Original Article :

knowledge of Acute Pancreatitis among health-related students at Umm Al-Qura University, Saudi Arabia.

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Abstract

Background and Aims:

Acute pancreatic is a severe medical emergency requiring hospitalization with intensive care. Understanding the disease pattern helps in early diagnosing and adequately managing to prevent serious complications. Therefore, the current study aimed to study the difference in awareness and knowledge among students of health-related departments at Umm Al-Qura University.

Methods:

An online survey was distributed among students in September 2021. All health-related students were invited to contribute to this survey through online social media channels. This study compares the level of knowledge of acute pancreatitis.

Results:

372 health-related students were surveyed, the mean age of participants was 22.79 years (SD= 1.45), and the 23–25-year age group was predominant. The majority of respondents were male and single. College of Medicine was the most responded college and 5th-year health-related students were predominant. The majority of students have a good level of awareness compared to their level of knowledge. Male participants show a significant variation in knowledge of ‘’Signs and physical examination’’ and ‘’Diagnosis workup’’ (P value, 0.001 and 0.006, respectively). A significant association was shown between students’ academic year and ‘’Overviews: - causes, symptoms, and risk factors’’, ‘’Signs and physical examination’’, ‘’Diagnosis workup’’, and ‘’ER-managements’’.

Conclusion:

Early diagnosis and intervention of Acute Pancreatitis are vital to prevent a series of complications. Our findings suggest that students were not acquainted with basic interventional knowledge of Acute Pancreatitis, a demand for further investigations.

Keywords:

Acute Pancreatitis, knowledge, health-related students, Saudi Arabia.

Introduction

Acute Pancreatitis (AP) is an emergent medical condition that necessitates hospitalization, defined as an acute inflammatory process arising in the pancreas, which could vary in presentation severity [1-8]. There is a significant rising in its incidence, around 13 to 45 per 100,000 individuals/year [9, 10]. Acknowledging the pattern of AP, including its etiologies, intensity, mortality, and factors that influence a given population, is essential for guiding management, preventing recurrence, lowering mortality rates, and ensuring optimal care delivery[1-2]. However, observational data that discuss these factors, particularly in the Middle East, are significantly lacking[1,3,12].

Concerning AP, risk factors such as lifestyle and weight gain have become major health concerns globally, contributing to more health complications than ever before [1, 13-15]. Considerable advancements in critical care, surgical, and endoscopic management, on the other hand, have occurred [1, 13-15]. In addition, clinical examinations, and laboratory tests such as amylase or lipase, and vital to reach to final diagnosis [4]. This study highlighted the awareness and level of knowledge among health specialties students in Umm Al-Qura University, Saudi Arabia.

Subjects and methods

This cross-sectional survey was held in September 2021. The ethical approval was granted from UQU with IRB no. HAPO-02-K-012-2021-10-779 in 2021. All health-related departments were included in this survey, while students who refused to participate were excluded.

For sample size estimation, we utilized Epi Info™ 7.1.5 software (Center for Disease Control and Prevention; Atlanta, Georgia, USA). Consequently, the smallest sample size to accomplish enough power is 353.

After obtaining appropriate online consent from all participants, we surveyed students using a structured survey distributed using the google platform containing two parts; the first part focused on gathering students' demographics, while the second part was aimed to assess students' knowledge about causes, symptoms, risk factors, signs, physical examination, diagnosis workup, ER-managements, and surgical/medical management of AP. The second part of the survey was driven by a previously published study [16-17]. Total knowledge scores were calculated according to modified Bloom's cut-off point, whereas scores between 80 and 100 % were considered good, 50 and 79% was considered moderate, while score less than 50% was conceded poor level of knowledge [18].

The data was extracted on Microsoft XL

spreadsheets. After checking for comprehensiveness and adjusting for minor typographical inaccuracies, data were transferred to a Statistical Package for the Social Scientists v. 23 spreadsheets (IBM, Armonk, NY). Descriptive numbers were definite with percentages for categorical data, and mean ± standard deviation (SD) for the continuous data. A P-value of less than 5% was considered significant. The Chi-square test was utilized to compare the categorical variables.

