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Assessment of Health Behavior and Knowledge Regarding Vaginal Discharge among Female Students At EL-Fayoum University

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Abstract:
Vaginal discharge is a common presenting complain among females throughout female life time. ***Aim of the study:*** *to assess of health behavior and knowledge regarding vaginal discharge among female students at El-Fayoum University.* ***Design:*** *A descriptive study was used in this study.* ***Setting:*** *The study was conducted at El-Fayoum University in student housing.* ***Sample:*** *A purposive sample was utilized in the present study to recruit 165 female students.* ***Tools:*** *three tools for data collection were used.* ***First tool:****Interviewing questionnaire sheet to assess socio-demographic data, menstrual history, menstrual characteristics.* ***Second tool****: to assess female knowledge regarding* ***v****aginal discharge.* ***Third tool:****Vaginal discharge assessment behavior form to assess student health behavior regarding vaginal discharge.* ***Results:*** *the current study showed that most of female students suffer from abnormal vaginal discharge associated with others symptoms such as itching, burning sensation in genital area offensive bad odour more than half of them with fishy odour, around three quarter of female students having poor level of health knowledge regarding vaginal discharge with majority from female students have un accepted behavior hygiene.* ***Conclusion:*** *The higher percentage of female students have vaginal discharge with bad odor, and associated with genital itching. The female students haven't appropriated knowledge regarding vaginal discharge.* ***Recommendation:*** *developing program to increasing awareness regarding vaginal discharge among female students.*

Key words: *Female students, Health behavior, Vaginal discharge.*

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I. Introduction

Vaginal discharge is the most common gynecological condition through female of reproductive life, may be a Vaginal discharge is the most common gynecological condition through female of reproductive life, may be a normal occurs during reproductive age resulted to of effecting female hormones, (progesterone and estrogen), menstruation, pregnancy. Vaginal discharge common primary symptomatic complain for seeking female for gynecology clinics, sexual clinics, and general practice, is around 5-10 million visit every year in the worldwide. **(Mike., et al, 2018).**

Predisposing female students' factor to abnormal vaginal discharge include female recurrent uses of antibiotic therapy, immunodeficiency disease, corticosteroid use or birth control pills, uncontrol diabetes and allergic. Frequent using vaginal douching or scented soaps, synthetic clothes and contaminated towel, feminine hygiene sprays, poor menstrual hygiene, keeping vaginal area moist, and pelvic inflammatory disease (PID), genital tract malignancy, vaginal atrophy or cervical polyps, fistula. **(Gaydos., &Begaj., 2017).**

Symptoms and signs of vaginal discharge change in nature of vaginal discharge, increase to amount of vaginal discharge with offensive or non-offensive odour sometimes become offensive fishy odour, itching, irritation. female presenting with abnormal vulval burning or stinging and soreness, erythema, and strawberry cervix of vagina. Rarely female complain low abdominal discomfort. The assessment and diagnosis of each infection is based upon clinical history, physical and microscopic examination, measure of pH of the vaginal discharge, laboratory finding. **(Jackie.,et al, 2017).**

Prevention of abnormal vaginal discharge include three levels of prevention (primary, secondary and tertiary prevention). Primary level of prevention emphasis on avoiding exposure to disease through counseling the female student with knowledge regarding vaginal discharge, modify risk factor, secondary prevention level involves keep to abnormal vaginal discharge boarding to the upper female reproductive system, and performed to clinical history, physical examination to support diagnosis, immediate prescribe treatment. Tertiary prevention includes treatment and management to complication of vaginal discharge. **(Wenson., et al ,2018)**

Nurse can be play critical role to preventing and detecting abnormal vaginal discharge by educates and counsel female student healthy behavior and knowledge regarding vaginal discharge. Educated female differentiate among types of vaginal discharge, increase female students' awareness regarding personal hygiene, wear cotton, wide underwear, and exposed underwear to sunlight, keep perineal area dry. Nurse should be instructing female have risk factor for infection to avoid synthetic clothes or chemical vaginal product, controlled diabetic, and avoid un urgent medication such as (hormone replacement, recurrent antibiotic, steroid), encouraging female student to seek attention to any abnormal vaginal discharge or any unusual sign of infection. **(Barbara.,2020).**

Significant of the study:

American Social Health Association (ASHA.,2015), the prevalence of abnormal vaginal discharge that estimated 70.0% form female are self-treated from abnormal vaginal discharge without seeking health care provider. World health organization reported that there are more than 340 million new females of sexually transmitted infections each year and 75-85% from female the developing countries and lead to sever complication on the female reproductive **(Kumar., & Padmaja, 2016).**

