



Comparative differences in awareness levels of Crohn's disease and Ulcerative colitis among younger adults in Jeddah

Authors

Ali Elsarraj M Abdelmageed¹, Taysir Awadelkarim Wedatalla², Hasabsidu Adam Dafea Bashir³ Fahad Adel Chablout⁴, Mohammed Mastour Alharthi⁴, Kamel Majed Enaim⁴, Mohammed Hani Qudaih⁴, Abdulrahman Osama Abukhodair⁴.

Affiliations

¹Department of Surgery, Ibnsina National College for Medical Sciences, Jeddah, Saudi Arabia.

²Department of Pathology, Elribat University Hospital, Khartoum, Sudan.

³Faculty of Medicine, University of Kordofan, El-Obeid, Sudan

⁴Ibnsina National College for Medical Sciences, Jeddah, Saudi Arabia.

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Bon Secours Hospital, Ireland

Correspondence to: Abdelmageed AEM.

Email: elsarrajali@ibnsina.edu.sa

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Abstract

Background: Crohn's disease (CD) and ulcerative colitis (UC) are intricate illnesses necessitating a multimodal strategy to avert late consequences, including public awareness. Therefore, the current study intended to evaluate the level of awareness regarding CD and UC among the general population in Jeddah, Saudi Arabia.

Methodology: A cross-sectional descriptive model was employed to evaluate the general population's awareness of CD and UC. The research was carried out in Jeddah, Saudi Arabia, from March 2024 to April 2025. A total of 402 persons residing in the city of Jeddah have agreed to participate in the study. Data had been collected utilizing a previously validated questionnaire. **Results:** Good awareness of CD was observed in 22% of participants, compared to 36% for UC. Moderate awareness of CD, accounting for 33% of contributors, in comparison to 43% for UC. Low awareness of CD was observed in 45% of individuals, in comparison to 22% for UC. The likelihood of low awareness regarding CD is greater than that for UC, as indicated by the relative risk (RR) and the 95% confidence interval (95% CI) associated with low CD; RR (95% CI) = 2.0690 (1.6681 to 2.5662), $P < 0.0001$. **Conclusion:** Individuals in Jeddah exhibit limited awareness of CD and a moderate level of awareness regarding UC. This survey indicates better favourable awareness indicators compared to previous reports from the country. Individuals have greater knowledge concerning UC than CD.

Keywords: Crohn disease, Ulcerative colitis, awareness, IBD, Saudi Arabia

INTRODUCTION

CD is an idiopathic inflammatory disorder of unknown etiology with genetic, immunologic, and environmental influences. The incidence of CD has steadily increased over the past several decades [1]. CD is a chronic inflammatory bowel disease

characterized by relapsing and remitting episodes of inflammation that can affect the entire gastrointestinal tract. The prevalence of CD is increasing and affects a vast range of patients, encompassing adolescents to the geriatric population. Medical



pharmacologic management aims to obtain steroid-free endoscopic and clinical remission. However, many patients ultimately progress to requiring surgical interventions to alleviate symptoms, improve quality of life, and prevent further disease-specific and life-threatening complications. Surgical intervention is variable based on disease phenotype and location [2]. Inflammatory bowel diseases (IBDs) are classified into two distinct types based on the area and severity of inflammation: CD and UC [3].

UC is an idiopathic inflammatory disorder of unknown etiology that appears to be increasing in incidence and prevalence globally [4]. Acute severe UC remains a clinical challenge associated with considerable morbidity, including colectomy [5].

In Saudi Arabia, there are limited studies on the clinical characteristics of patients specifically with CD. The majority of the patients presented with the characteristic quartet of abdominal pain, weight loss, fever, and diarrhea. Notably, a significant number of patients with CD in Saudi Arabia experience diagnostic delay, which may contribute to disease morbidity and complications [6].

