00	1.916
Ampoules for Hair	10	4.9 %			
Anti-hair loss oral vitamin	57	27.9 %			
Another Topical solution for Hair	7	3.4 %			
Anti-hair loss shampoo	26	12.7 %			
Minoxidil 2-5%	20	9.8 %			
Essential oil	9	4.4 %			
Q12-16 in case of using this product (ampoules for Hair) answer the following questions					
Can you easily get the product?	24	11.8 %	.48	.00	.505
Is there an improvement when using the product?	18	8.8 %	.38	.00	.489
Did you experience any side effects?	4	2.0 %	.08	.00	.279
After stopping the product, have you noticed significant hair loss?	8	3.9 %	.16	.00	.373
Before using one of these products do you ask (pharmacist - doctor - ask a friend - search online)	27	13.2 %	.55	1.00	.503

Table (3) shows that, according to study sample who use ampoules of hair, 11.8 % of them Can you easily get the product, 8.8 % agree with presence of improvement when using the product, 2.0 % only experienced side effect with the product, 3.9% had noticed a significant hair loss after stopping using the product and 13.2 % ask (pharmacist - doctor - ask a friend - search online) before using

Table (4):- Personal Experience of using shampoo products (quiz 17- quiz 36):

Quizzes	Number	Percentage	main	Median	Std. Deviation
Q17-21 in case of using this product (Minoxidil 2-5%) answer the following questions					
Can you easily get the product?	24	11.8 %	.46	.00	.503
Is there an improvement when using the product?	21	10.3 %	.42	.00	.499
Did you experience any side effects?	14	6.9 %	.27	.00	.448
After stopping the product, have you noticed significant hair loss?	16	7.8 %	.31	.00	.466
Before using one of these products do you ask (pharmacist - doctor - ask a friend - search online)	27	13.2 %	.52	1.00	.505
Q22-26 in case of using this product (Anti hair loss shampoo) answer the following questions					
Can you easily get the product?	57	27.9 %	.70	.00	.463
Is there an improvement when using the product?	27	13.2 %	.33	.00	.474
Did you experience any side effects?	10	4.9 %	1.3	.00	.335
After stopping the product, have you noticed significant hair loss?	24	11.8 %	.30	.00	.459
Before using one of these products do you ask (pharmacist - doctor - ask a friend - search	21	25 %	.63	1.00	.486

online)					
Q27-31 in case of using this product (Home Device) answer the following questions					
Can you easily get the product?	5	2.5 %	.16	.00	.369
Is there an improvement when using the product?	6	2.9 %	.19	.00	.397
Did you experience any side effects?	2	1 %	.06	.00	.246
After stopping the product, have you noticed significant hair loss?	2	1 %	.06	.00	.246
Before using one of these products do you ask (pharmacist - doctor - ask a friend - search online)	9	4.4 %	.26	.00	.448
Q32-36 in case of using this product (essential oil) answer the following questions					
Can you easily get the product?	22	10.8 %	.47	.00	.504
Is there an improvement when using the product?	12	5.9 %	.26	.00	.444
Did you experience any side effects?	5	2.5 %	.11	.00	.315
After stopping the product, have you noticed significant hair loss?	5	2.5 %	.11	.00	.315
Before using one of these products do you ask (pharmacist - doctor - ask a friend - search online)	18	8.8 %	.38	.00	.491

Table (4) shows that, according to study sample who use (Minoxidil 2-5%), 11.8 % of them Can you easily get the product, 10.3 % agree with presence of improvement when using the product, 6.9 % only experienced side effect with the product, 7.8 % had noticed a significant hair loss after stopping using the product and 13.2 % ask (pharmacist - doctor - ask a friend - search online) before using. according to study sample who use Anti hair loss shampoo 27.9 % of them Can you easily get the product, 13.2 % agree with presence of improvement when using the product, 4.9 % only experienced side effect with the product, 11.8 % had noticed a significant hair loss after stopping using the product and 25.0 % ask (pharmacist - doctor - ask a friend - search online) before using. according to study sample who use Home Device 2.5 % of them Can you easily get the product, 2.9 % agree with presence of improvement when using the product, 1.0 % only experienced side effect with the product, 1.0 % had noticed a significant hair loss after stopping using the product and 4.4 % ask (pharmacist - doctor - ask a friend - search online) before using. according to study sample who use essential oil 10.8 % of them Can you easily get the product, 2.9 % agree with presence of improvement when using the product, 2.5 % only experienced side effect with the product, 2.5 % had noticed a significant hair loss after stopping using the product and 8.8 % ask (pharmacist - doctor - ask a friend - search online) before using.

