

# Does chatGPT-4.0's awareness of conversing with a urologist affect the accuracy of responses to questions about "sexually transmitted urethritis in men"?

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## ABSTRACT

**Introduction:** This study delved into the responses generated by ChatGPT-4 (artificial intelligence-language model) regarding queries on sexually transmitted urethritis in men and investigated the impact of “knowledge of conversing with a urologist” on the accuracy of its responses.

**Methods:** A total of 272 questions from the “sexually transmitted infections treatment guidelines” (US Centers for Disease Control and Prevention) were prepared by a urology specialist and arranged to cover various levels of difficulty. The questions were presented in the formats of multiple-choice and true/false. Two groups were created: In Group 1, ChatGPT-4 was only provided with the questions, whereas in Group 2, it was explicitly stated that ChatGPT-4 was engaging in a conversation with a urology specialist. The accuracy of ChatGPT-4's responses was evaluated.


**Results:** In Group 1, the accuracy rate was 81% (94/116), whereas in Group 2, it was 77.5% (90/116). Subgroup A, which consisted of multiple-choice questions, had accuracy rates of 77.5% (45/58) for Group 1 and 74.1% (43/58) for Group 2. Subgroup B, which included true/false questions, had accuracy rates of 84.4% (49/58) for Group 1 and 81% (47/58) for Group 2. The mean accuracy score was higher in Group 1, whereas the mean completeness score was higher in Group 2.

**Conclusions:** Providing ChatGPT-4 with the information that it was conversing with a urologist did not enhance the accuracy of its responses regarding sexually transmitted urethritis in men. The consistently high accuracy observed in ChatGPT-4's responses demonstrates that this system can be reliably used as a question-and-answer tool.

## INTRODUCTION

Urethritis, an inflammation of the urethra, is significant due to its implications. It is classified into infectious and noninfectious types, with the former often sexually transmitted. The primary pathogens are *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.<sup>[1]</sup> In addition, *Mycoplasma genitalium*, *Ureaplasma*, *Trichomonas vaginalis*, *Adenoviruses*, and Herpes simplex can also be causative agents. Consequences include infertility, epididymitis, prostatitis, and chronic pelvic pain.<sup>[2]</sup> Urologists frequently treat sexually transmitted urethritis.<sup>[3]</sup>

Language models like ChatGPT-4 are artificial intelligence (AI) models that function as dialogic tools, utilizing deep learning techniques.<sup>[4]</sup> AI integration in medicine has surged, particularly with advanced language models like ChatGPT-4.<sup>[4,5]</sup> AI has made significant improvements in the diagnosis and treatment of atrial fibrillation and other arrhythmias, has increased diagnostic accuracy by detecting electrode placement errors, and has expanded remote monitoring through wearable devices.<sup>[6]</sup> ChatGPT can offer personalized recommendations on topics such as nutrition plans, exercise programs, and psychological support for obesity treatment.<sup>[7]</sup> AI has the potential to

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greatly improve the quality and efficiency of urological treatment.

ChatGPT-like language models can be used directly by patients or as a communication tool by healthcare professionals. For example, a urologist can input a patient's symptoms and health history into ChatGPT to receive suggestions for more detailed questions or information about potential diagnoses. This way, AI-supported systems can contribute to more accurate diagnosis and treatment processes, enhancing communication between the doctor and the patient. In addition, ChatGPT can serve as a resource for patients to use anonymously at home. Using these systems, patients can gain preliminary information about troubling symptoms and be better prepared for doctor visits, making the diagnostic and treatment process more effective.

When asking ChatGPT-4 questions, certain instructions are given, such as requesting the most accurate, unbiased, and up-to-date information and asking it to keep the information confidential. It is even suggested that ChatGPT-4 might provide more careful answers if it knows who it is conversing with. However, it is unclear how well ChatGPT-4 can adhere to these instructions. This study assesses the accuracy of ChatGPT-4 in responding to questions about sexually transmitted urethritis in men and explores whether awareness of interacting with a urologist influences the quality of its responses.