The burden of UC is increasing in Saudi Arabia, and patients with it often suffer from delays in diagnosis and appropriate management. General practitioners refer most UC patients. Treating gastroenterologists prioritize clinical remission as a treatment goal. Corticosteroids remain overutilized, as reflected by treating physicians' responses. The underutilization of advanced therapies underscores the need for enhanced education and improved access to integrate emerging therapies effectively [7]. Therefore, the

present study aimed to assess the level of awareness toward CD and UC among the general population in Jeddah, Saudi Arabia.

MATERIALS AND METHODS

A cross-sectional model was used to assess awareness of the two inflammatory bowel disorders, focusing on their major sites and successful treatments.

The study was conducted in Jeddah, Saudi Arabia, during the period from March 2024 to April 2025. About 402 individuals living in the city of Jeddah have responded to participate in the study. Data was collected using a questionnaire validated by a previous study [8]. The questionnaire was distributed to the participants electronically, as a Google Form. The responses of the participants were recorded and subsequently analyzed in the period from 21/3/2024 to 29/4/2025. The inclusion criteria for the study were residents in Jeddah city who were 18 years and above at the time of data collection. The exclusion criteria were those who were younger than 18 years or not residents of Jeddah city.

Data collection

Data was collected using the validated, attached questionnaire. The questionnaire used for data collection was in a simple Arabic language easily understood by the Saudi community. The names "ulcerative colitis" and "Crohn's disease" were mentioned in their comparable Arabic translations. The questionnaire in Arabic was validated in a previous study in Saudi Arabia. The questionnaire consisted of 3 sections: (1) The demographic data



section, focusing on the participant's credentials regarding gender, age, and education. (2) The participant's awareness of CD, including the claimed participant's knowledge about CD, the primary anatomical site affected by the disease, and the availability of treatment. (3) The participant's awareness of UC, including the claimed participant's knowledge about UC, the primary anatomical site affected by the disease, and the availability of treatment. The participant's claim of some or definitive knowledge about the investigated disease (CD or UC) was scored 1 point, the correct recognition by the participant of the intestines as the primary focus of both diseases was granted two points, and finally, the correct identification of the availability of effective treatment for either or both diseases was granted one point. The participant was then classified as having low (less than 2 points), moderate (2 points), or good (3-4 points) overall awareness for each disease according to their cumulative points scored.

Data Analysis

Table 1. Distribution of the study subjects by gender, age, and education level.

Variable	Males n=219	Females n=183	Total n=402
Age			
≤ 24 years	134	89	223
≥ 25 years	85	94	179
Education Level			
Basic	27	23	50
University	177	143	320
Postgraduate	15	17	32

Microsoft Excel was used for data entry and categorization. Statistical analyses were then performed using IBM SPSS version 22 (Statistical Package for the Social Sciences). Frequencies, percentages, cross-tabulations, and significant statistical tests like the chi-square test were computed. The statistical significance level of a P-value of 0.05 or below was the threshold employed.

RESULTS

Of the 402 participants in this study, 219/402 (54.5%) were males and 183/402 (45.5%) were females. The majority of contributors were aged ≤ 24 years, representing 223/402 (55.5%), and the remaining 179 (44.5%) were ≥ 25 years.

Most participants in this study were at the university level of education, followed by basic education and postgraduate levels, representing 320/402 (79.6%), 50 (12.4%), and 32 (8%), respectively, as indicated in Table 1, Fig. 1.