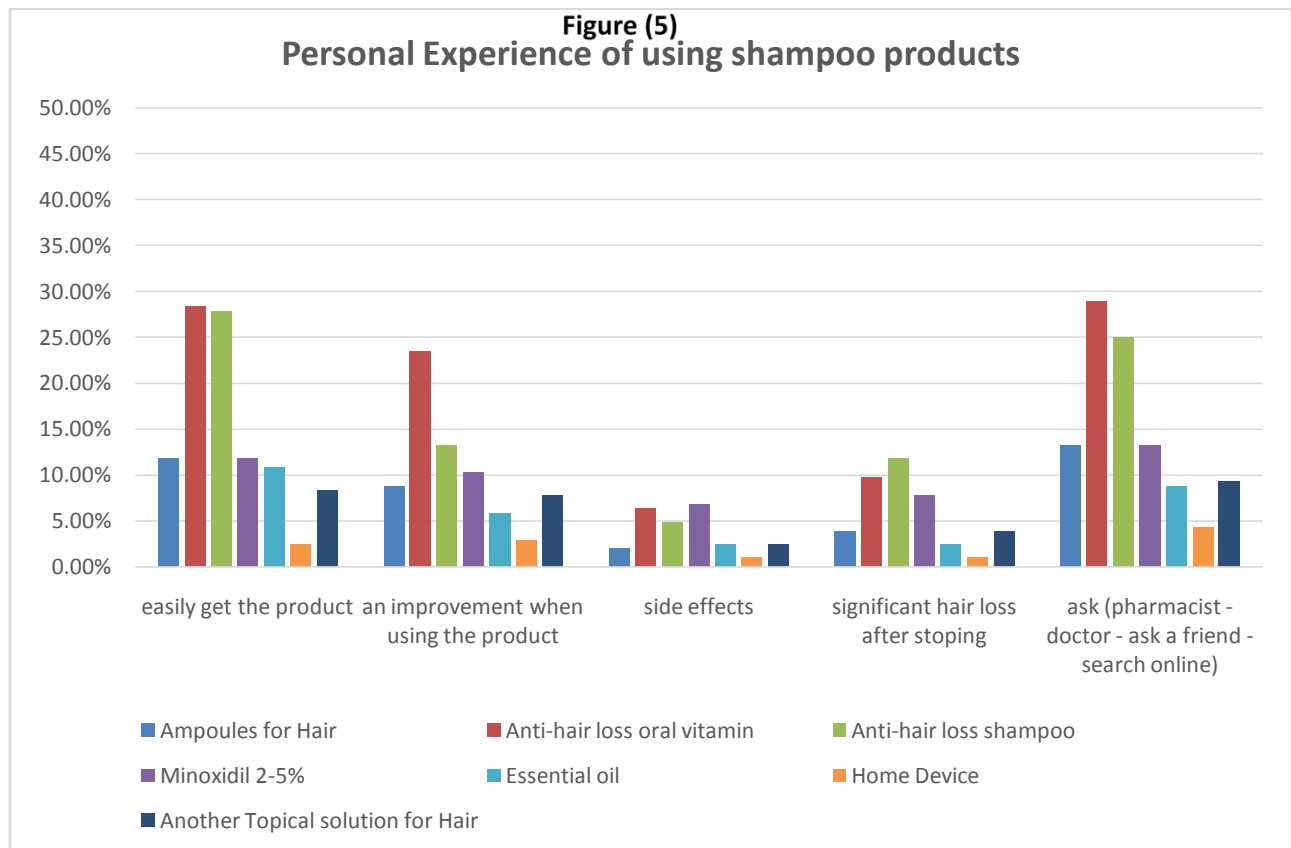
Table (5):- Personal Experience of using shampoo products (quiz 37- quiz 41):

