ASSESSMENT OF THE WOMEN'S KNOWLEDGE REGARDING CHOLELITHIASIS DISEASES IN DUHOK CITY

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ABSTRACT

Background and Amis: Gallstone disease is one of the most common worldwide biliary tract disease in which the both genetic and environmental factors have roles in its pathogenesis. shortage of knowledge on gallstone disease contributed to poor dealing with cholelithiasis patients. Thus, the main aims of this study to assess the women knowledge regarding the cholelithiasis disease.

Method: A cross-sectional study was conducted on **60** inpatient of gallstone disease in Azadi and emergency teaching hospital in Duhok city, A set of questionnaires were used to collect the data about their socio-demographic, and knowledge around gallstone disease by interviewer with self-administered. A descriptive and inferential statistical analysis used to analyze the data.

Result: The majority of the participants were (66%) their age 42.03 ± 12.63 within 42 years old, while the lowest ratio (13.3 %) was <29 years old. more than half (66.67%) of women had poor knowledge, (33.33%) had good knowledge about gallstone disease. However, the results indicated there was correlation between mother knowledge significantly with age (p-value 0.001).Therefore, the level of education had significant relationship to awareness of women toward gallstone disease.

Conclusion: In this study, the results indicated that lack of knowledge was the major contributing factor for causing gallstone because due lack of awareness women were do not know the way of decreasing risk factor of gallstone disease.

Key word: *Women's Knowledge, Cholelithiasis Diseases, Gallstone, Awareness*

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INTRODUCTION

Gallstone disease (GSD) is one of the most common biliary tract diseases worldwide in which both genetic and environmental factors have roles in its pathogenesis.(Di Ciaula et al., 2019). Gallstones are crystalline deposits and result from a misbalance in physical-chemical composition of bile. Approximately 37-86% of Chole-lithiasis patients have gallstones mainly consisting of cholesterol. Other types include pigment (2-27%) or mixed (4-16%) stones (a combination of cholesterol and pigmented stones). two- three the types of gallstone vary by their cause. (Reshetnyak, 2012).Risk factors for cholesterol stone formation include female gender, pregnancy, high dose oestrogen treatment, increasing age, genetic susceptibility, obesity, high serum triglyceride levels, low levels of high density cholesterol, rapid weight cycling, high calorific diet, refined carbohydrate diet, lack of physical activity, cirrhosis, Crohn's disease, and ethnicity with higher prevalence in Caucasians and lower prevalence in Africans and Asians.(Shaffer, 2006).Haemolysis and chronic bacterial or parasitic infections are considered the main risk factors for pigment stones.(Tazuma, 2006).

The Solid organ transplantation (heart, lung, kidney, pancreas). Although stem cell (bone marrow) transplantation carries its own problems from Cholelithiasis and biliary sludge developing, more problematic is the aftermath of solid organ transplantation in which gallstones that develop frequently progress to symptoms and complications like cholecystitis, principally during the first 2 years.(Stinton & Shaffer, 2012). Gallstone formation is thought to rely on 3 factors: super saturation of biliary cholesterol due to hepatic hyper secretion, nucleation of cholesterol monohydrate crystals, and gallbladder hypo motility.(Wang, Cohen, & Carey, 2009). The liver has estrogen receptors, and the presence of endogenous oestrogens causes cholesterol saturation in the bile, inhibition of chenodeoxycholic acid secretion, and increased cholic acid content. Progestin's inhibit gallbladder contraction, encourage bile stasis, and have been shown to decrease the gallbladder's response to cholecystokinin. One study found that exogenous oestrogens, given either trans dermally or orally, affected physiologic, markers in a pattern that favored gallstone formation.(Mishra, 2018). Observational evidence

suggests that oestrogen therapy, including the use of oral contraception and postmenopausal estrogen therapy,(Potshuma, Westendorp, & Vandenbroucke, 1994).