Results

Overall, 372 students among health-related departments were surveyed. The mean age of contributors was 22.79 years (SD=1.45); the [23-25] age groups mainly represented 63.7%, while the [26-30] age groups were the lowest, representing 1.1%. Most of the participants were males representing 82%. Furthermore, most of the students were single representing 96.0%. Participants of the college of medicine were predominately representing 73.7%, followed by both colleges of dentistry and pharmacy (13.2%, 9.4%, respectively). Moreover, students from 5th-year demonstrated the majority of respondents, followed by 6th-year students (41.7%, 19.9%, respectively) as shown in Table 1.

Table 1: Demographic data

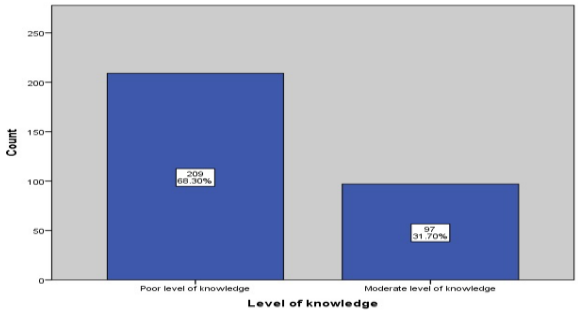
Variable	Category	N.	(%)
Age *(mean [SD])*	22.79 (1.45)		
Age groups	19-22	131	35.2
	23-25	237	63.7
	26-30	4	1.1
Gender	Male	305	82.0
	Female	67	18.0
Academic year	2nd year	16	4.3
	3rd year	24	6.5
	4th year	46	12.4
	5th year	155	41.7
	6th year	74	19.9
	intern	57	15.3
Collage	College of medicine	274	73.7
	College of dentistry	49	13.2
	College of pharmacy	35	9.4
	Collage of nursing	9	2.4
	College of applied medical sciences	5	1.3
Marital status	Single	357	96.0
	Married	15	4.0

On the other hand, 21-questions were intended to evaluate acute pancreatitis level of knowledge. Questions that aimed to determine the level of knowledge of causes, symptoms and urgent hospitalization among patients with acute pancreatitis were shown in table 2 According to mod-

Table 2 Percentage of the correct response to evaluate acute pancreatitis level of students knowledge

Questions	Correct responds %
Acute Pancreatitis (AP) causes	81.0%
Symptom(s) of acute Pancreatitis (AP)	85.0%
Physical examination of patients with acute Pancreatitis (AP)	68.0%
The urgent of hospitalization in patient with acute Pancreatitis (AP)	92.8%
Risk factor(s) of AP	61.8%
Early managements for AP	59.2%
The preferred intravenous fluid in AP	34.6%
Fluid resuscitation in management of patient with AP	61.8%
The minimal goal of fluids therapy	25.8%
The preferred estimator of intravascular volume status in AP	31.7%
Who's need more aggressive fluid replacement therapy?	46.4%
Radiological investigation for AP	33.3%
Indication of intensive care unit?	15.7%
Indication of Endoscopic retrograde cholangiopancreatography (ERCP)	49.7%
Indication of antibiotics in AP	17.0%
Indication of diet in AP patient	13.4%
Route of nutrition in acute pancreatitis	32.4%
The preferred enteral feeding method in uncomplicated AP	30.4%
Indication for cholecystectomy in AP	19.6%
The validated parameters for acute intervention in patients with asymptomatic pseudocyst and pancreatic/extra-pancreatic necrosis	14.7%

ified Bloom's criteria to calculate knowledge score. Most students have shown a poor level of knowledge, representing 68.30%, while 31.70% have moderate knowledge concerning acute pancreatitis (Figure 1), our respondents have not shown good knowledge.