Quizzes	Number	Percentage	mean	Median	Std. Deviation
Q37-41 in case of using this product (Anti hair loss oral vitamin) answer the following questions					
Can you easily get the product?	58	28.4 %	.70	1.00	.462
Is there an improvement when using the product?	48	23.5 %	.57	1.00	.498
Did you experience any side effects?	13	6.4 %	.16	.00	.373
After stopping the product, have you noticed significant hair loss?	20	9.8 %	.25	.00	.438

Before using one of these products do you ask (pharmacist - doctor - ask a friend - search online)	59	28.9 %	.70	1.00	.460
Q42-46 in case of using this product (Another Topical solution for Hair) answer the following questions					
Can you easily get the product?	17	8.3 %	.46	.00	.505
Is there an improvement when using the product?	16	7.8 %	.43	.00	.502
Did you experience any side effects?	5	2.5 %	.13	.00	.335
After stopping the product, have you noticed significant hair loss?	8	3.9 %	.22	.00	.417
Before using one of these products do you ask (pharmacist - doctor - ask a friend - search online)	19	9.3 %	.49	.00	.506

Table (4) shows that, according to study sample who use Anti hair loss oral vitamin, 28.4 % of them Can you easily get the product, 23.5 % agree with presence of improvement when using the product, 6.4 % only experienced side effect with the product, 9.8 % had noticed a significant hair loss after stopping using the product and 28.9 % ask (pharmacist - doctor - ask a friend - search online) before using, according to study sample who use Another Topical solution for Hair, 8.3 % of them Can you easily get the product, 7.8 % agree with presence of improvement when using the product, 2.5 % only experienced side effect with the product, 3.9 % had noticed a significant hair loss after stopping using the product and 9.3 % ask (pharmacist - doctor - ask a friend - search online) before using

Figure (5):- Personal Experience of using shampoo products.



Measurement of personal style of using the hair product

Figure (6):- How do you use the product Q47.

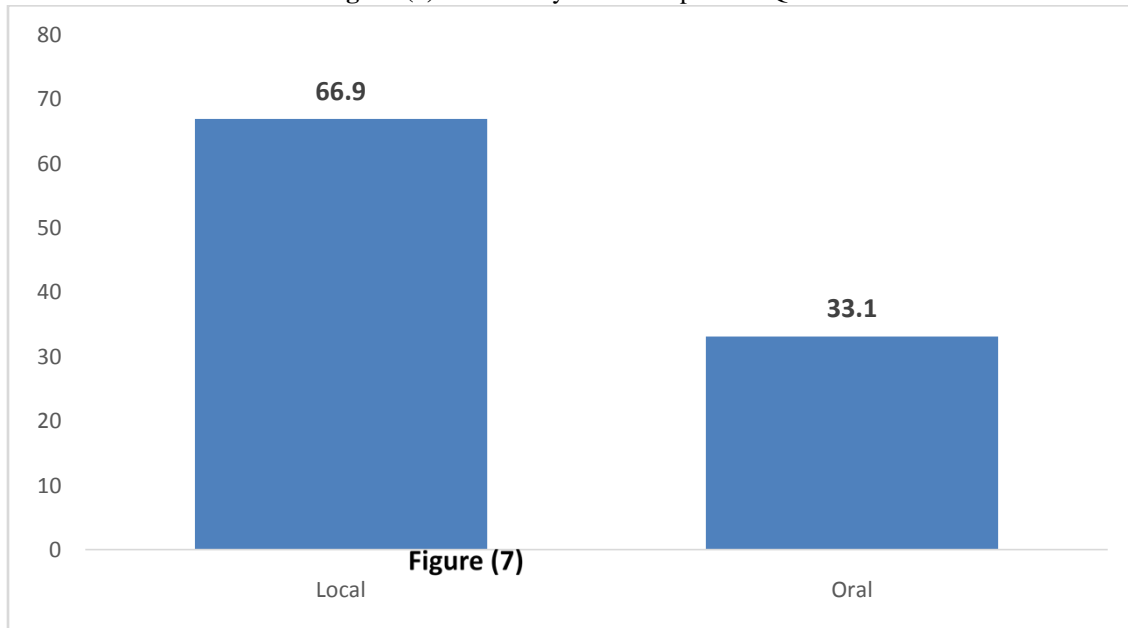


Figure (6) shows that the majority of study sample 66.9 % uses hair product which applied local, and 33.1 % of them use it per oral.