Gallstone Diseases is one of the most common abdominal conditions for which patients in developed countries are admitted to hospitals, and this frequency has increased in Western countries since the 1950s.(Kang et al., 2003). Gallstone Diseases GD is considered "a surgical disease since only a cholecystectomy is capable of definitively curing the disease .(Festi et al., 2008) However, since the introduction of laparoscopic chol-ecystectomy in the early 90s, which is considered a safe treatment for Gallstone Diseases.(Giurgiu & Roslyn, 1996). Since most gallstones are asymptomatic, it is essential to define exactly which symptoms are caused by gallstones: true biliary pain and/or complications, versus nonspecific abd-ominal complaints including dyspe-psia.(Stinton & Shaffer, 2012). Gallstone-associated pain seems to follow a certain pattern in most patients. Consensus groups have attempted to establish criteria for biliary pain relative to defined characteristics (e.g., episodic, steady, severe pain located in the upper abdomen and lasting more than 30 minutes) and some accompanying features (e.g., nocturnal onset; nausea and vomiting; radiating through to the back). The importance for clarifying what constitutes true biliary pain is to better predict relief following cholecystectomy.(Boateng, 2014).

However, despite being so prevalent, only 20% of people with gallstones will experience biliary colic or complications such as cholecystitis, pancreatitis or cholangitis.(Rance & Jones, 2016). The definitive treatment of gallstones is surgical removal of the gallbladder and laparoscopic cholecystectomy is now the most common abdominal surgical procedure performed in the UK.(Rance & Jones, 2016).Although the mortality rate for gallstones disease is relatively low at 0.6%,cholecystectomy lessens the surgical risks, but still carries a high mortality rate at1% and postoperative complications of >30%. (Stinton & Shaffer, 2012).Depending on risk factors, the estimated prevalence of gallstones ranges between 5 and 22%. Approximately 80% of these patients remain asymptomatic during their lifetime. Annually, about 2-4% of patients with gallstones will develop symptoms.(Acalovschi, 2014).

RESEARCH METHODOLOGY

Study design, setting, Participants and procedure

A descriptive cross-sectional study was carried out to identify the Women's Knowledge Regarding Cholelithiasis Diseases in Duhok City, the study conducted in Azadi teaching hospitals which is the largest national hospital in Duhok province it has been built in(1984),the hospital has (8) floors and several accessories around with the capacity of (480)beds it provide a wide range of services for more than two million people in Duhok and around Ninawa province. The hospital also consists of (19) department within their units. The Hospital is composed of eight Floors**.** and emergency & accidents hospital in Duhok was opened in November 1998 by Kurdistan region government .its capacity was about 122 bed & distributed as following: (Orthopedic &Trauma Ward: Supervised by (5) specialist including Pediatric Orthopedic ward especially for (DDH), Surgical Ward : Supervised by Three Specialist in addition to some Other Surgeons including (ENT. Thoracic &cardiovascular surgeons. Urologist. Ophthalmologist), Neurosurgery Ward: Supervised by (2) neurosurgeons. I.C.U (intensive care units): supervised by (3)

anesthetist or (intensivist) .Reception unit: including 20 beds for both male & female. The Raosoft online software, ace-ssible in website *http://www.raosoft.com/s-amplesize.html;* was used by direct estimated real sample size of 60 patients. The researcher distributed a 75 sets of questionnaires on the participants were only 65 participants returned to the researcher. In order to reduce inaccurate results and increase the reliability of the study, While (0.12%) sets excluded from the study because the information incomplete. Finally, the 60 participants were included in the analysis. The inclusion criteria of the study were; women's who admitted to hospital and diagnosed medically with gallstone disease, women's age between 18-66 years, patients how have desire to participate in the study. however, the women's age more than 66 years and age who is age less than 18 years, outpatients, and how refuse to participate were excluded from the study. The target population participating in this study is women with gallstone disease, more ever; the sample size was 60 participants. Non-probability sampling was used of women by appropriate questionnaire taking. The data was collected using close-ended questions and self-