In Egypt,21% of the total population comprises of adolescents Lack of adequate knowledge may lead to various genitourinary diseases among adolescent girl. Egyptian puberty girls have more common medical complaints are vaginal discharge infections. It is estimated that 8% of the girls visited a health care clinic each year due to lack of adequate knowledge and hygienic practices and poor hygiene school toilets **(Fouad &Boraie., 2016).**

In United States female of childbearing age, bacterial vaginitis is the most common vaginal infection. An estimated 7.4 million new cases of bacterial vaginosis occur each year National data show that the prevalence is 29%. However, the rate varies in different sub populations; it is 5-25% of college students and 12-61% in patients with STDs **(Nooh., 2016).**

More than 1 million STIs are acquired every day reproductive health over worldwide. Each year, there are estimated 357 million new infections with 1 of 4 STIs: chlamydia (131 million), gonorrhea (78 million), syphilis (5.6 million) and trichomoniasis (143 million). More than 500 million people are living with genital HSV (herpes) infection. At any point in time, more than 290 million women have an HPV infection, one of the most common STIs **(Elzayat., 2017).**

II. Material and Methods

The study was aimed to assessing of health behavior and knowledge regarding vaginal discharge among female students at El-Fayoum University.

Research Design:

A descriptive design was utilized to fulfill the objective of the study.

Setting:

The study was conducted at Female Hostel of El-Fayoum University.

Subjects (sampling):

Sample type: A purposive sampling was used in the current study.

Inclusion criteria:

1. Single female

2. Acceptance to participate in the study

Exclusion criteria

1. Medical faculties

Sample Size:sample size was calculate based on the previous years of senses report of student's hostel at El-Fayoum University, the total number of non-medical student female (1650) student at end of last years (2018-2019). ten present of female (165) student was selected according to inclusion criteria single female.

Tools for data collection:

Tool (1): interviewing questionnaire, (Appendix I): this tool was developed by the researcher, based on reviewing the literature, to assess female student socio-demographic data, menstrual history and knowledge, which include two part:

Part I: **Socio-demographic data**: this part was concerned with characteristic of the female students such as (age, residence, faculty, grad, address, phone number), and female student mother's age, education, and their working).

PartII: **Menstrual history:** this part prepared to assess to menstrual characteristics data as (female student age of menarche, menstrual duration, menstrual days, interval of menstrual…etc.

Tool (2): **Assessment of female's student knowledge (appendix II):**This tool was designed by the researcher to assess female student knowledge about vaginal discharge, such as normal and abnormal vaginal discharge, (amount -odour -consistency, itching -color- etc...).

Scoring system: All variable was weighted according to items included from question, the correct complete answer as score (3), correct, incomplete answer gives score (2) and incorrect, in complete answer give score (1).

Total knowledge score was divided into:

- Satisfactory knowledge: ≥ 50%.
- Un satisfactory knowledge: < 50%.

Tool (3): Vaginal discharge assessment behavior form (Appendix III): This tool was adapted by **(Ilankoon, 2018)** to assess female student health behavior regarding vaginal discharge which modified and translated into Arabic language, by the researcher to more suitable to the present study sample, it included "13" question included female student behavior regarding vaginal discharge.

Scoring system: All variable was weighted according to items,to assess health behaviors as ranged from (Accept) when correct answer gives to each correct answer score (3), sometimes answer score (2) when (Not accept) answer consider as uncorrected answer give score (1). Total behavior level was scored as.

Total health behavior score was divided into:

- Accept health behavior: ≥ 60%
- Not-Accept health behavior: < 60%

Content of validity and reliability:

Tools Validity:

The data collection tools were submitted to a panel of three nursing and medical expertise in obstetrics gynecology to test content validity. Modifications were done according to the panel's judgments on the clarity of sentences and the contents appropriateness.

Tools Reliability

The reliabilitywas done by Cronbach's Alpha Coefficient Test, which revealed that the tools consisted of relatively homogenous items as indicated by moderate of the high reliability tool:

Reliability test:

Tool	Cronbach alpha test
First tool	0.799
Second tool	0.817
Third tool	0.829

Ethical Considerations:

The ethical research consideration in this study include the following:

- The research approval was obtained from the scientific research ethical committee in the Faculty of Nursing at Helwan University before starting the study.
- The researcher clarified the study's aim, to the female students included in the study.
- The research assured maintaining anonymity and confidentiality of the female students.
- Female students informed that are allowed to choose to participate or not in the study and that have the right to withdraw from the study at any time.