Figure (7):- How often You use the product and for how long? Q 48.

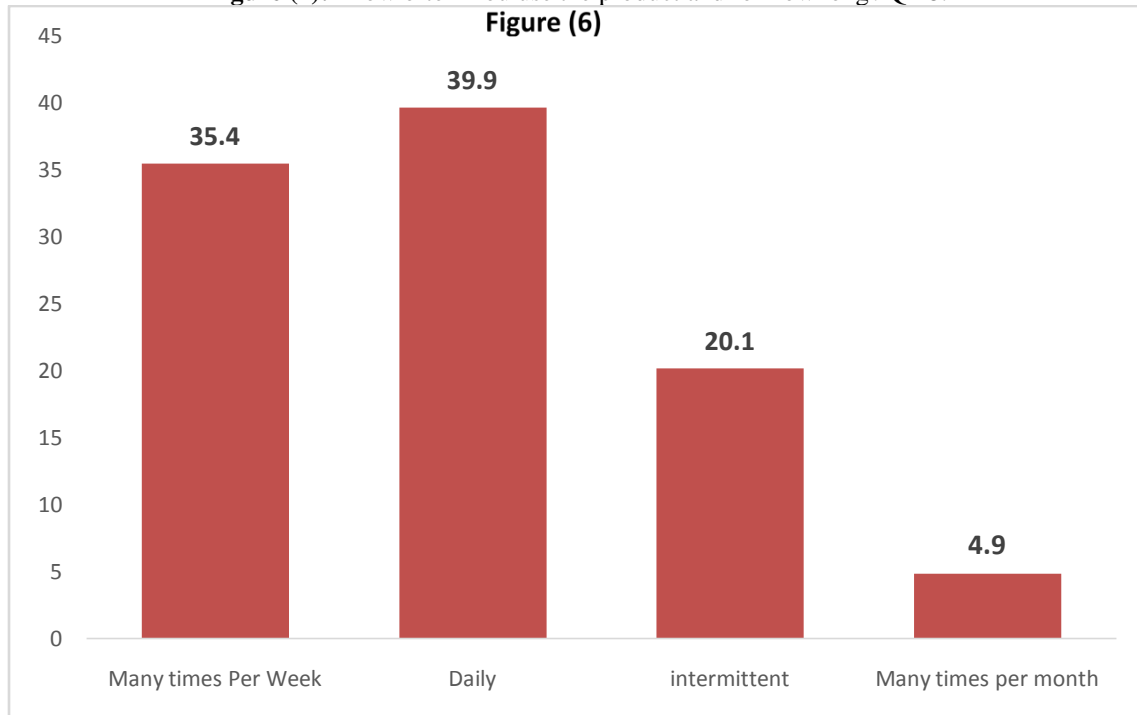


Figure (7) shows that, the majority of study sample 39.9 % use the product daily, 35.4 % of them use it many times per day, 20.1 use it intermittent, and 4.9 many times per month

Figure (8):- Using a combination of products Q49.