administration of distribution of questionnaire on participants. It consisted of 25 items divided into 2 sections. Section (A) consists of 13 items related to socio-demographic characteristics of the participants, therefore; this part deal with some demographic characteristic of the sample such as age, menarche age ,level of education , marital status , and economical status, residents, monthly income ,family history gallstone disease and family history of obesity. Section (B) served to determine women's knowledge level among cholelithiasis diseases, that consisted of 12 items in the form yes, no and not sure that adopted and modified from previous study doing on gallstone disease. Which focuses on knowledge of women include: pregnancy related to Cholelithiasis , effect of oral contraceptive pills , age relationship to the gallstone disease , condition that patient have , effect of weight , investigations monitoring body weight ,cholesterol , Exercise , surgery , breast feeding , sign and symptoms information about disease. Were given Zero for no and not sure answers in the statement (no, and not sure). While given one for yes answers of statement (yes). Therefore, the total sum of possible scores in this scale ranged

from (zero – 18). Further, score is divided into two groups, (<9) considered as poor knowledge and (>9) considered as good knowledge. The questionnaires were in English and Kurdish Language, so that patient has a choice to answer either in English or in Kurdish Language. The data was collection direct asking from women how participate in the study. This study was approved by the scientific and Ethics Committee in college of nursing. A copy of ethical approval was send to Director General of Health in Duhok and both Azadi Teaching Hospital and Emergency Teaching Hospital in Duhok city. Data collection conducted by self-administer from 12th November 2018 until 8th April 2018. Data was entered, analyzed and coded into a database using IBM SPSS software ver. 22 to maintain confidentiality for all patients. The collective score of the instruments was entered as continuous data variables to measure and used for analysis preformed according to the research questions underlying the study. A descriptive statistical analysis preformed according to the research questions underlying the study through using as frequency and percentage was used for the categorical variables to describe socio-demographic charact-

eristics of the respondent, whereas the mean and standard deviation were used to calculate the continuous variables. An Inferential statistical analysis was used to determine the association between socio-demographic charac-teristics, women's knowledge about cholelithiasis diseases.

RESULTS

The study findings were conveyed based on the objectives of the study, which is there a relation between women's knowledge and (age, gender, family income, and educational level).while the normal distribution test done for 60 participants and the results showed the data are normally distributed for women's knowledge variable were lies within ±1 (-1.96 – 1.96) of skewness and kurtosis respectively, the mean age of the participants was 42.03 ± 12.63 (n=60) with minimum and maximum age being 18 and 65 respectively. (46.7%) of the participants was in age groups of > 42 years old. While (13.3) the participants were in age groups of <29 years.

Table (1) Socio-Demographic respondents characteristics at the baseline (n=60)

Variables	N	(%)
Women's Age (Year)		
< 29	8	(13.3)
30 – 41	24	(40)
> 42	28	(46.7)
Menarche Age (Year)		
< 13	49	(81.3)
> 14	11	(18.3)
Educational Level		
Illiterate	29	(46.3)
Read & Write	3	(5)
Primary School	18	(30)
Secondary School	7	(11.7)
Undergraduate(University)	3	(5)
Marital Status		
Single	6	(10)
Married	50	(83.3)
Widow	4	(6.7)
Occupation Status		

Housewife	54	(90)
Student	4	(6.7)
Employee	2	(3.3)
Residents of Participants		
Urban	32	(53.3)
Rural	28	(46.7)
Monthly Income (ID)	60	(100%)
< 300.000	26	(43.3)
300.000 – 600.000	17	(28.3)
700.000 – 1,000,000	12	(20)
>1,000,0000	5	(8.3)
Family History of Gallstones Diseases		
Yes	23	(38.3)
No	37	(61.7)
Family History of Obesity		
Yes	26	(43.3)
No	31	(51.7)
Not Sure	3	(5)
History of Previous Surgery		
Yes	19	(31.7)
No	41	(68.3)
Religion of Participants		
Muslim	51	(85)
Christian	1	(1.7)
Yazidi	8	(13.3)
Social Behavior and Habit		
No Smoking	53	(88.3)
Smoker	4	(6.7)
Current Smoker	1	(1.7)
Smoker & Drinking	2	(3.3)
Total	**60 %**	**100%**