MATERIALS AND METHODS

Research methodology

The study was conducted from March 20, 2024, to April 8, 2024, utilizing the paid and most up-to-date version of ChatGPT-v4 accessible at (<https://chat.openai.com/>).

A specialist in urology formulated 272 inquiries pertaining to sexually transmitted urethritis in males, presenting them in both multiple-choice format (with five options) and true/false format. Two hundred thirty-two questions were randomly selected according to their categories from a pool of 272 questions. These questions were subjectively evaluated by a urology specialist and classified into three difficulty levels: easy (E), medium (M), and hard (H) [Figure 1]. The purpose of these varying question types and difficulty levels was to facilitate a more comprehensive assessment. The formulation of these inquiries was informed by the most recent guidelines in the “sexually transmitted diseases treatment guidelines 2021” published by the US Centers for Disease Control and Prevention. The authors confirm the availability of and access to all original data reported in this study. Ethical approval was not required for this study as it did not involve human or animal research participants.

Query preparation by groups and subgroups

The questions were divided into two groups, Group 1 and Group 2, with 116 questions in each group [Figure 1]. In Group 1, ChatGPT-4 was only asked the questions, whereas in Group 2, it was stated that ChatGPT-4 was conversing with a urology doctor. The number of multiple-choice and true/false questions was equal in each group and subgroup. In each group and subgroup, the questions were divided into the following categories: general information, clinical, diagnosis, treatment, and follow-up/prevention. Group 1 was divided into two subgroups: Group 1A (58 questions/multiple-choice) and Group 1B (58 questions/true-false), whereas Group 2 was divided into two subgroups: Group 2A (58 questions/multiple-choice) and Group 2B (58 questions/true-false) [Figure 2]. In addition, the total number of easy, medium, and hard questions was equal for each group and subgroup. However, the proportions of