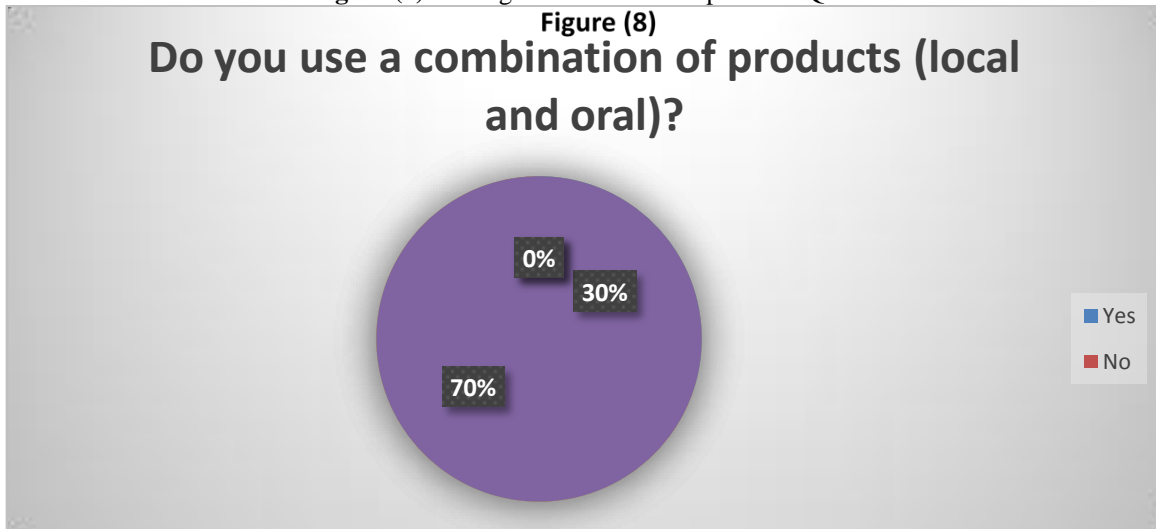


Figure (8) shows that, the majority of study sample 70% use combination (local, oral), 30% of them didn't use it.

Table (6):- Personal experience with using shampoo product (Q50- 56).

	Number			Percentage			main	Median	Std. Deviation
	Yes	No	Not Sure	Yes	No	Not Sure			
Q50 - 56 Choose the Appropriate one									
Have you noticed an increase in hair loss after using the product?	13	81	48	9.2 %	57.0 %	33.8 %	.77	.00	.928
Do you think that using a hair dryer frequently leads to hair loss?	85	39	24	57.4 %	26.4 %	16.2 %	.90	1.00	.647
Do you think using hair dye (hair color) can cause hair loss?	106	16	23	52.0 %	7.8 %	11.3 %	1.05	1.00	.518
Do you think that using a hair treatment (keratin-protein) can cause hair loss?]	100	15	33	49.0 %	7.4 %	16.2 %	1.12	1.00	.558
Do you think flat hair can cause hair loss?	68	23	54	46.9 %	15.9 %	37.2 %	1.21	1.00	.699
Do you think that lengthening hair can cause hair loss?	39	67	41	26.5 %	45.6 %	27.9 %	.82	1.00	.842
Have you ever experienced hair loss after using a hair straightener (keratin protein)?	41	56	47	28.5 %	38.9 %	32.6 %	.94	1.00	.846

Table (6) shows that, 9.2% said that they noticed an increase in hair loss after using the product, 57.0% didn't notice that, and 33.8 % were not sure. 57.4 % think that using a hair dryer leads to hair loss, 26.4 % didn't agree with that, and 16.2 % not sure. 52.0% think that hair dye can cause hair loss, 7.8 % didn't agree with that, and 11.3 % not sure. 49.0% think that using (keratin, protein) can cause hair loss, 7.4 % didn't agree with that, and 16.2 % not sure. 46.9% think that flat hair can cause hair loss, 15.9 % didn't agree, and 37.2 % not sure. 26.5% think that lengthening of hair can cause hair loss, 45.6 % didn't agree, and 27.9 % not sure with that. 28.5% had experienced hair loss after using (keratin, protein), 38.9 % didn't experienced hair loss after using it, 32.6 % were not sure

Table (7):- Measurement of Personal Experience (Q57- 65).