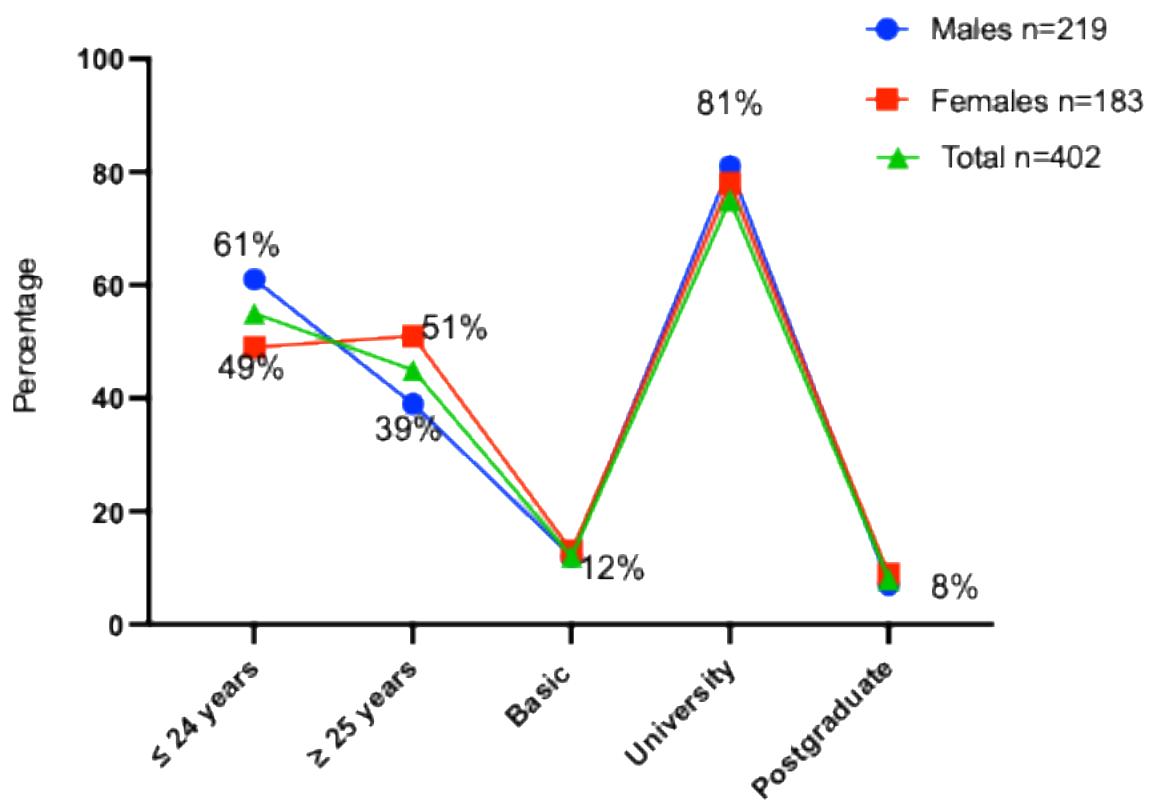


Figure 1. Description of the study subjects by demographic characteristics

Regarding CD awareness' level, most participants indicated low awareness level followed by moderate, and good, representing 180/402(44.8%), 134(33.3%), and 88(21.9%), respectively. The distribution was relatively similar for both sexes. Most contributors indicated intestinal as the most common site for CD constituting 223/402(55.5%), including 101/219(46%) males, and 122/183(66.7%) were females. Regarding CD treatment, about 101/402(25%) indicated availability of the treatment, including 55/219(25%)

males and 46/183(25%) females, as indicated in Table 2, Fig 2.

Regarding UC awareness' level, most participants indicated moderate awareness level followed by good, and low, representing 172/402(42.8%), 143(35.6%), and 87(21.6%), respectively. The distribution was relatively similar for both sexes. Most contributors indicated colonic site as the most common site for UC constituting 315/402(78.4%), including 153/219(69.9%) males, and 162/183(88.5%) were females. Regarding UC treatment, about



155/402(38.6%) indicated availability of the treatment, including 79/219(36%) males and 76/183(41.5%) females, as indicated in Table 2.