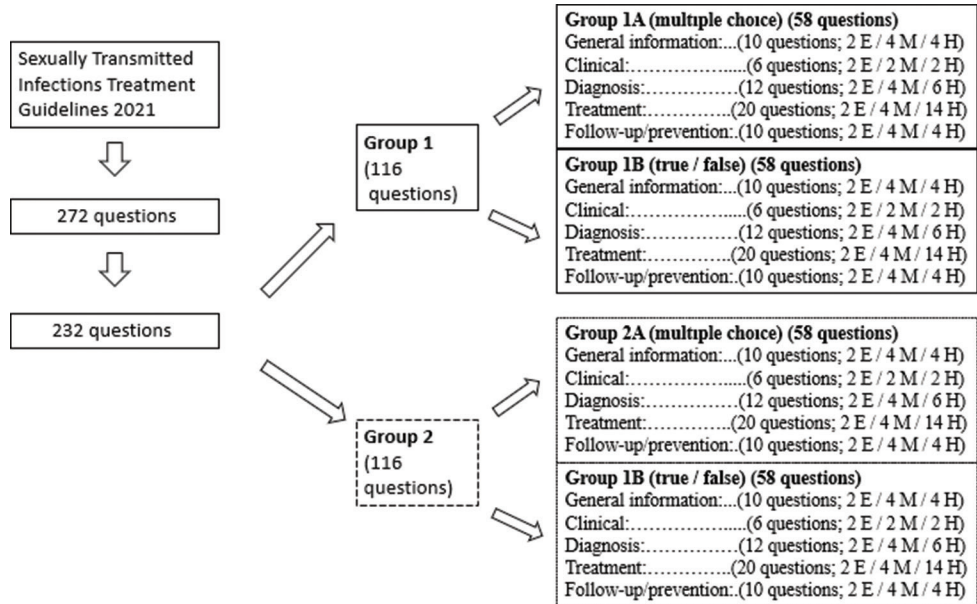
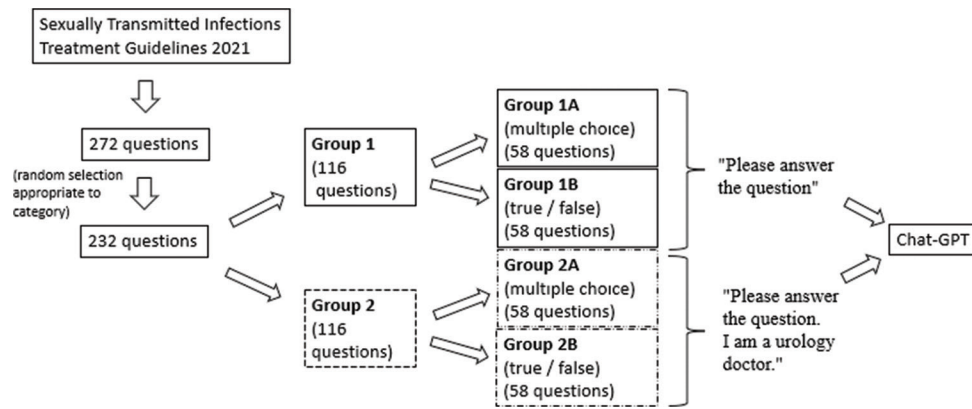
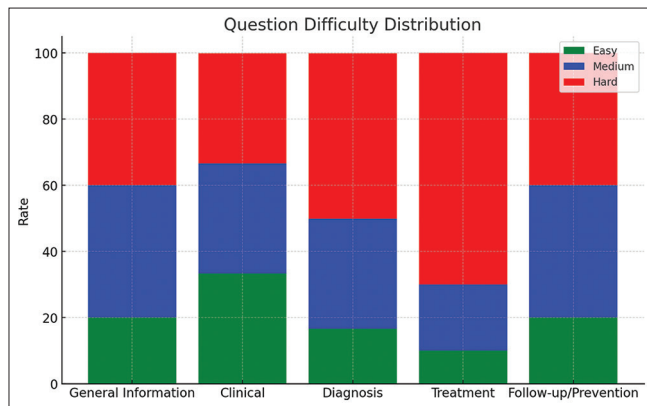


Figure 1: Preparation of the questions. E: Easy, M: Medium, H: Hard



**Figure 2:** Formation of groups



**Figure 3:** The proportions of easy, medium, and hard questions in both groups and their subgroups

easy, medium, and hard questions in both groups and their subgroups differed for each category [Figure 3].

When the questions in Group 1 were presented to ChatGPT-4, the instruction given was “Please answer the question,” whereas for Group 2, the instruction was “Please answer the question. While answering this question, please consider that I am a urology doctor.” The purpose of this distribution is to measure the impact of the AI’s awareness of conversing with a specialist doctor on the accuracy of the responses. The reason for preparing completely different questions for Group 2 compared to Group 1 was to account for ChatGPT-4’s learning and adaptation capabilities, as asking the same questions a second time could increase the accuracy rates.<sup>[8]</sup>

### Evaluation of ChatGPT’s response

The questions were asked to ChatGPT-4 by a single user, a urology specialist. The URLs (uniform resource locators) of ChatGPT-4’s responses were recorded, and screenshots were taken. The accuracy of the responses was assessed based on the “sexually transmitted diseases treatment guidelines 2021.” ChatGPT-4’s explanations were also evaluated for accuracy and completeness using a Likert scale. A six-point Likert scale was used to assess accuracy (accuracy score [AS]: 1 – completely wrong, 2 – mostly wrong,

3 – about equally right and wrong, 4 – more right than wrong, 5 – almost entirely correct, and 6 – completely correct). For completeness, a three-point Likert scale was used (completeness score [CS]: 1 – incomplete, addresses some aspects of the question but lacks parts; 2 – sufficient, addresses all aspects of the question and provides the minimum necessary information considered complete; and 3 – comprehensive, addresses all aspects of the question and provides additional information or context beyond what is expected). These scales allowed for a more detailed understanding of ChatGPT-4’s performance.