Women's age shows the age variety of the mothers, the maximum age of the women is 65 years old while the minimum age is 18 years old, this may indicate the high level of knowledge 18 years old and low level of knowledge and practice of mothers 65 years old. However, the mean of samples age, so this indicate a good ages of mothers generally.The

menarche age of (women) less than 13 is about (81.3%) and more than 14 years is about (18.3%). The result was the majority of the women are illiterate (46.3%) while the lowest percentage (5%) is read write and undergraduate (university), this may indicate a poor knowledge of mothers about gallstone. The most of women is married around (83.3%) were less of them are widow (6.7%), about the occupational status of women many of them are housewife about (90%) while less than (3.3%) is employee, the majority of the samples residents (53.3%) in urban, while the lowest percentage(46.7%) is life in rural , this may indicate poor relation between gallstone disease and residents, the Monthly Income of Respondent, the result was(43.3%) less than 300,000 ID, were about (8.3%) is >1,000,000, this shows the weak economic state of the respondent that may indicate the poor nutrition for the child that may lead to occurring of gallstone disease. About (61.7)have not family history of gallstone while the (38.3%)of them have gallstone, according to obesity the 43.3 of sample have family history of obesity and

(5%) of them not sure about their family history of obesity ,the (68.3%) have not history of previous surgery, and (31,7%) do not doing any surgery, majority of the samples are Muslim about(85%),while the less of them(1.7%) are Christian. The social behaviour and habit of our sample are (88.3%) not smoker were (1.7%) are current smoker. In general, this domain shows that some elements of demographic data of the sample may have a strong relationship to contribute the gallstone disease and regard as risk factors of gallstone in women and educational level and age of the women persons with cholelithiasis to be older, more often of female gender, less well educated, less often unmarried and more frequently being a current smoker. Individuals with gallstones had lower levels for the social network index and lower mean daily alcohol consumption. They were less physically active, had more often 3– 4 but less often 5 or more cups of coffee per (Henry Völzke aSebastian Baumeister2005.

Table (2) Mother knowledge about Cholelithiasis (n=60)

Variable	Frequency	Percentage %
Poor mother knowledge	40	66.67
Good mother knowledge	20	33.33