Male participants have shown a significant association in relation to knowledge of ''Signs and physical examination", and ''Diagnosis workup"

Conversely, both of ''Overviews: - causes, symptoms, and risk factors", ''ER-managements", and ''Surgical/medical managements" have shown no significant association with gender distribution (P value, 0.688, 0.200, 0.878, respectively) as shown in Table 3.

Table 3: The association between gender and subgroup questions of Acute Pancreatitis (AP)

Category	Answers (%)	Gender		P-value
		Male	Female	
Overviews: - causes, symptoms, and risk factors	Correct answers (%)	81.1%	18.9%	0.688
	Incorrect answers (%)	82.1%	17.9%	
Signs and physical examination	Correct answers (%)	76.7%	23.3%	0.001*
	Incorrect answers (%)	81.5%	18.5%	
Diagnosis workup	Correct answers (%)	80.7%	19.3%	0.006*
	Incorrect answers (%)	83.3%	16.7%	
ER-managements	Correct answers (%)	82.5%	17.5%	0.200
	Incorrect answers (%)	80.2%	19.8%	
Surgical/medical managements	Correct answers (%)	81.4%	18.6%	0.878
	Incorrect answers (%)	81.7%	18.3%	

Both of 5th,6th, and the interns respondents have shown a significant association with ‘’Overviews: - causes, symptoms, and risk factors’’, ‘’Signs and physical examination’’, ‘’Diagnosis workup’’, and ‘’ER-managements’’ (P value, 0.000, 0.009, 0.023, 0.000, respectively) [Table 4]. Additionally, our results suggest that health-related collages correspond significantly with the level of knowledge, especially the college of medicine (P value, 0.013) as in table 4.

Table: 4. Academic years and health-related collages’ associations with subgroup questions

Category	Answers (%)	Academic year						P-value
		2nd year	3rd year	4th year	5th year	6thyear	Intern	
Overviews: -causes, symptoms, and risk factors	Correct answers (%)	0.4%	3.9%	14.2%	45.6%	16.0%	19.9%	.000*
	Incorrect answers (%)	0.0%	10.3%	11.7%	49.7%	16.6%	11.7%	
Signs and physical examination	Correct answers (%)	0.4%	5.8%	13.9%	47.1%	19.7%	13.0%	.009*
	Incorrect answers (%)	0.3%	6.6%	13.9%	43.9%	16.8%	18.5%	
Diagnosis workup	Correct answers (%)	0.4%	5.2%	13.4%	45.0%	16.4%	19.7%	.023*
	Incorrect answers (%)	0.3%	6.9%	14.6%	44.4%	14.9%	18.8%	

Category	Answers (%)	Academic year						P-value
		2nd year	3rd year	4th year	5th year	6thyear	Intern	
ER-managements	Correct answers (%)	0.3%	5.1%	13.7%	44.2%	17.1%	19.5%	.000*
	Incorrect answers (%)	0.0%	15.1%	11.3%	44.3%	15.1%	14.2%	
Surgical/medical managements	Correct answers (%)	0.3%	6.2%	13.7%	44.0%	16.8%	18.9%	.997
	Incorrect answers (%)	0.3%	6.5%	14.1%	43.8%	16.7%	18.6%	
Category	Answers (%)	Collages						P-value
		Collage of medicine	Collage of dentistry	Collage of pharmacy	Collage of nursing	College of applied medical sciences		
Overviews: causes, symptoms, and risk factors	Correct answers (%)	82.9%	1.4%	11.7%	2.8%	1.1%		0.289
	Incorrect answers (%)	87.6%	2.1%	6.2%	3.4%	0.7%		
Signs and physical examination	Correct answers (%)	91.5%	1.3%	4.0%	2.2%	0.9%		0.000*
	Incorrect answers (%)	82.8%	1.7%	11.6%	3.0%	1.0%		
Diagnosis workup	Correct answers (%)	84.0%	1.5%	11.5%	2.2%	0.7%		0.295
	Incorrect answers (%)	81.9%	1.7%	12.2%	3.1%	1.0%		
ER-managements	Correct answers (%)	83.2%	1.7%	11.6%	2.7%	0.7%		0.105
	Incorrect answers (%)	81.1%	3.8%	10.4%	2.8%	1.9%		
Surgical/medical managements	Correct answers (%)	82.8%	1.7%	11.3%	3.1%	1.0%		0.999
	Incorrect answers (%)	83.0%	1.6%	11.4%	2.9%	1.0%		