Table 2. Distribution of the participants by gender and knowledge regarding CD and UC

Variable	Males n=219	Females n=183	Total n=402
CD awareness' level			
Low	118	62	180
Moderate	53	81	134
Good	48	40	88
CD Site			
Intestinal	101	122	223
Non-intestinal	118	61	179
CD treatment			
Available	55	46	101
Not available	164	137	301
UC awareness			
Low	66	21	87
Moderate	83	89	172
Good	70	73	143
UC Site			
Colonic	153	162	315
Non-colonic	66	21	87
UC treatment			
Available	79	76	155
Non-available	140	107	247

About 22% of participants showed good awareness for CD, compared to 36% for UC. Moderate awareness for CD is represented by 33% of contributors compared to 43% for UC. Low awareness for CD is represented by 45% of individuals compared to 22% of UC.

The risk of low awareness level regarding CD is higher compared to UC, the relative risk (RR), and the 95% confidence interval (95% CI) associated with low CD; RR (95% CI) = 2.0690 (1.6681 to 2.5662), $P < 0.0001$, as shown in Fig. 2.

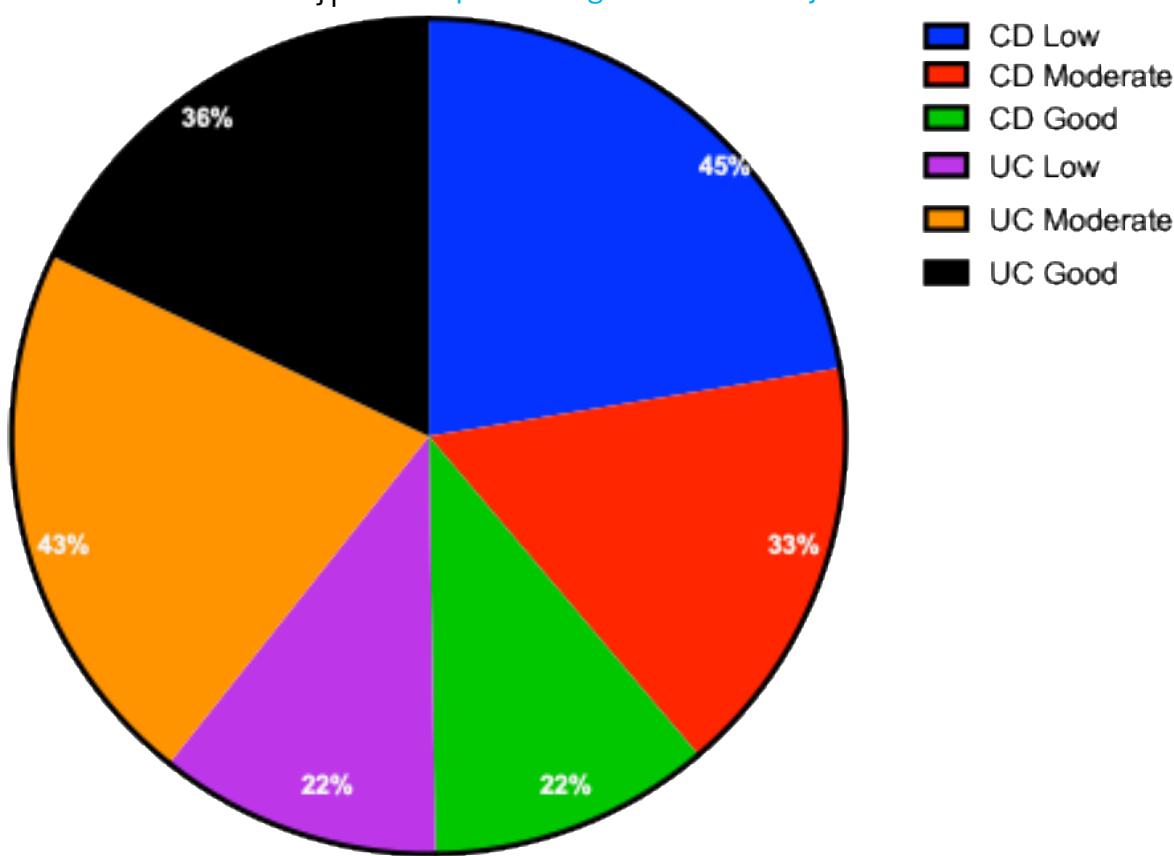


Figure 2. Comparison of the level of awareness towards CD and UC.