All URLs of the questions, the accuracy of the answers, and AS and CS results are specified in the attached document. Three example questions from each subgroup have been selected, including the URLs for the questions and answers. The URLs of the example questions, the accuracy of the answers, and the AS and CS results are specified in Table 1. The URLs of all questions are provided in the Supplementary Data section.

### Statistical analysis

The study’s analysis aimed to comprehensively understand ChatGPT-4’s performance under urological conditions. Descriptive statistics, including mean and median, summarized all data. Independent samples *t*-test and Chi-square test compared two independent groups. The Chi-square test assessed accuracy rates, whereas the *t*-test compared mean accuracy and completeness scores. All tests were two-tailed, with a  $P < 0.05$  considered significant. Analyses were conducted using SPSSv26 (IBM, Chicago, IL, USA), and Figures 3 and 4 were generated by ChatGPT4 applications (OpenAI).

## RESULTS

### Comparison of the two groups

The accuracy rate of ChatGPT-4’s responses to questions in Group 1 (116 questions) was 81% (94 questions), whereas in Group 2 (116 questions), it was 77.5% (90 questions) [Table 2]. Although Group 1 had higher accuracy rates,

Table 1: The uniform resource locators of the questions	
Sample questions / difficulty levels	The URLs of sample questions, the accuracy of the answers, AS and CS results
<b>Treatment (Group 1A)</b>	
Question 30 (easy)	<a href="https://chat.openai.com/share/2d76fc40-cb71-4cda-8dd6-18ee208df822">https://chat.openai.com/share/2d76fc40-cb71-4cda-8dd6-18ee208df822</a> Answer: True/AS: 6/CS: 2
Question 32 (medium)	<a href="https://chat.openai.com/share/e199e516-72fc-45f4-9d50-7e11f2c18634">https://chat.openai.com/share/e199e516-72fc-45f4-9d50-7e11f2c18634</a> Answer: False/AS: 1/CS: 2
Question 40 (hard)	<a href="https://chat.openai.com/share/52d0e325-7e93-4ff2-9912-f145474d8105">https://chat.openai.com/share/52d0e325-7e93-4ff2-9912-f145474d8105</a> Answer: False/AS: 4/CS: 2
<b>General Info (Group 1B)</b>	
Question 2 (easy)	<a href="https://chat.openai.com/share/81f7b007-7c4c-44ec-b2b9-572b2a003657">https://chat.openai.com/share/81f7b007-7c4c-44ec-b2b9-572b2a003657</a> Answer: True/AS: 6/CS: 2
Question 6 (medium)	<a href="https://chat.openai.com/share/71b5bbe1-aabc-4485-a561-d8da10158271">https://chat.openai.com/share/71b5bbe1-aabc-4485-a561-d8da10158271</a> Answer: True/AS: 6/CS: 2
Question 7 (hard)	<a href="https://chat.openai.com/share/c8230d60-0172-4bf2-9171-ef3b54307515">https://chat.openai.com/share/c8230d60-0172-4bf2-9171-ef3b54307515</a> Answer: False/AS: 1/CS: 2
<b>Diagnosis (Group 2A)</b>	
Question 18 (easy)	<a href="https://chat.openai.com/share/5b680f8d-9ccc-48e6-95fa-9a51ffb355ad">https://chat.openai.com/share/5b680f8d-9ccc-48e6-95fa-9a51ffb355ad</a> Answer: True/AS: 6/CS: 2
Question 20 (medium)	<a href="https://chat.openai.com/share/eedd90b6-4c2c-479f-82d4-1043f8a08375">https://chat.openai.com/share/eedd90b6-4c2c-479f-82d4-1043f8a08375</a> Answer: True/AS: 6/CS: 2
Question 24 (hard)	<a href="https://chat.openai.com/share/51b6a099-e616-4db6-822f-de13179f3b9d">https://chat.openai.com/share/51b6a099-e616-4db6-822f-de13179f3b9d</a> Answer: True/AS: 6/CS: 2
<b>Clinical (Group 2B)</b>	
Question 11 (easy)	<a href="https://chat.openai.com/share/e834f10c-69dd-4ab5-9257-2b8851762bcd">https://chat.openai.com/share/e834f10c-69dd-4ab5-9257-2b8851762bcd</a> Answer: True/AS: 6/CS: 2
Question 13 (medium)	<a href="https://chat.openai.com/share/b2db7331-af85-4381-86eb-255a102bf6b4">https://chat.openai.com/share/b2db7331-af85-4381-86eb-255a102bf6b4</a> Answer: True/AS: 6/CS: 2
Question 16 (hard)	<a href="https://chat.openai.com/share/491b3bcb-3ec2-46ac-aefb-cfb9a127f9f0">https://chat.openai.com/share/491b3bcb-3ec2-46ac-aefb-cfb9a127f9f0</a> Answer: True/AS: 6/CS: 2