The results show that there is a significant association between the type of college and the pancreatitis level of students' knowledge. The students of the college of medicine have a higher level of knowledge (35.8%) compared to other colleges. As shown in table 5.

Table 5: Association between the level of knowledge and students' demography

Variable	Level of knowledge		P-value
	Moderate n (%)	Poor n (%)	
Age			
19-22	26.9%	73.1%	.176
23-25	34.9%	65.1%	
26-30	0.0%	100.0%	
Gender			
Male	30.8%	69.2%	.526
Female	35.7%	64.3%	
Academic year			
2th year	0.0%	100.0%	.093
3th year	10.0%	90.0%	
4th year	30.2%	69.8%	
5th year	32.1%	67.9%	
6th year	45.1%	54.9%	
Intern	28.1%	71.9%	
Marital status			
Single	31.1%	68.9%	.360
Married	46.2%	53.8%	
Collages			
College of medicine	35.8%	64.2%	.013*
College of dentistry	20.0%	80.0%	
College of pharmacy	8.6%	91.4%	
Collage of nursing	22.2%	77.8%	
College of applied medical sciences	0.0%	100.0%	

Discussion

Acute pancreatitis is a common GI disease that necessitates hospitalization and has a high morbidity and mortality rate. Numerous care guidelines for AP management were available from various medical and surgical societies [17, 19]. Thus, surgeons and physicians need to constantly be updated with evidence-based treatment and recommendations to provide and improve healthcare quality critical to delivering high-quality care [17, 20-24].

Improper compliance to standard guidelines can be influenced by many circumstances, including clinicians' lack of expertise and clinical decision support systems [17]. It has been shown that once physicians were educated and clinical decision support systems were implemented in patients' management with AP, clinical outcomes improved and adherence to guidelines enhanced [11, 17, 24].

Importantly, health-related students have a vital role in preventing and promoting AP, as they become future healthcare providers. This is the first study to correspond the awareness and level of knowledge about AP among health-related students in Saudi Arabia to the best of our knowledge. This survey emphasized the knowledge gap and recommended strategies to increase awareness and knowledge. Additionally, the current study suggested that the level of knowledge of AP is still inadequate and could be improved.

The current study shows that awareness regarding "ever heard about AP" is better than the level of knowledge. However, knowledge concerning AP causes, symptoms, and factors influencing urgent hospitalization of patients with AP is relatively fair compared to other sub-groups questions. Furthermore, subgroups of questions focused on AP management show inadequate knowledge levels among students. This is in line with a cross-sectional investigation conducted by Mehmood, 2019[17], in which the majority of residents showed an inadequate recognizing to diagnosis workup plans and interventions compared to managements strategies. Moreover, according to Mehmood, 2019 [17], more educational programs is vital to enhance awareness towards clinical practice guidelines for the early management of AP.

This study carried some possible limitations as its need for further investigation among all health-related colleges in Saudi Arabia. Moreover, most of the respondents were from 5th-year students, while 6th year and intern participants' responses were insufficient.

Conclusion

Our finding suggests that students had a good level of awareness compared to their

level of knowledge. On the other hand, students respond well to AP patients' questions about AP causes, symptoms, and urgency of hospitalization. We recommend further investigation and develop an awareness program on AP between health-related populations.

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Conflict of interest

Nil

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