



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1482673>Available online at: <http://www.iajps.com>

Research Article

**PUBLIC AWARENESS TOWARDS GALLSTONES AMONG  
GENERAL POPULATION IN AL-RIYADH CITY,  
SAUDI ARABIA**

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**Abstract:**

**Background:** Gallstone is one of the most common emergencies cases physician always face during their duties and cholecystectomy is common procedure worldwide. There are many risk factors for gallstones formation such as old age, female gender, obesity and Sickle Cell Disease. However, there is lack of awareness towards gallstone symptoms and its risk factors among general population in Kingdom of Saudi Arabia (KSA).

**Objectives:** to evaluate the knowledge and level of awareness towards gallstone disease, symptoms and risk factors among general population in Al-Riyadh city, Kingdom of Saudi Arabia (KSA).

**Methods:** A cross sectional study was included 300 Saudis participants adult from general population who were randomly chosen in the period from September–October 2018.

**Results:** the results show that all participants have heard about gallstone. Almost half of participants know that abdominal pain is the most common symptoms of gallstone (47.3%) and almost half of the participants do not know if nausea and vomiting are symptoms of gall stone but more than half of participants don't know if fatty food could be trigger the pain or not (54.3%). Regarding the methods of diagnosis, most of participants don't know if gallstone could be diagnosed clinically or not (40.7%). About two-third of participants do not know if there are complication related to gallstones.

**Conclusion:** All participants had heard about gallstones but most of them do not have awareness towards the symptoms, risk factors thus more campaigns are needed in increase the awareness among general population.

**Key words:** Gallstones, Awareness, Symptoms, Saudi Arabia.

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Please cite this article in press Hassan Muneer Albagshi et al., *Public Awareness towards Gallstones among General Population in Al-Riyadh City, Saudi Arabia., Indo Am. J. P. Sci, 2018; 05(11).*

**INTRODUCTION:**

Gall stone disease is one of the most common emergencies problem face physician during their duties and it impose a significant worldwide health issue (1). It is defined as aggregation of stones with multiple sizes and it is many type such as bile acids, cholesterol and pigmented materials in the biliary tract system (2).

The public awareness and knowledge of gallstones is limited and there are many risk factors such as advanced age, female gender and obesity (3). In addition, the risk of developing gall stone disease increases with getting older in both males and females (4) and there is a more prevalence among females than males (5). Studies revealed that physical activity, modifying life style and decreasing weight gain result in prevention of gallstones formation (6,7).

**AIM OF THE STUDY**

To evaluate the knowledge and the level of awareness towards gallstone disease among general population in Al-Riyadh, Kingdom of Saudi Arabia.

**METHODS:****Study design**

A cross sectional study based on questionnaire which aimed to evaluate the knowledge and the level of awareness towards gallstone disease and this study

conducted during the period from September 2018 to October 2018 in Al-Riyadh, Kingdom of Saudi Arabia (KSA).

**Sample size**

The included participants were chosen randomly from public places such as shopping malls in Al-Riyadh city and the sample was 300 participants between age 20-50 years/old. Non Saudi participants and participants who undergone cholecystectomy were excluded from the study.

**Statistical analysis**

The data were entered in the Statistical Package for Social Science (SPSS).

**RESULTS:**

Table 1: shows the Socio-demographic information of participants . Majority of participants were aged between 20-35 years old (60%) while (40%) were aged between 36-50 years old. Males participants were more than females (55%) and (45%) respectively. According to the education level, most of participants don't have collage degree (56%) and (44%) have college degree. Also, the majority have a job (63.7%) while (37.3%) are jobless. Unfortunately, most of the participants are inactive (80%) while only (20%) do daily activities.

**Table 1: Sochi-demographic information of participants (N=300):**

Questions		NO/%
Age (years)	20-35	180 (60%)
	35-50	120 (40%)
Gender	Male	165 (55%)
	Female	135 (45%)
Educational level	Collage	131 (43.7%)
	Primary/Secondary School	169 (56.3%)
Working status	Illiterate	0 (0%)
	Working	188 (62.7%)
Physical activity	Jobless	112 (37.3%)
	Inactive	241 (80.3%)

**Table 2: awareness of participants regarding gallstones (N=300):**

Questions	yes	No	I don't know
1. Have you heard about gallstones?	300 (100%)	0 (0%)	0 (0%)
2. Most of gallstones exist without symptoms?	88 (29.3%)	94 (31.3%)	118 (39.3%)
3. Abdominal pain is the most common symptom of gallstone?	142 (47.3%)	74 (24.7%)	84 (28%)
4. Nausea and vomiting are symptoms of gall stones?	66 (22%)	89 (29.7%)	145 (48.3%)
5. Fatty food triggers and increases the pain?	83 (27.7%)	54 (18%)	163(54.3%)
6. Gallstone can be diagnosed by clinical symptoms and signs	115 (38.3%)	63 (21%)	122 (40.7%)
7. Gallstones can be diagnosed by ultrasound	129 (43%)	41 (13.7%)	130(43.3%)
8. Most of patients with gallstones don't need to surgery intervention?	85 (28.3%)	45 (15%)	170(56.7%)
9. Inflammation and obstructed gall bladder are complication of gall stones?	77 (25.7%)	34 (11.3%)	189 (63%)

Table. 2 illustrate the public awareness towards gallstones and its management. All participants have heard about gallstone but majority of participant don't know if gallstone could be exist without symptoms or not (39.3%). Almost half of participants know that abdominal pain is the most common symptoms of gallstone (47.3%) but more than half of participants don't know if fatty food could be trigger the pain (54.3%). Regarding the methods of diagnosis, most of participants don't know if gallstone could be diagnosed clinically (40.7%) while (38.3%) chose that it could be diagnosed clinically but regarding if gallstone could diagnosed by ultrasound we found that participants whom don't know and participants whom said yes are equal (40%) for each. More than half of the participants do not know if gallstones disease can be treated surgically. In addition, (63%) of participants do not know if there are complications related to gallstones.

### DISCUSSION:

Gallstones disease is a major cause of morbidity that would result in a many emergencies visits. There was study conducted in KSA where the overall prevalence of gallstones was 11.7% (8).

Other studies also showed high prevalence rates worldwide (9). Also, the average of the prevalence was 4-12% in Middle Eastern countries (10). In addition, many studies showed that daily physical activity could protect against gallstones formations (11) and obesity would increase the risks for gallstones formation for all age groups (12). The present study showed the level of public awareness towards gallstones, symptoms and management. It found that all participants have heard about gallstones and more than half of participants don't know if most

of cases could be treated surgically. In addition, the majority of participants don't know if fatty food could trigger the pain. Many article discussed the prevalence of gallstones which was significantly high in the adult population aged more than 45 years old and female gender was a significant risk factor for gallstones. Also, physical inactivity and obesity were associated with a higher prevalence of gallstone disease. Furthermore, older age and female gender were prominently associated with gallstone disease (13). In addition, a recent study showed that inactivity was significantly associated with higher risks for who has gallstones. Accordingly, the level of awareness found to be moderate as found in many previous studies. Unfortunately, there are no articles or previous studies to evaluate the level of awareness towards methods of treatment of gallstones but in our study we found that participants do not have good knowledge towards the methods of treatment.

### CONCLUSION:

The overall participants' knowledge towards gallstone disease was moderate. The older age, female gender, physical inactivates and obesity are risk factors in the gallstones formation. Thus understanding the gallstones related symptoms, diagnosis and methods of treatment among general population would result in reducing the rates of the disease incidence.

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