II. Administrative design:

An official approval with a written letter clarifying the title, aim and the setting of the study was obtained from the director of student's hostel at El- Fayoum University, and Faculty of Nursing Helwan University.

III. Operational design:

The study, to be completed, has passed through different as phases follows: the preparatory phase, then the pilot study and field of work phase.

Preparatory phase:

Review was done of the current, local and international related literature about various aspect of the problem using books, periodicals journal, magazines and internet. This review helped the researcher to be more acquainted with magnitude and incidence of the problem, with the process of tools designed. Then tools were designed and tested for being through a pilot study and three jury of professors specialized in maternal and newborn health nursing, medical expertise in obstetrics and gynecology.

Pilot study:

The pilot study was carried out with 10% (17 female students) of total sample at selective female student to investigate the efficiency, the applicability and clarity of the tools, according to the result of the pilot study was be added three items during data collection, help to determine the time as needed to collect the data form female student and evaluating suitable of the setting. Female students included in the pilot study included from the total as study sample.

Field work:

- The process of data collection was carried out in the period from the begins from September 2019, completed by the December 2019.
- The researcher attended the previous setting three days per week from 9. 00a.m to 1.00 p.m. Saturday, Thursday and Wednesday of each week. The researcher introduced to the female student
- The researcher explained the research aim to gain confidence, trust to participate in the study and obtained the female student's verbal consent to establish a trustful relationship and took each female in private room.
- Interviewing questionnaire tools, was taking form 15-30 minutes to clarify study aim, and explaining the content, exchange confidently and number of samples were taking form 10-15 female students per day within three days every week.
- Then the researcher starts to use the first tool to the assess general characteristic's according to the interviewing questionnaire during female student's free time.

IV. Statistical design:

Data analysis and presentation

Data was analyzed using the Statistical Package for Social Science (SPSS) version 22. Qualitative data was presented as numbers and percentages. Relations between different qualitative variables were tested using Chi-square test (X^2). Relation between quantitative variables was tested using Pearson correlation coefficient (r). Probability (p-value) < 0.05 was considered significant and < 0.001 was considered highly significant.

Table (1): shows the socio-demographic characteristic of the female students. Demonstrates that 64.2% of the female students their age ranges from 17-20 years with mean 19.9±1.4 years. Regarding residence of female students, the percent study demonstrates that, more than two thirds of them are lived in rural areas. While, one third live in urban area. Moreover, 72.1% of female student's practical faculty.

Table (2): Distribution of female students regarding their menstruation characteristic data n=165.

Items	N	%
Age of Menarche (years)		
10-12	69	41.8
13-15	79	47.9
>15 years	17	10.3
Mean ±SD	**3.62±12.95**	
Duration of menstrual cycle		
<21 days	13	7.9
24-35	134	81.2
>35 days	18	10.9
Days of menstrual bleeding		
1-3	17	10.3
4-6	120	72.7
>6	28	17.0
Mean ±SD	**1.70±5.03**	
Pain associated with menses		
Yes	119	72.1
No	46	27.9
Vaginal discharge after menstrual cycle		
No	0	0.0
Yes	150	90.9
Sometimes	15	9.1
Duration of discharge		
1-3	78	47.3
4-6	51	30.9
>6 days	36	21.8
Mean ±SD	**4.11±2,08**	

Color of vaginal discharge after menstruation		
Black	11	6.7
Brown	145	87.9
Red	9	5.4