	Number	Percentage	main	Median	Std. Deviation
Q 57- 59 In case of using this product (ampoules for Hair), answer the following questions					
Did you notice any benefit from using the product?	21	43.8 %	.44	.00	.501
Did you notice any Side effects from using the product?	11	23.9 %	.24	.00	.431
Is the more product you use, the better result you notice?	18	37.5 %	.38	.00	.489
Q 60- 62 In case of using this product (Minoxidil 2-5%), answer the following questions					
Did you notice any benefit from using the product?	31	55.4 %	.55	1.00	.502
Did you notice any Side effects from using the product?	12	21.8 %	.22	.00	.417
Is the more product you use, the better result you notice?	26	47.3 %	.47	.00	.504
Q 63 – 65 In case of using this product (Anti hair loss shampoo) answer the following questions					
Did you notice any benefit from using the product?	23	32.9 %	.33	.00	.473
Did you notice any Side effects from using the product?	8	11.9 %	.12	.00	.327
Is the more product you use, the better result you notice?	17	25.8 %	.26	.00	.441

Table (7) shows that, 43.8 % of study sample noticed benefits of using ampoules for hair, 23.9% of them noticed side effect with using it, and 37.5 % see that the more product uses the better result. 55.4 % of study sample noticed benefits of using (Minoxidil 2-5%), 21.8 % of them noticed side effect with using it, and 47.2 % see that the more product uses the better result. 32.9 % of study sample noticed benefits of using Anti hair loss shampoo 11.9 % of them noticed side effect with using it, and 25.8 % see that the more product uses the better result

Table (8):- Measurement of Personal Experience (Q66- 77).

	Number	Percentage	main	Median	Std. Deviation
Q 66 – 68 In case of using this product (Home Device), answer the following questions					
Did you notice any benefit from using the product?	9	25.7 %	.26	.00	.443
Did you notice any Side effects from using the product?	6	18.2 %	.18	.00	.392
Is the more product you use, the better result you notice?	7	20.6 %	.21	.00	.410
Q69 – 71 In case of using this product (essential oil), answer the following questions					
Did you notice any benefit from using the product?	16	34.0 %	.34	.00	.479
Did you notice any Side effects from using the product?	7	15.6 %	.16	.00	.367
Is the more product you use, the better result you notice?	11	25.0 %	.25	.00	.438
Q72 – 74 In case of using this product (Anti hair loss oral vitamin), answer the following questions					
Did you notice any benefit from using the product?	44	59.5 %	.59	1.00	.494
Did you notice any Side effects from using the product?	6	8.2 %	.08	.00	.277

Is the more product you use, the better result you notice?	32	43.2 %	.43	.00	.499
Q 75- 77 In case of using this product (Another Topical solution for Hair), answer the following questions					
Did you notice any benefit from using the product?	20	47.6 %	.48	.00	.505
Did you notice any Side effects from using the product?	8	18.6 %	.19	.00	.394
Is the more product you use, the better result you notice?	18	42.9 %	.43	.00	.501

Table (8) shows that, 25.7 % of study sample noticed benefits of using Home Device ampoules for hair, 18.2 % of them noticed side effect with using it, and 20.6% see that the more product uses the better result. 34.0 % of study sample noticed benefits of using essential oil, 15.6 % of them noticed side effect with using it, and 25.0 % see that the more product uses the better result. 59.5 % of study sample noticed benefits of using Anti hair loss oral vitamin 8.2 % of them noticed side effect with using it, and 43.2 % see that the more product uses the better result. 47.6 % of study sample noticed benefits of using Anti hair loss oral vitamin 18.6 % of them noticed side effect with using it, and 42.9 % see that the more product uses the better result.

Figure (9):- Using of Oral-Minoxidil vitamins and other local hair solutions? (Q78).