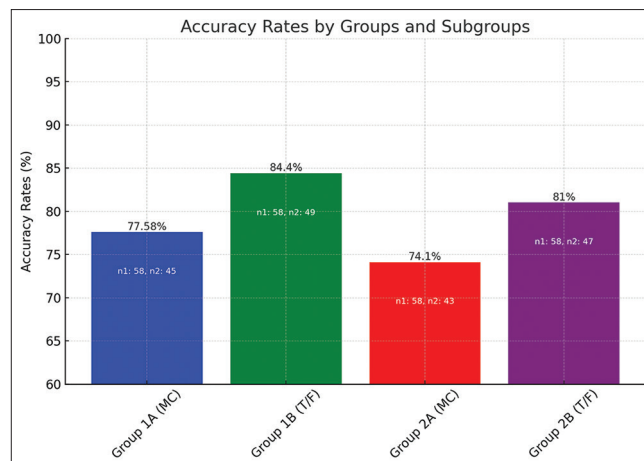
AS=Accuracy score, CS=Completeness score

**Table 2: Accuracy rates, accuracy scores, and completeness scores of the groups**

Groups	Accuracy rates	Average accuracy score	Average completeness score
Group 1 ( $n_1$ : 116)	81% ( $n_2$ : 94)	5.2 (608p/116Q)	2.1 (245p/116Q)
Group 2 ( $n_1$ : 116)	77.58% ( $n_2$ : 90)	5 (588p/116Q)	2.2 (257p/116Q)
$P$	0.6268	0.000058	0.0114

$n_1$  = Represents the number of questions,  $n_2$  = Represents the number of correctly answered questions;  $P$  = Points,  $Q$  = Questions

the difference was insignificant ( $P > 0.05$ ). The accuracy averages for easy, medium, and hard questions in Group 1 were 95%, 86.1%, and 73.3%, respectively, compared to 95%, 83.3%, and 68.3% in Group 2. As the difficulty level of questions increased, the accuracy rate decreased, with Group 2 showing lower accuracy rates for complex questions. Within Group 1, accuracy rates were general information (85%), clinical (100%), diagnosis (83.3%), treatment (75%), and follow-up/prevention (75%). For Group 2, the rates were general information (75%), clinical (91.6%), diagnosis (91.6%), treatment (75%), and follow-up/prevention (60%). Statistical analysis showed that the differences between Group 1 and Group 2 in the categories of general information, clinical, diagnosis, and follow-up/prevention were not statistically significant ( $P = 1.0$  for each). In the treatment category, statistical analysis could not be performed because the values were



**Figure 4:** Comparison between multiple choice questions and true/false questions. MC: Multiple Choice. T/F: True/False.  $n_1$ : represents the number of questions;  $n_2$ : represents the number of correctly answered questions

identical. The mean AS was 5.2 for Group 1 and 5 for Group 2 [Table 2], with Group 1's being significantly higher ( $P = 0.000058$ ). In the AS evaluation, 79.3% of Group 1 questions scored 6 or 5, compared to 75.8% in Group 2. Conversely, 12% of Group 1 questions scored 2 or 1, compared to 16.3% in Group 2.