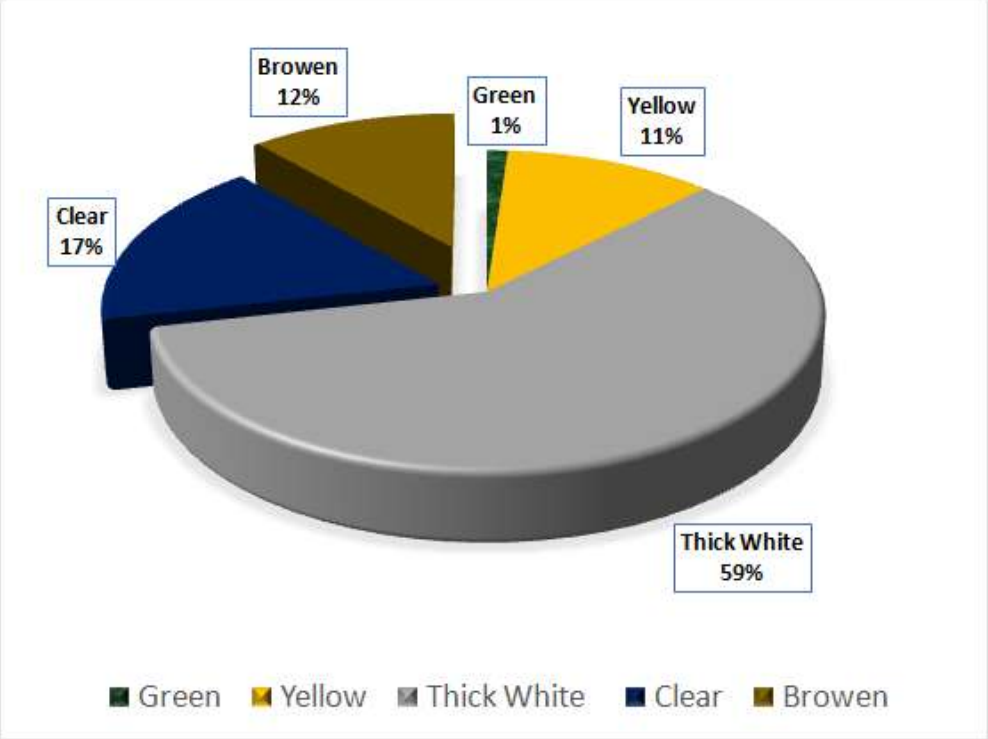
Table (3): Summarize distribution of female students regarding their menstrual characteristic, in the current study show that, regarding age of menarche of female students mean ±SD 3.62±12.95. Regarding days of menstrual cycle of female students mean ±SD 1.70±5.03, while, regarding days of menstrual cycle of female students mean ±SD 1.70±5.03. Also, show that 72.1% of female student suffered from pain associated with menstrual cycle. Regarding vaginal discharge after menstrual cycle, the majority of female students suffered heavy vaginal discharge after menstruation. Regarding duration of vaginal discharge after menstruation of female students mean ±SD 4.11±2.08 Moreover, show that the most common of female students suffered from brown color of vaginal discharge with bad odor during menstruation.

Table (3): Distribution of female students' knowledge regarding vaginal discharge, frequency, characteristic and consistency n=165.

Items	**Frequency No**	**%**
Female students suffer from vaginal discharge		
No	**14**	**8.5**
Yes	**151**	**91.5**
How many days of female student have experienced vaginal discharge?		
1-3 days	**63**	**38.2**
3-6 days	**52**	**31.5**
6-10days	**19**	**11.5**
More than 10 days	**31**	**18.8**
Mean ±SD	**4.7 ±2.1**	
Frequency of vaginal discharge		
1-3 days	**78**	**47.3**
3-6 days	**51**	**30.9**
6 days	**36**	**21.8**
Mean ±SD	**3.6±1.7**	
Characteristic of vaginal discharge of female student.		
Continuous	**40**	**24.2**
Intermittently	**114**	**69.1**
Dry	**6**	**3.6**
Nothing	**5**	**3.1**
Consistency of the vaginal discharge		
Thick white	**61**	**37.0**
Thin	**40**	**24.2**
Mucoid	**46**	**27.9**
Frothy	**18**	**10.9**
Discharge odour		
Non offensive	**66**	**40.0**
Offensive	**86**	**52.1**
Fishy	**13**	**7.9**

Table (3): show that, the majority of female students suffer from vaginal discharge. Moreover, regarding experienced days of female student's vaginal discharge mean ±SD 4.7 ±2.1. Regarding frequency of vaginal discharge of female students mean ±SD 3.6±1.7. moreover, according characteristic of vaginal discharge of female student show that, more than one third of female student have fishy discharge odour and two third of female students suffered of intermittently vaginal discharge also more than one fifth of them complain of continuous vaginal discharge.

Figurer (1): Distribution of female students' knowledge regarding color of vaginal discharge n=165.



Figurer (1): Regarding color of vaginal discharge, in the present study show that, 18.2% of female student's clear vaginal discharge. While, 63.0% of the female students suffer from thick white discharge. Moreover, 12.1% of female students, while 15.2% of female students are brown vaginal discharge.brown vaginal discharge.

Figure (2): Distribution of female students' knowledge regarding sign and symptoms of female students associated with vaginal dischargen=165.