Table 3, Fig. 3, summarized the distribution of the participants by age and knowledge regarding CD and UC. Most of those ≤ 24 years old were found with low awareness regarding CD; similarly, those with ≥ 25 years constituted 107/223 (48%) and 73/179 (40.8%), in this order. The intestinal CD site was stated by 116/223 (52%) of those ≤ 24 years and 107/179 (59.8%) of those ≥ 25 years. CD treatment

availability was stated by 46/223 (20.6%) of those ≤ 24 years and 55/179 (30.7%) of those ≥ 25 years. Most of those ≤ 24 years were detected with a moderate awareness level regarding UC, constituting 92/223 (41.3%); similarly, most of those aged ≥ 25 years were found with moderate awareness, representing 80/179 (44.7%). Indications regarding UC site and treatment were similarly addressed in both age ranges.

Table 3. Distribution of the participants by age and knowledge regarding CD and UC

Variable	≤ 24 years n=223	≥ 25 years n=179	Total n=402
CD awareness' level			
Low	107	73	180
Moderate	78	56	134
Good	38	50	88
CD Site			
Intestinal	116	107	223

Non-intestinal	107	72	179
CD treatment			
Available	46	55	101
Not available	177	124	301
UC awareness			
Low	57	30	87
Moderate	92	80	172
Good	74	69	143
UC Site			
Colonic	166	149	315
Non-colonic	57	30	87
UC treatment			
Available	82	73	155
Non-available	141	106	247