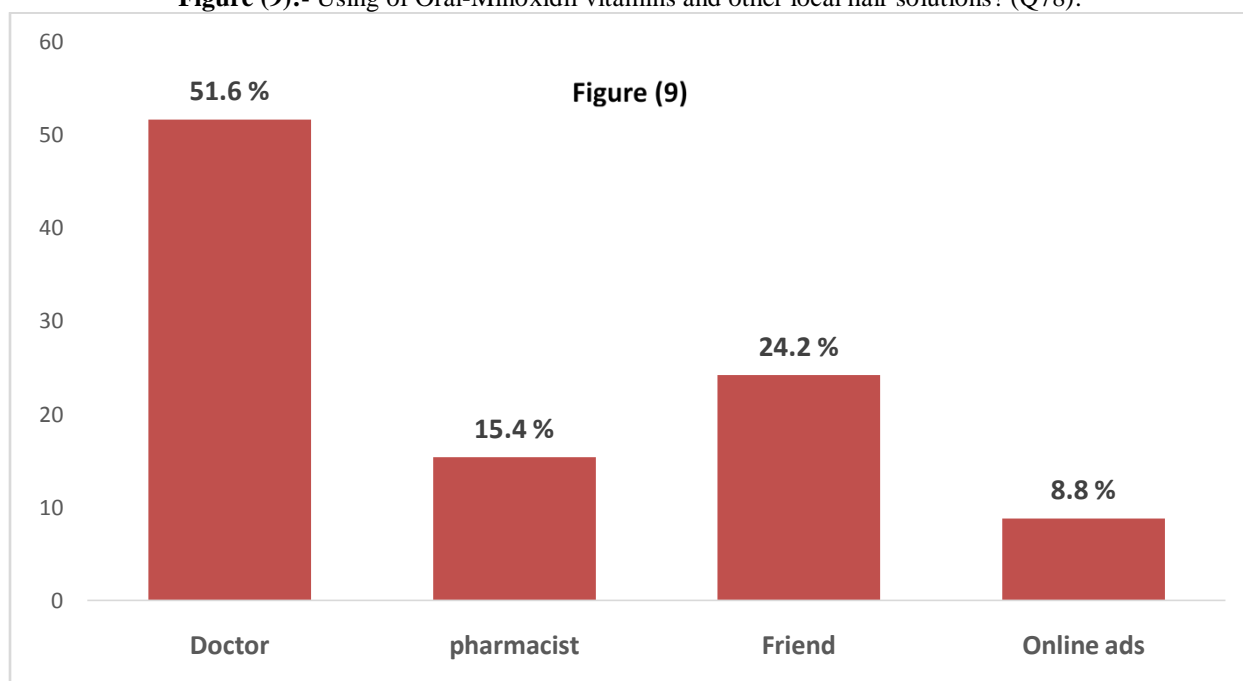


Figure (9) shows that, the majority of study sample 51.6 % using Oral-Minoxidil vitamins and other local hair solutions after asking Doctor, 24.2 % using it after asking friend, 15.4 % of them after asking pharmacist, and 8.8 % of them after seeing online ads But it is used objectively, except for the medical prescription.

Figure (10):- Toxic effects of using vitamins Oral? (Q79).