Total	**60**	**100%**

The more than half of women have poor knowledge about gallstone disease they are (66.67%) and less of them have good knowledge about 33.33%. In order to determine the relationship between mother knowledge and age, Pearson correlation coefficient test was used. The results showed in Table (3) Indicated the p-value 0.001, which is < 0.05, thus there is association between mother knowledge and patients age. However, the total number of participants with poor mother knowledge (n=20) was greater than the total number of participants with good mother knowledge (n=40). In terms, the majority of the participants had poor knowledge (<22) while (>23) of participants had good knowledge.
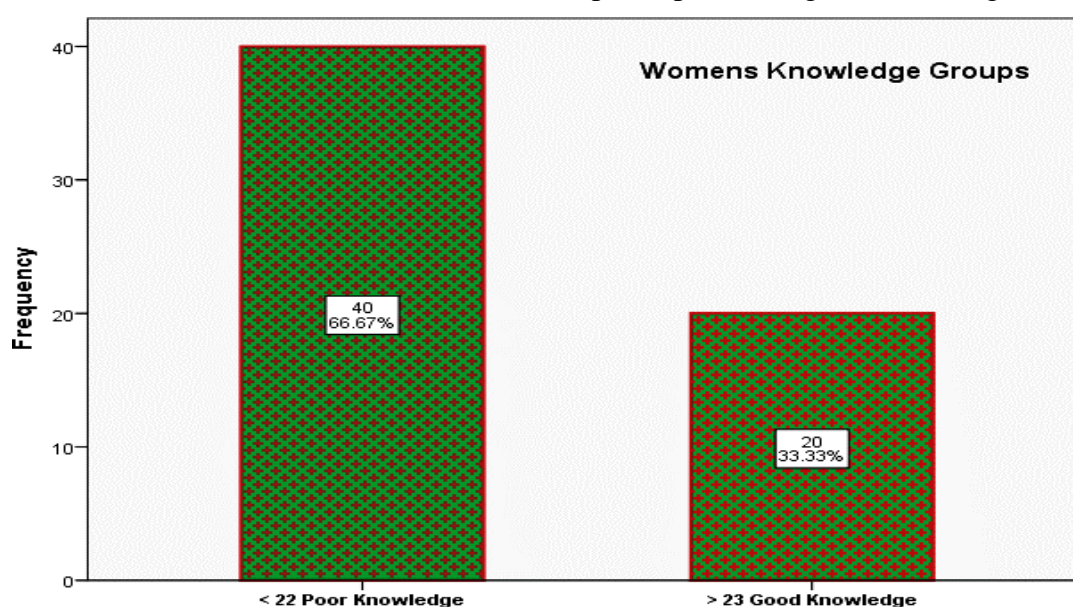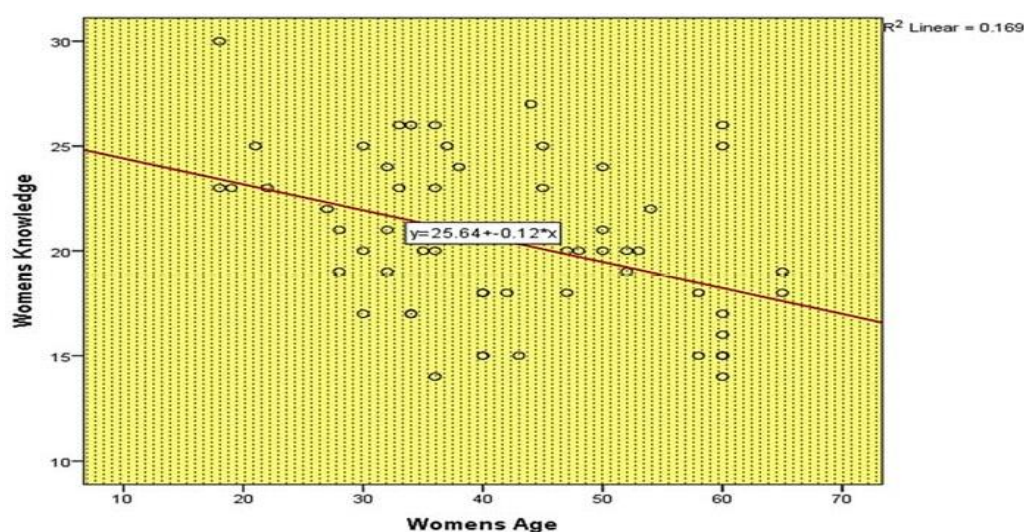

Figure (1) Women knowledge groups

Figure (2) Scatter plots relationship between mother knowledge & age show that mother knowledge decrease with an increase of age.

Table (3) Relationship between Mother Knowledge and age

		Women age	Women's Knowledge
Women age	Pearson Correlation	1	-.412**
	Sig. (2-tailed)		.001
	N	60	60
Women's Knowledge	Pearson Correlation	-.412**	1
	Sig. (2-tailed)	.001	
	N	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

Aimed to determine the relationship between the two continuous variables underlying the study, scatter plot was u Gallstone prior to observe the present of pattern of linear relationship between the two continuous variables, women knowledge and women age as showed in Figure(2) Generally the results shown that demographic factors have a role in presenting knowledge of women about gallstone. As well as, shown that the knowledge of women has a strong relationship with age and knowledge of women is related to each other.

DISCUSSION

Gallstone disease is one of the most common and costly of all digestive diseases. Survey estimated that 6.3 million men and 14.2 million women aged 20 - 74 in the United States had gallbladder disease (Everhart, Khare, Hill, & Maurer, 1999).