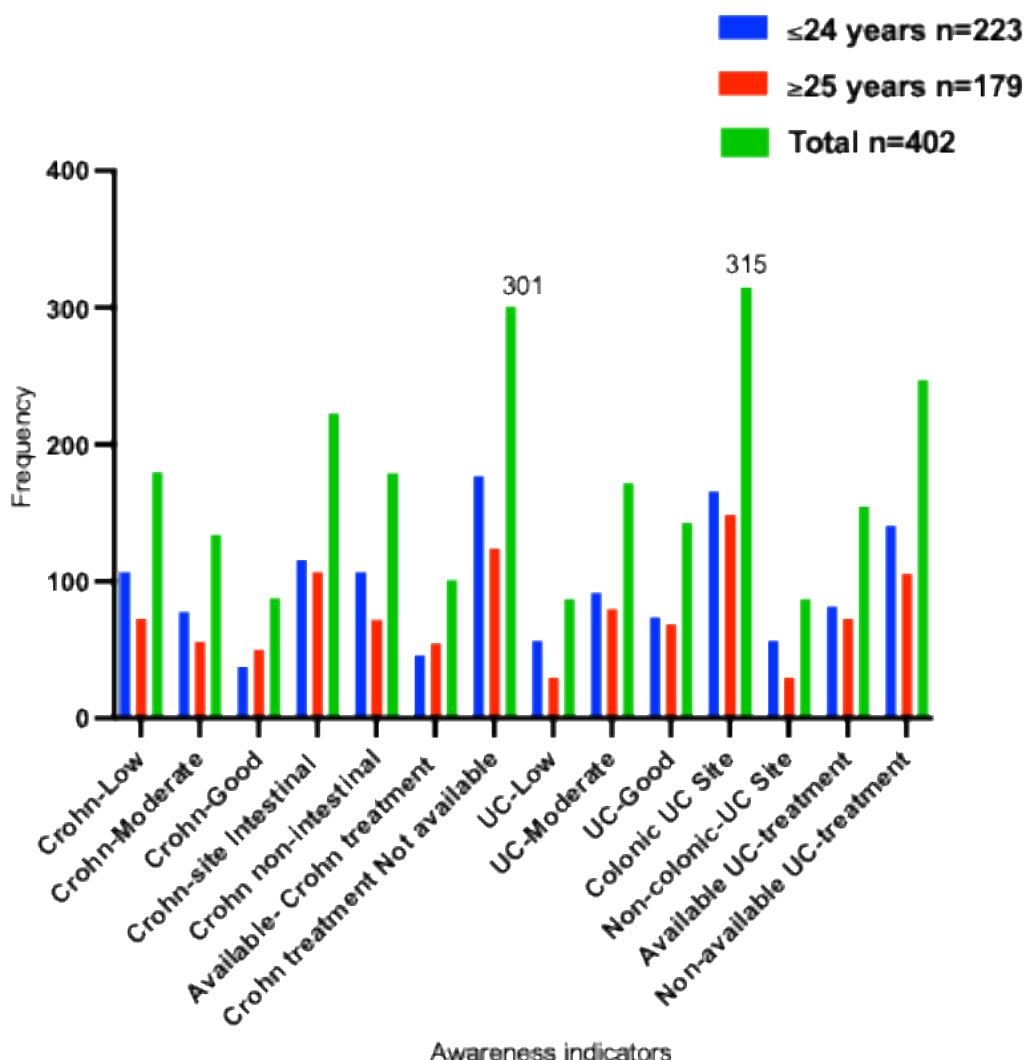


Figure 3. Description of the participants by age and knowledge regarding CD and UC



The distribution of the participants by education level and knowledge was summarized in Table 4, Fig. 4. Most of those with basic and university education levels have shown low CD awareness levels, representing 26/50 (52%) and 145/320 (45.3%), in that order, whereas most of those with postgraduate levels have indicated good awareness levels, representing 13/32 (40.6%).

Table 4. Distribution of the participants by education level and knowledge regarding CD and UC

Regarding UC overall awareness, most of those with basic education showed a low awareness level, those with a university level showed a moderate level, and most of those with a postgraduate level showed a good awareness level, constituting 18/50 (36%), 143/320 (44.7%), and 19/32 (59.4%), in that order. Other indicators showed similar statistical characteristics.

Variable	Basic n=50	University n=320	Postgraduate n=32	Total n=402
CD awareness' level				
Low	26	145	9	180
Moderate	11	113	10	134
Good	13	62	13	88
CD Site				
Intestinal	24	175	24	223
Non-intestinal	26	145	8	179
CD treatment				
Available	15	73	13	101
Not available	35	247	19	301
UC awareness				
Low	18	68	1	87
Moderate	17	143	12	172
Good	15	109	19	143
UC Site				
Colonic	32	252	31	315
Non-colonic	18	68	1	87
UC treatment				
Available	18	118	19	155
Non-available	32	202	13	247