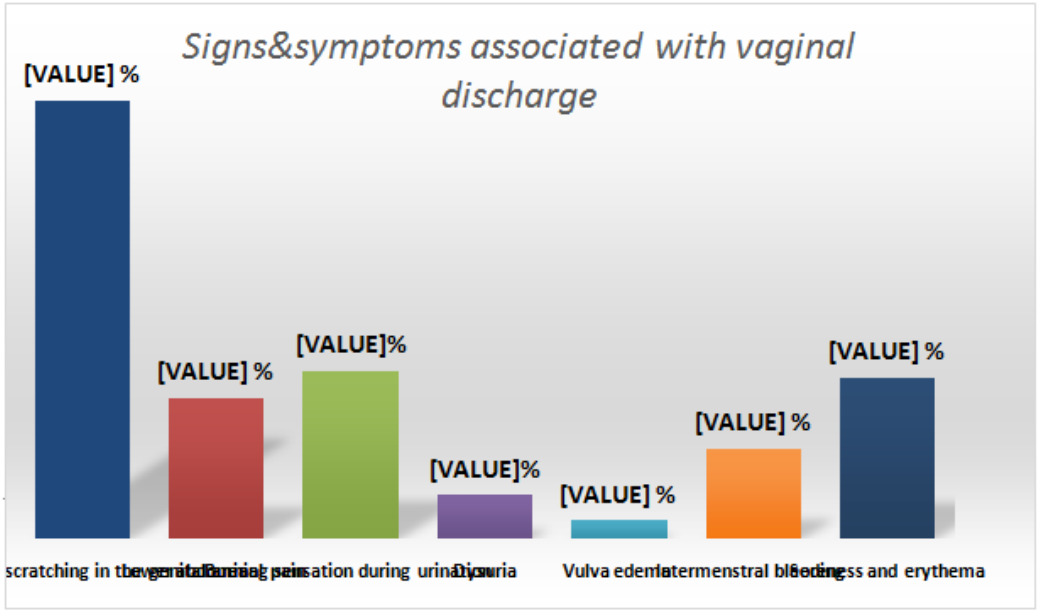


Figure (2): the figure illustrates that, the sign and symptoms of the female students associated with vaginal discharge. Demonstrates that 41.2% of the female students complain from itches and scratching in the genital area, 13.3%, lower abdominal pain. Monover,15.8% of female students suffered burning sensation during urination, while 4.2% of female student dysuria, 1.8%vulva edema, 8.5% intermenstrual. Also show that, 15.2% of female students complain of soreness, erythema.

Table (4): Distribution of female students' knowledge regarding abnormal vaginal discharge

Items	Correct& Complete answers		Correct&Incomplete answers		Incorrect& Incomplete	
	N	%	N	%	N	%
Definition of vaginal discharge	151	19.5	14	8.5	0	0
How many days of female students have experienced vaginal discharge	65	39.4	51	31.5	49	30.3
Normal and abnormal vaginal discharge of female students						
Color of vaginal discharge	30	18.2	104	63.0	31	18.8
Consistency of vaginal discharge	40	24.2	61	37.0	64	38.8
Characteristic of vaginal discharge	114	69.1	40	24.2	11	6.7
Frequency of vaginal discharge	78	47.3	51	30.9	36	21.8
Vaginal discharge odour of female students	66	40.0	86	52.1	13	7.9

Table (4): showed female students' knowledge regarding vaginal discharge, as 69.1% and 47.3% of female students had correct& complete knowledge regarding characteristic and frequency of vaginal discharge, respectively. While, 63 % and 52.1% of female students had correct& incomplete knowledge regarding color and odour of vaginal discharge, respectively.

Figure (3): Distribution of female students regarding sources of seeking health provider of vaginal discharge n=165.