The mean completeness score was 2.1 for Group 1 and 2.2 for Group 2 [Table 2], with Group 2's being significantly higher



( $P = 0.0114$ ). Group 1 had a lower percentage of scores of "3" (11.2%) compared to Group 2 (19.8%).

The area under the curve (AUC) value for Group 1 was found to be 0.833, whereas for Group 2 it was 0.806. Calculated AUC values for each group by difficulty level: For Group 1: Easy questions AUC: 0.5, moderate difficulty questions AUC: 1.0, difficult questions AUC: 1.0. For Group 2: Easy questions AUC: 0.5, moderate difficulty questions AUC: 0.984, difficult questions AUC: 0.966.

### Comparison of the subgroups

For multiple-choice questions, the accuracy rates were 77.5% for Group 1A and 74.1% for Group 2A ( $P = 0.828$ ), with no significant difference. The mean ASs were 5.2 for Group 1A and 4.9 for Group 2A ( $P = 0.0032$ ), showing a significant difference [Table 3]. The accuracy rates for true/false questions were 84.4% for Group 1B and 81% for Group 2B ( $P = 0.8058$ ), with no significant difference. The mean ASs were 5.25 for Group 1B and 5.20 for Group 2B ( $P = 0.2608$ ) [Table 4].

The mean completeness score was 2.1 for Group 1A and 2.2 for Group 2A ( $P = 0.0332$ ), showing a significant difference [Table 3]. For Group 1B and Group 2B, the mean completeness scores were 2 and 2.1, respectively ( $P = 0.753$ ) [Table 4].

### Comparison of question types

When comparing question types, performance on true/false questions was higher than on multiple-choice questions. For Group 1, the accuracy rate for true/false questions was 84.4%, while for multiple-choice questions, it was 77.5% ( $P = 0.477$ ). For Group 2, the accuracy rate for true/false questions was 81%, whereas for multiple-choice questions, it was 74.1% ( $P = 0.504$ ) [Figure 4].

## DISCUSSION

**Table 3: Accuracy rates, average accuracy scores, average completeness scores, and statistical analysis for Group 1A and Group 2A**

Subgroups	Accuracy rates	Average accuracy score	Average completeness score
1A ( $n_1$ : 58)	77.5% ( $n_2$ : 45)	5.2 (303p/58Q)	2.1 (124p/58Q)
2A ( $n_1$ : 58)	74.1% ( $n_2$ : 43)	4.9 (286p/58Q)	2.2 (132p/58Q)
$P$	0.828	0.003	0.033

$n_1$  = Represents the number of questions,  $n_2$  = Represents the number of correctly answered questions;  $P$  = Points,  $Q$  = Questions

**Table 4: Accuracy rates, average accuracy scores, average completeness scores, and statistical analysis for Group 1B and Group 2B**

Subgroups	Accuracy rates	Average accuracy score	Average completeness score
1B ( $n_1$ : 58)	84.4% ( $n_2$ : 49)	5.25 (305p/58Q)	2 (121p/58Q)
2B ( $n_1$ : 58)	81% ( $n_2$ : 47)	5.2 (302p/58Q)	2.1 (125p/58Q)
$P$	0.805	0.2608	0.753

$n_1$  = Represents the number of questions,  $n_2$  = Represents the number of correctly answered questions;  $P$  = Points,  $Q$  = Questions

This study evaluated ChatGPT-4's performance in answering questions about sexually transmitted urethritis in men and examined the impact of knowing it was conversing with a urologist on its performance. It was observed that informing ChatGPT-4 about interacting with a urologist did not enhance the accuracy of its responses. Although the model is designed to provide accurate, unbiased, and up-to-date information, this did not have a significant effect on its accuracy.