Indeed, cholecystectomy is the commonest surgical procedure in the abdomen in the Western world (Nuzzo et al., 2005), in relation to the total yearly surgical discharge although the gallbladder operations increases, still cholecystectomies comes next to the frequency of appendectomies; 1226 versus 1575 subsequently (over 7 years of study), conversely the incidence of gallbladder operations has been increasing and exceeded that for appendectomies in observation in Jewish General Hospital, Montereal. Most of the gall stone prevalence studies have dealt with cases of

autopsy or surgery. General population samples have, however, also been used by previous important studies of gall stone prevalence(Khuroo, Mahajan, Zargar, Javid, & Sapru, 1989).

In the present study the prevalence of gallstone disease (cholelithiasis) were analyzed using data from a population-based study that was conducted in surgical words in two main teaching hospitals in Duhok city. In the current study, the hospital admission rates for cholecystectomy increased steadily among both sexes which reflect an increase incidence of gallstone in our population (the number of cholecystectomies patients has 98% correlation with the true incidence of gallstone(Stinton & Shaffer, 2012)

In regard to the spectrum of symptoms of gall bladder diseases, a prospective study conducted at surgical department of Liaquat University of Medical and Health Sciences in Pakistan during 2001 to 2005 showed that 56% of patients presented with abdominal pain, others including acute cholecystitis in 36%, acute pancreatitis in 4%, obstructive jaundice and or cholangitis in 0.5% and gall bladder cancer in 0.3%(Hassan, 2011). this may be in part due the rise in calorie and fat consumption, decrease in fiber intake, and increased prevalence of the

sedentary lifestyle in Iraq especially after year 2003 in Iraq, in Asian population the increase incidence of gallstone disease and hospital admissions for elective cholecystectomy was steady in the past decade due to the similar risk factors (Chandran, Sivarajan, Srinivasan, Srinivas, & Jayanthi, 2014). Stones are generally reported to be uncommon before the age of 20 years (RR), and 40 years is considered as a typical age at clinical diagnosis .This relation to age is supported by the studies that showed that the sensitivity of the gallbladder to cholecystokinin (CCK) decreases with aging(Miller & Jarnagin, 2008), in our series 59.2% of patients were younger than 40, 25.1% below 30 years old and 3.5% below 20 years, these are comparable with that of the study done in Saudi Arabia by Murshid being that gallstones appear to be much more common in Saudi females and appear to occur at a considerably younger age 58% bellow 40 years, 31% bellow 30 years(Shrestha et al., 2010), while our previous series in late eighties and nineties of the previous century in Iraq showed that the peak age incidence was between 40-50 years(Hassan, 2011).in this shows the maximum age of the women is 65 years old while the

minimum age is 18 years old,In the Framingham study, clinically diagnosed cases of gall stones among a random sample of predominantly Caucasians aged 30 - 62 years were recorded over a 10-year period(Khuroo et al., 1989).

That extensive cross sectional study showed the overall prevalence of gall bladder disease as 9-4%. That study included women aged 20-64 years with higher socio-economic class and lower parity than the general population(Khuroo et al., 1989).

That study included two birth cohorts of women age 48 years and 53 years. The prevalence of gall stones was 11%.7 to our knowledge, the present ultrasonography study is the first of its kind as it reveals the true prevalence of biliary tract disease, both symptomatic and silent, in the free-living population. The sample of our study was community based, drawn randomly from the general population and all individuals aged 15 years or over were included. The overall prevalence of gallstones in the present study was 6-12% (3.07% in men at 9*60% in women)(Heaton, Braddon, Mountford, Hughes, & Emmett, 1991).

Others have reported a high prevalence of gallbladder sludge in women who were immediate postpartum although

the sludge resolved within a year in most. Jorgensen found a strong trend toward increasing stone prevalence with increasing childbirths, especially among women aged 30 years(Moghaddam, Fakheri, Abdi, & Bari, 2013). These above observations applied strongly to our patient's population with their relatively early menarche, early marriage and high parity(Murshid, 1998).In the present study, it is found that gallstone disease more common in females then males in a ratio of 4.3:1(SALMAN).