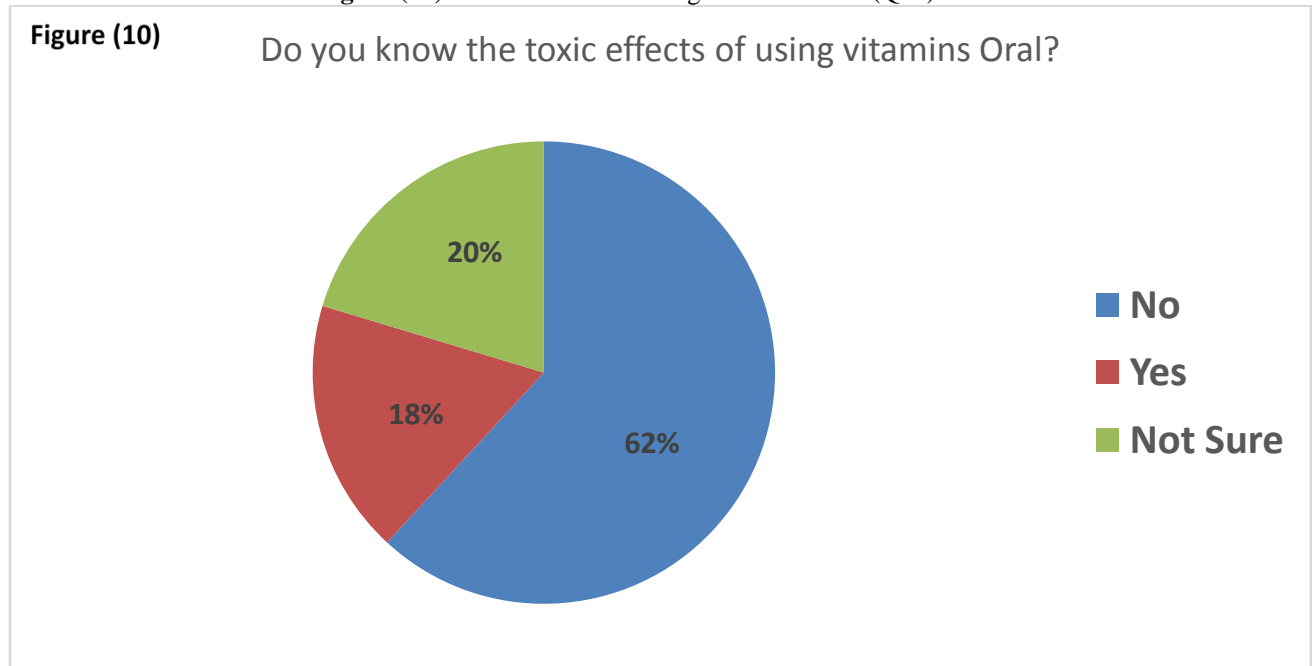


Figure (10) shows that, the majority of study sample 62 % didn't know about the toxic effect of using vitamins oral, 20% of them were not sure, and 18 % were known about this effect.

Table (9):- side effects of local minoxidil (Q80 – 82).

	Number			Percentage			main	Median	Std. Deviation
	Yes	No	Not Sure	Yes	No	Not Sure			
Here are some questions about the side effects of local minoxidil									
Did you know that topical minoxidil can cause excessive hair growth?	24	24	22	34.3 %	34.3 %	31.4 %	.97	1.00	.816
Did you know that topical minoxidil can cause Headache?	17	32	19	25.0 %	47.1 %	27.9 %	.81	1.00	.851
Did you know that topical minoxidil can lead to loss of benefit after stopping it?	25	22	21	36.8 %	32.4 %	30.9 %	.99	1.00	.801

Table (9) shows that, 34.3 % know that minoxidil can cause excessive hair loss, 34.3 of them didn't know about that, and 31.4 were not sure.25% of them know that it could cause headache, 47.1 % didn't know, and 27.9 % were not sure. 36.8 % of them know that minoxidil can lead to loss of benefit after stopping it, 32.4 % didn't know, and 30.9 % were not sure about that.

Table (10):- Relation between uses of Anti hair loss oral vitamin and improvement of hair growth

Correlations			
		is there an improvement when using the product?	Do you use Anti hair loss oral vitamin
Is there an improvement when using the product?]	Pearson Correlation	1	.569**
	Sig. (2-tailed)		.000
	N	84	64

Do you use Anti hair loss oral vitamin	Pearson Correlation	.569**	1
	Sig. (2-tailed)	.000	
	N	64	132
**. Correlation is significant at the 0.01 level (2-tailed).			

Table (10) shows that there is a significance positive correlation between uses of Anti hair loss oral vitamin and improvement of hair growth ($P > 0.001$)

Table (11):- correlation between uses of ampoules for Hair and improvement of hair growth.

Correlations			
		Do you use ampoules for Hair	Is there an improvement when using the product?
Do you use ampoules for Hair	Pearson Correlation	1	.816**
	Sig. (2-tailed)		.000
	N	85	21
Is there an improvement when using the product?	Pearson Correlation	.816**	1
	Sig. (2-tailed)	.000	
	N	21	48
**. Correlation is significant at the 0.01 level (2-tailed).			

Table (11) shows that there is a significance positive correlation between uses of ampoules for Hair and improvement of hair growth ($P > 0.001$)

Table (12)

Study Questions:

- Are there any beneficial effects for using multivitamins for hair growth?
Table (8)
- What are these benefits?
Tables (3-5)
- Can hair shampoo increase hair growth?
Tables (3-5)
- What's the harmful effect that may appear from use these compounds?
Tables (6-9)
- Hair ampules as a modern technology have an effect on hair growth?
Table (7)
- Are hair ampules worth the cost?
Table (7)

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