AI has the potential to enhance the quality and efficiency of urological care.<sup>[9]</sup> AI is proposed to evaluate skills in urological surgical training, shorten the learning curve, and improve patient safety.<sup>[10]</sup> Kobori *et al.* found a 77.7% diagnostic accuracy rate, similar to our study, when using a chatbot for diagnosing sexually transmitted infections in 70 male patients. The accuracy rates for gonococcal urethritis, chlamydial urethritis, syphilis, and condyloma acuminatum were reported as 65%, 70%, 85%, and 95%, respectively.<sup>[11]</sup>

Cakir *et al.* evaluated ChatGPT's ability to answer questions about urinary tract infections. The accuracy rates were 96.2% for frequently asked questions, public-based questions and 89.7% for questions based on the European Association of Urology Urological Infection guidelines. These accuracy rates were higher than those found in our study for Group 1 at 81% and Group 2 at 77.5%.<sup>[12]</sup> In the Taiwanese urology board exam, 450 multiple-choice questions were asked to two models (ChatGPT-4 and ChatGPT-3.5), and their accuracy rates were found to be 57.8% for ChatGPT-4 and 33.8% for ChatGPT-3.5. These accuracy rates were significantly lower than the accuracy rates in our study.<sup>[13]</sup> ChatGPT-4's responses were evaluated for accuracy and completeness in analyzing 24-h urine results and creating specific dietary recommendations for nephrolithiasis. ChatGPT-4's AS was 5.2/6, and the completeness score was 2.4/3. These values were similar to the scores of Group 1 (AS 5.2/6, completeness score 2.1/3) and Group 2 (AS 5/6, completeness score 2.2/3) in our study.<sup>[14]</sup> A study aiming to investigate the decision-making ability in solving complex urological issues and evaluate the effectiveness in providing psychological support to patients with urological disorders was conducted, including a total of 69 clinical and 30 psychological questions. ChatGPT 4.0 generally outperformed ChatGPT 3.5 in multiple-choice tests covering various urological topics and showed competitive results against physicians. ChatGPT4.0 surpassed ChatGPT3.5 in all urology-related psychological issues.<sup>[15]</sup>

In a study by Cil and Dogan, ChatGPT-4's responses to questions about kidney stones were evaluated. It was found that ChatGPT-4 correctly answered 80% of the true/false questions and 93.3% of the multiple-choice questions. The 80% accuracy rate for true/false questions in the study by Cil and Dogan was lower than the 84.4% and 81% for Group 1B

and Group 2B, respectively, in our study. The 93.3% accuracy rate for multiple-choice questions in the study by Cil and Dogan was higher than the 77.5% and 74.1% for Group 1A and Group 2A, respectively, in our study. In our study, similar to the study by Cil and Dogan, the accuracy rates for difficult questions were lower than those for easy and medium-difficulty questions.<sup>[8]</sup> When evaluated by question types, the study by Cil and Dogan found that the accuracy rates for multiple-choice questions (93.3%) were higher than those for true/false questions (80%). In contrast, in our study, the accuracy rates for true/false questions were higher than those for multiple-choice questions in both the group where it was not mentioned that the conversation was with a urologist (Group 1A and Group 1B) and the group where it was mentioned that the conversation was with a urologist (Group 2A and Group 2B). There are very few studies investigating ChatGPT-4's knowledge about sexually transmitted urethritis in men. In addition, no study has examined how knowing it is conversing with a urologist affects ChatGPT-4's responses regarding sexually transmitted urethritis in men.

It was observed in the literature review that a specific topic like the one in our study had not been studied before. Although the difference in accuracy rates between Group 1 and Group 2 was not statistically significant, Group 1 had a higher average AS. The lower accuracy rates in Group 2 compared to Group 1 indicate that instructing ChatGPT-4 to converse with a urologist did not increase the accuracy rate and led to a 3.5% decrease. The percentage of questions scoring 6 and 5 points was higher in Group 1, whereas the percentage of questions scoring 2 and 1 points was higher in Group 2. In conclusion, instructing ChatGPT to converse with a urologist decreased the average AS and the proportion of high-scoring questions while increasing the proportion of low-scoring questions. On the other hand, the average completeness scores were higher in Group 2, with a significant increase in the number of questions scoring 3 points. For easy questions, the accuracy rates were the same in both groups, whereas Group 1 had higher rates for medium and difficult questions.