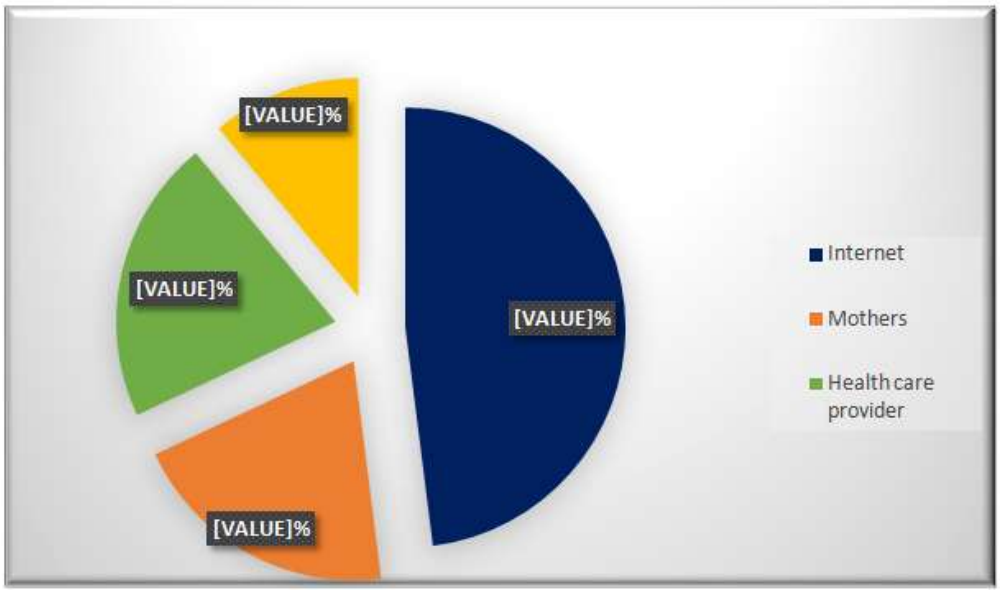


Figure (3): The results demonstrates that, regarding sources of seeking of health services regarding abnormal vaginal show that, 48.0% of female students use internet, while 21.0% ask health care provider (physician and nurses). Moreover, 20.0% of female students ask their mothers,20.0% of female students ask relatives.

Table (5): Distribution assessment of the female student health behavior regarding vaginal discharge n=165.

Items	Correct answers		Sometimes		In correct answers	
	N	%	N	%		
The best method to wash external genital area from front to back	31	18.8	20	12.1	114	69.1
Wash the genital area by using douche in the toilet harm the area	42	25.4	22	13.3	103	62.4
Wash form back to front cause infection	38	23	25	15.2	102	61.8
Wearing cotton underwear cloth lead to absorbed the wet	41	24.9	20	12.1	104	63.0

Random wash for genital area transmits germs	40	24.2	15	9.1	110	66.7
Nylon underwear leads to irritation, itching	40	24.2	27	16.4	98	59.4
Narrow underwear lead to increase sweat and stay wet for long time	25	15.1	12	7.3	128	77.6
Exposing the underwear for sunlight kills the germs	41	24.8	25	15.2	99	60.0
Wide underwear not leads to sweat and become comfortable	42	25.4	22	13.3	101	61.2
A lot using plenty perfumed douches lead to infection	27	16.4	30	18.2	108	65.4

Table (5): Distribution assessment of the female student health behavior regarding vaginal discharge, the results show that 69.1 % of female students had incorrect answer related to the best method to wash external genital area from front to back. In addition, 66.7% of female student reported that random wash for genital area transmits germs. Also, 77.6% of female student had incorrect answer related to narrow underwear lead to increase sweat and stay wet for long time.**Table (8):** Relation between total level of knowledge and total health behavior n=165.

Table (6): show that, there is positive statistically significant relation between total student's knowledge and their health behavior, where p-value >0.05.

Level of knowledge	**Total health behavior**				**P value**
	Acceptable		**Not Acceptable**		
	N	**%**	**N**	**%**	
Satisfactory	8	14.0	49	86	**0.025***
Unsatisfactory	4	3.7	104	96.3	

****Statistically significant difference P (< 0.05).***

Table (6): show that, there is positive statistically significant relation between total student's knowledge and their health behavior, where p-value >0.05.

III. Discussion

Regarding distribution of characteristics of socio-demographics, the findings of the current study revealed that, the majority of female students the mean age of the female students is 19.9±1.4 years with age range form 17-20 years. This result similar with the result of study performed by. **(Zaki., et al, 2018),** in their study entitled "the efficacy of learning package regarding vaginal infection and associated risk health behaviors among female university Students" who stated that the majority of the study sample was aged between 18 and 20 years.

Regarding the residence, slightly less than two thirds of female students residing in rural areas. While, more than one third of them were from urban areas. These results are accordance **(Milan., & Gordon, 2018)** in Uganda, who found that, the prevalence college students with less than two thirds percent of the studied samples were living in rural area. Also, this result approved with the study performed by **(Mulu., et al, 2016)** "Common causes of vaginal infections and antibiotic susceptibility of aerobic bacterial isolates in women of reproductive age attending Felegehiwot referral hospital" in Ethiopia, which revealed that majority of sample were from rural areas. This may be due to lack of health service provider in rural areas and spread ignorance, shame in rural areas.