The most commonly involved age group for cholelithiasis (51%) 41-60 years with females being more common than males(Selvi, Sinha, Subramaniam, Konapur, & Prabha, 2011). in this study shows obesity the 43.3 of sample have family history of obesity and (5%) of them not sure about their family history of obesity(Ratziu et al., 2002).

Obese people hypersecretion biliary cholesterol, bile salts, and phospholipids, but the rate of cholesterol secretion supersedes that of the other biliary lipids, leading to cholesterol-supersaturated bile(de Bari et al., 2014).

The prevalence of symptomatic gallstone disease in the family study was significantly greater ($p < 0.01$) in

females as compared to males, 28% versus 6.6% respectively, which is comparable with our findings; 32% and 5.3% respectively(Hassan, 2011). The prevalence of gallstone disease at baseline was 17.2 % for women and 12.4 % for men.(Storti et al., 2005)

The changes that had been noticed in the incidence and age presentation of gallstones diseases in Iraqi peoples could not be attributed to the usual risk factors in stone formation(Hassan, 2011).These above observations applied strongly to our patient's population with their relatively early menarche, early marriage and high parity(Murshid, 1998). In this study results shows the menarche age of (women) less than 13 is about (81.3%) and more than 14 years is about (18.3%).In keeping with other studies, an advanced age and female gender were also major risk factors for cholelithiasis in the most study. Also in concordance with previous studies(Völzke et al., 2005).

LIMITATION

This study has some limitations. Firstly, the present study is cross-sectional study only take snapshot of some features. Secondly, the Gallstone disease (cholelithiasis) is one of the most common biliary tract disease worldwide in which the both genetic and environmental factors have roles in its pathogenesis. Thirdly, the sample size of the study was small not enough with limit the generalization of the study. Finally, using exacting inclusion standards. Therefore not representative of the entire spectrum of patients with the disease.

IMPLICATION

This study contributed to the body of knowledge in addressing the issue on Gallstone disease (cholelithiasis), The findings of the study have important clinical implication for Gallstones patients typically affect women of employed age. Obviously, from the results of this study, they have a great impact on quality of life and as nurses; we must consider ways in which to improve patients provide care before and after surgery. Given that per-operative, pain management and how to reduce or relive pain with applied good communication skills high respect patients, and finally try to improvements that is area where potential should be focused. There is a tendency for provide better care for getting patients out of hospital sooner.

RECOMMENDATIONS

Based on the study results, a few recommendations could be made. Firstly, the study findings

recommended having health education programs about Cholelithiasis for women through mass media and campaign that provided by professional nurses and other health care provider Second, The directorate of health and the administers of both Azadi teaching hospital and Emergency hospital should providing and education program about gallstone disease who admitted to hospital, Teaching woman how to prevention risk factor of gallstones and follow healthy habit of eating with restricted of fatty food and other risk factors that lead to increase incidence of gallstone disease and Cholelithiasis., Advising the woman the important of take periodic investigation, Teaching the woman how to maintain their body weight in the normal range and Conducting other studies on gallstone disease and Cholelithiasis.

CONCLUSION

This study highlights to do further research and data collection on gallstones disease but very little about patient satisfaction and quality of life. Gallstones affect young people of working age, they have a great impact on their daily lives. The prevalence of gallstones was positively related to age and female gender. Previous cholecystectomy was associated with more symptoms and worse quality of life.

In this study, we concluded that few women have knowledge regarding gallstone disease. Results of this study indicated that Lack of knowledge was the major contributing factor for causing gallstone because due lack of awareness women were do not know the way of decreasing risk factor of gallstone disease. The definite rise in the incidence and the decreased age of presentation of gallstones diseases could be due to increasing stressful life conditions affecting Iraqi population and especially in Kurdistan region.

ACKNOWLEDGEMENTS

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