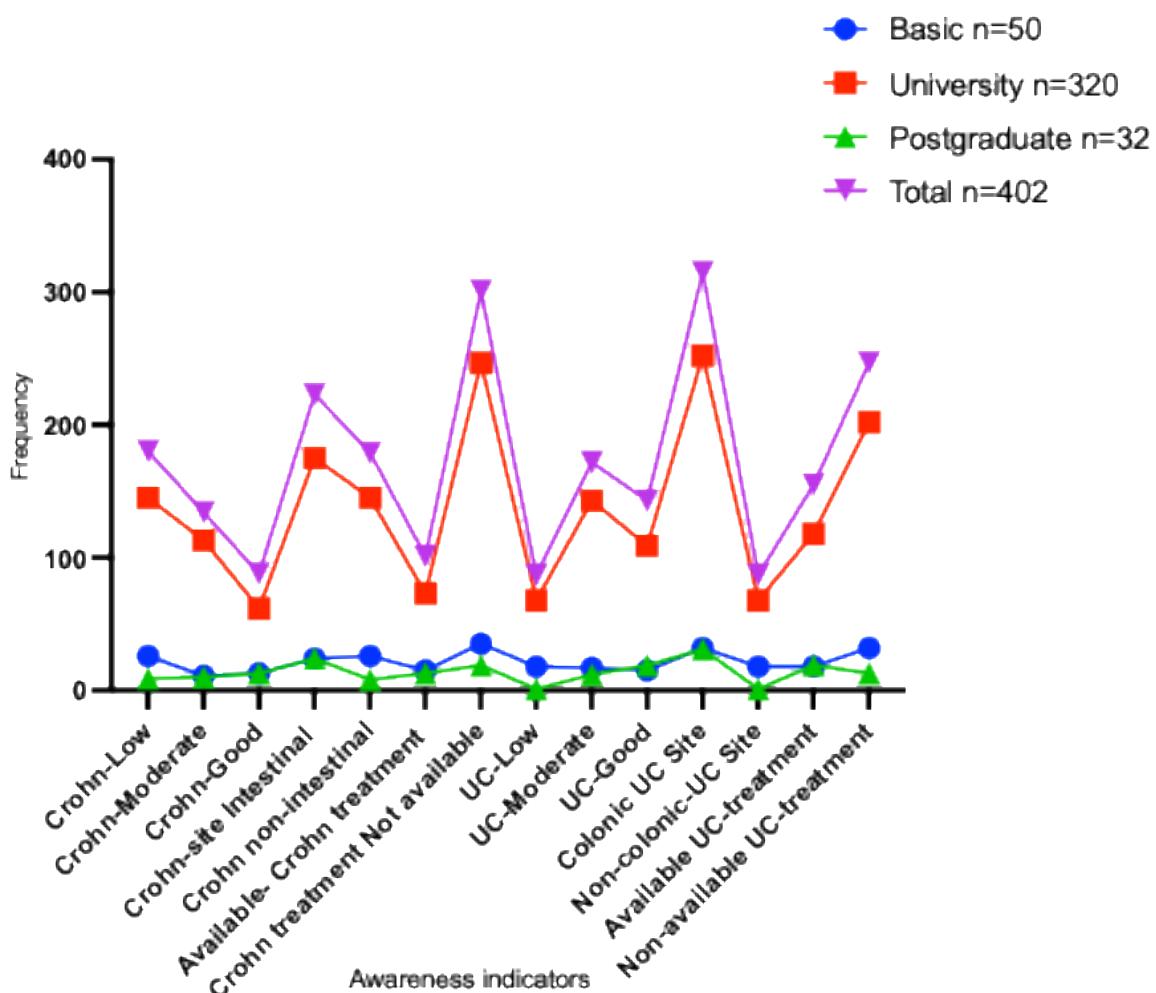


Figure 4. Description of the participants by education level and knowledge regarding CD and UC.

DISCUSSION

Conditions like CD and UC pose considerable challenges to public health. Knowing the level of awareness within the population regarding these diseases is essential for implementing effective prevention and management strategies. This study aimed to evaluate the awareness levels regarding CD and UC within the general population of Jeddah, Saudi Arabia, given their relative similarities.

The results of this study indicate that there is a relatively low overall

awareness of both disorders, with UC showing significantly better awareness than CD. The findings of the current study showed that females have better knowledge regarding both CD and UC compared to male participants. This study is, to our knowledge, the first to examine the differential awareness levels of these two conditions within the Saudi community. Most of the existing research in this regard was limited to medical personnel for the differential diagnosis of these disorders.



However, similar findings were previously reported in some studies from Saudi Arabia. A low level of awareness regarding IBD was observed among the general population in Saudi Arabia. A study investigating public awareness of IBD in Saudi Arabia found that approximately 28% of participants had never heard of, read about, or encountered CD. Approximately 16% of participants indicated that they had no prior knowledge of, exposure to, or experience with UC. The average overall knowledge score among study participants was 8.3 (standard deviation: 2.4) out of 24, corresponding to 34.6%, indicating a deficient level of knowledge regarding IBD. The participants demonstrated a low level of knowledge across all sub-scales pertaining to general knowledge of IBD, diet, treatments, and complications. The knowledge sub-scale level varied from 30% to 36.7%. Female participants in the moderate- and high-income categories, residing in urban areas, possessing a higher level of education, and reporting osteoarthritis exhibited greater knowledge of IBD compared to their counterparts ($p \leq 0.001$) [9]. A study carried out in Saudi Arabia revealed that approximately 61% of participants were unaware of IBD, while among those who were informed, social media emerged as the predominant source of information, accounting for 40.6% of responses. The majority of participants exhibited limited knowledge regarding the various types of IBD, with 74% unaware of their symptoms and long-term effects. Women exhibited a notably higher level of adequate knowledge (12.1%) in comparison to men (4.8%) ($P = 0.011$) [10].