The results disagreement with the study achieved by **(Iwu, &Duru., 2018)** in Nigeria, about that prevalence of abnormal vaginal discharge was more than one quarter in the rural area. While, these results disagreement with the study achieved by **(Uwakwe., et al, 2018),** "Prevalence, pattern and predictors of abnormal vaginal discharge among women attending health Care Institutions in Imo State" in Nigeria, that show female residing in an urban area were significantly more likely to have abnormal vaginal discharge. This may be explained by the increased social interactive environment that operates in urban areas.

Regarding distribution of female student about their menstrual history, the findings of the current study revealed that, the majority of the female students start first of menarche form 10 and 15 years without any information about menstruation hygiene, Moreover, more than three quarters have normal cycle with excessive vaginal discharge during menstruation. These results similar with the results of study performed by **(Fehintola., et al, 2017),** which entitled "Assessment of knowledge, attitude and practice about menstruation and menstrual hygiene among secondary high school girls in Ogbomoso, Oyo state, Nigeria" who stated that, the majority of female start first monarch at 10 and 19 years, with excessive vaginal discharge. The findings could be attributed to high prevalence vaginal discharge and lack menstrual knowledge, menstrual hygiene behavior.

Regarding distribution of female students' knowledge regarding vaginal discharge, frequency, characteristic and consistency, the findings of the current study revealed that the female students suffered from abnormal vaginal discharge. The majority and more than two fifth of the female students say yes. This finding is similar with the results of study performed by **(Abdelnaem., et al, 2019)** which entitled "Effect of self-care guidelines on knowledge and quality of life among faculty of nursing students with vaginal infection" Their reported that, the majority form female said yes suffer from abnormal vaginal discharge.

Regarding to clinical finding for signs, symptoms frequency, nature, consistency among female students, the finding of the current study revealed that, more than three quarters of female students have suffered of abnormal vaginal discharge, the present study. Moreover, more than half of female experienced of itches in the genital area, burning sensation during urination. Lower abdominal pain and the last of them experienced dysuria, vulva edema, these findings agree with the study of **(Pramila., 2018)** in, Kenya, who reported that, more than three quarters, suffered itching symptoms abdominal pain and followed by vulva edema, dysuria.

Regarding the nature of abnormal vaginal discharge, the finding of the current study revealed that, more than half of female students come to them intermittently thick white discharge. Moreover, more than quarter from female students suffered of continuous for two months. These results similar with the results of study performed by **(Garba., et al, 2017)** which entitled, "Microbiological Diagnosis of Bacterial Vaginosis in Pregnant Women in a Resource Limited Setting in North Central Nigeria," who stated that the prevalence and determinants of vaginal secretion among female in Nigeria having lower abdominal pain, itching, with pathological vaginal discharge has been found to be a motivating factor to seek treatment. Regarding frequency of vaginal discharge, the finding of the current study revealed that, about half of the female students frequent for three days. Moreover, more than one third of them experienced for six times per days, and twenty percent continue more six times per days. The finding of the current study in agreement with **(Ilmiawati, &Kuntoro., 2017),** who stated that, more than half form female experienced vaginal discharge more than six times /days. The finding of the current study slightly agreement with study conducted by **(Masoumeh al.,2016),** who reported that, frequency of vaginal discharge more than one third complain for eight days per month. This result may be interpreted that in spite the frequent abnormal vaginal discharge per month many times for female students without seek treatment due to lack awareness and ignorance difference between normal and abnormal vaginal discharge.

According distribution of female students regarding sources of seeking health provider of vaginal discharge, the finding of the current study revealed that, the main sources of health care service internet among female students, while the remainder than half of them followed by (mothers, physician and nurses, relatives). These results similar with the results of study performed by **(Hamed., 2015),** who stated that, the main source of knowledge is internet between young female have abnormal vaginal discharge. But these results disagreement with the study achieved by **(Youness&Omer., 2017),** stated that, the most common source of knowledge was their friends and their family members about eighty percent. These results may be explained the main source of their knowledge form internet and that can risk to anonymous knowledge, also explain inadequate health care provider.

Regarding distribution assessment of the female student health behavior regarding vaginal discharge, the current study revealed that, the most of female students give incorrect answer. The finding of the current study revealed that, more than two quarters give incorrect answer regarding (the best method to wash external genital area from front to back). These results supported with the study done by **(Bautista., et al, 2016)** showed that, the frequently genital infection as among female practicing correct genital hygiene, in those who clean the genital area incorrectly. This result may be due to inadequate female students' knowledge and hygiene behavior regarding vaginal discharge which lead to abnormal vaginal discharge due to transfer of microorganisms from the anus to the vagina during vaginal hygiene.

Regarding total level of knowledge regarding health behaviors among female student with vaginal discharge, the finding of the current study revealed that, two third percent of study sample were (poor) level of health behaviors knowledge, while the one third were at good level of health behaviors knowledge, these results supported with the study done by **(Michal, et al ., 2020),** in Bangladesh, about the prevalence health behavior knowledge about vulva half of young female lack knowledge about vulva hygiene .

The results may be due to low level of knowledge will be reflected in health behavior, lack of knowledge will certainly cause bad behavior and will increase the risk of disturbing the moisture balance in the vaginal area especially during reproductive age, if female students do not pay attention to proper vaginal discharge hygiene, there will be a variety of complaints that can lead to abnormal vaginal discharge. Giving good knowledge about reproductive health to female students will certainly have a good impact in preventing the occurrence of vaginitis. Intervention for preventing vaginal discharge such as educating, screening, and treat early detecting, disease preventive on of strategic increase knowledge adolescent especially vaginal discharge. Study **(Aduloju, et al., 2019)** in Nigeria, concluded that screening presenting with abnormal vaginal discharge so that they could be treated accordingly.

Regarding health hygiene behavior between female students, the finding of the current study revealed that, over two quarter removal of perineal hair, used the same (a razor blade, scissor) without disinfection more times and share it with them. Moreover, more than two quarters female students used (removal cream, removal sweat) unknown source. These results supported with the study done by **(Joseph., 2017**) who stated that, over half of female reported excessive removing all pubic hair and the majority experienced one or more complications due to removal. The results may be due to relation unhealth behavior regarding vaginal discharge the female students shared the same a razor blade for removal pubic hair more times without disinfection and others female students wrong a mis concept only browsing pubic hair in the case of marriage which accumulation excessive pubic hair cannot allow to air ventilation and increase provide sweat environment and bad odour, risk of infection.

According to total level of Knowledge regarding health behaviors among female student with vaginal discharge, the present study revealed that, more than two third of study sample were (poor) level of health behaviors knowledge, while the lowest percentage less than one quarter were at good level of health behaviors knowledge. This finding is slightly agreed with the results of study performed by **(Goudia., et al, 2017),** who stated that, less than three-quarters of the study population had poor knowledge and awareness less than one quarter demonstrate good knowledge, regarding vaginal discharge. Knowledge factor for increase of awareness for healthy behavior. These results supported with the study done by **(Nguyen, et al., 2019)** in Vietnam, stated that promoted of health in order improve awareness.

Regarding the relation between total female students' healthy behavior and their types of vaginal discharge, the present study revealed that, there were highly statistically significant relation between female students' healthy behavior and their consistency and odor of vaginal discharge, these findings agree with the study of **(Cranan, et al, 2018)** in Canada, who mentioned that, there were highly statistically significant relation between healthy behavior and their odor of vaginal discharge.

Regarding the correlation between total female students' knowledge about vaginal discharge and their health behavior, the present study revealed that, there was highly significant positive correlation between total female students' knowledge about vaginal discharge and their total health behaviors. This may be explained as good knowledge female students were more encountered among female's student with good health behaviors.

These results similar with the results of study performed by **(Kartikasari, et al., 2020)** in Indonesia, who said that, knowledge was highly significant correlation with vaginal discharge. Knowledge is factor increasing hygienic practice vaginal care. Also, these results agreed with the study done by **(Zaher & Khedr.,2017),** who illustrated that, abnormal vaginal discharge was decreased in the females had good knowledge score, the female used good hygienic behaviors.

IV. Conclusion

In the light of the finding of this study, the study concluded that:

The higher percentage of female students in El-Fayoum University suffering from vaginal discharge with bad odor, and associated with genital inching. The female students haven't appropriated knowledge regarding vaginal discharge, thick white cheese like discharge was the most common, and more female exposed to recurrent abnormal vaginal discharge without medical treatment.

V. Recommendation

The current study recommended:

Developing program to increase awareness regarding vaginal discharge conduct at female hostel of el-fayoum university, to improve female student health behavior and knowledge regarding vaginal discharge.

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