The results of the current study indicate that younger adults possess a greater

level of awareness compared to their older counterparts, a conclusion that aligns with previous reports. Additionally, those with postgraduate studies have better awareness levels compared to those with low education levels. A study conducted in Saudi Arabia revealed that 92% of participants were unaware of CD, whereas 19% were unfamiliar with UC. The average awareness level score was 1.72 with a standard deviation of 1.19. Females exhibited a significantly higher score than males ($p < 0.001$). The age group of 31 to 40 exhibited the highest score ($p = 0.002$). Furthermore, respondents possessing a PhD exhibited significantly higher scores compared to individuals with other educational qualifications ($p < 0.001$). Responders managing CD or UC patients exhibited significantly higher scores compared to their counterparts ($p < 0.001$) for both conditions [11]. A considerable proportion of Saudi patients diagnosed with CD generally reported a negative perception of their disease. Delays in diagnosing IBD relate to a variety of consequences. The extended diagnostic delay in IBD was mostly caused by the extended delay in gastroenterologist consultation due to the general population's lack of awareness [12]. A substantial portion of patients in Saudi Arabia diagnosed with CD typically expressed a negative view of their condition. Crohn's disease (CD) is a progressive condition linked to significant morbidity due to its associated complications. The awareness and understanding of these complications among patients can have a considerable psychological effect [13]. Consequently, implementing educational campaigns focused on CD and UC is considered essential.



The current study offers important insights into awareness of CD and UC; however, it is important to note certain limitations, such as its cross-sectional design and reliance on a questionnaire format.

In conclusion, people in Jeddah have a low level of awareness about CD and a moderate level of awareness about UC. This survey shows stronger favourable

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CONFLICT OF INTEREST

The author declares that he has no conflict of interest to disclose.

ETHICAL CONSIDERATIONS

Prior to enrollment in the study, each subject gave informed consent.

ETHICAL APPROVAL

The ethical permit to conduct the study was obtained from the Institution Research Review Board, Ibn Sina National College for Medical Sciences, Jeddah, Kingdom of Saudi Arabia (Protocol Identification No. 075MP/CR18032024). Complete confidentiality of the personal data of participants was maintained. The responses of the participants were only shared anonymously with the study team. This study ensured that informed consent was mandatorily obtained from

awareness indicators than prior reports from the country. Individuals possess more knowledge regarding UC compared to CD. Enhancing awareness and support for individuals with CD and UC necessitates elevating knowledge of these conditions. Public education initiatives enhance healthcare and support networks by improving health knowledge.

all the participants before their enrolment.

DISCLOSURE

This research was conducted without the use of artificial intelligence or assisted technologies, including the generation of figures.

DATA AVAILABILITY

The data supporting the conclusions of this article are included within the article, and further inquiries can be sent to the corresponding author.

AUTHOR'S CONTRIBUTION

Abdelmageed AEM: Conceptual, study design, manuscript drafting, and approval.

Wedatalla TA: Conceptual, data collection, and approval.

Bashir HAD: Conceptual, data collection, and approval.

Chablout FA: Conceptual, data collection, and approval.

Alharthi MM: Conceptual, data collection, and approval.

Enaim KM: Conceptual, data collection, and approval.

Qudaih MH: Conceptual, data collection, and approval.

Abukhodair AO: Conceptual, data collection, and approval.

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