When comparing multiple-choice question groups, the accuracy rate of Group 1A was higher than that of Group 2A. Questions related to treatment had a 75% accuracy rate in both groups. Group 1A had a higher average AS, with a greater proportion of questions scoring 6 and 5 points (77.5% vs. 70.6%). In contrast, the proportion of questions scoring 2 and 1 points was lower (10.3% vs. 18.9%). Completeness scores were higher in Group 2A, with a significant increase in the number of questions scoring 3 points (24.3% in Group 2A compared to 13.7% in Group 1A).

For true/false questions, the accuracy rates were higher in Group 1B compared to Group 2B. The average ASs were similar, but the proportion of questions scoring 2 and 1 points

was higher in Group 2B (17.2% vs. 13.7%). The average completeness scores were higher in Group 2B, with a greater proportion of questions scoring 3 points (15.5% vs. 5%). Group 1B had higher accuracy rates for easy and medium questions, whereas Group 2B performed better on difficult questions. Overall, instructing ChatGPT-4 to converse with a urologist decreased accuracy rates across different question types while increasing completeness scores.

The study's results indicate that the balance between accuracy and completeness in ChatGPT-4's responses can vary depending on the given instructions. The higher completeness scores in Group 2 suggest that responses became more detailed, although this increased detail might have negatively impacted accuracy in some cases. This finding offers important insights into how ChatGPT should be optimized when used in specific areas of expertise.

The higher average accuracy in Group 1 and higher completeness in Group 2 indicate that the instructions given to ChatGPT significantly affect both the quality and content of responses. These differences, particularly in challenging questions, warrant further investigation to understand their practical implications.

This study is the first detailed research conducted on sexually transmitted urethritis in men and the first to evaluate the impact of AI, knowing it is conversing with a urologist on its responses. However, the inability to ask the same questions to both groups and the preparation and scoring of questions solely by a single urology specialist introduce risks of subjectivity and bias. Nevertheless, preparing and scoring the questions and responses according to the latest guidelines minimized potential bias. In addition, the subjective classification of question difficulty and the higher prevalence of difficult questions in the diagnosis and treatment categories partially influenced accuracy rates. Despite these limitations, this study provides valuable insights into ChatGPT-4's knowledge and the effect of knowing its conversational partner on accuracy rates.

In AI models like ChatGPT, the phenomenon of "hallucination" refers to instances where the model presents unsupported or incorrect information as if it were accurate. In our study, such instances of misinformation were observed in some of ChatGPT's responses.

The AUC value calculated for Group 1 being 0.833 and for Group 2 being 0.806 indicates that Group 1 has a slightly better ability to distinguish between questions compared to Group 2. This result suggests that ChatGPT's performance can vary when it is informed about a specific type of user or area of expertise. However, the similar AUC values for both groups also demonstrate that ChatGPT generally provides consistent performance in answering questions. The AUC

values by difficulty level for each group are as follows: for Group 1, easy questions 0.5, moderate and difficult questions 1.0; for Group 2, easy questions 0.5, moderate questions 0.984, and difficult questions 0.966. Both groups show a 95% accuracy rate for easy questions. The AUC value of 0.5 results from a small number of incorrect answers and reflects a high discrimination ability of the model.

ChatGPT-4's inability to perform web crawling limits its access to the most current information, and users are advised to train the model with up-to-date data. Since it does not retain information from prior interactions, the risk of accidental plagiarism is low; however, checking generated content for originality is recommended. ChatGPT does not store or use user-provided data for other purposes, but adhering to international data protection standards in medical conversations is crucial. To enhance the model's ability to deliver accurate and current information, training it with more comprehensive datasets and incorporating findings from continuous literature reviews into its training would be beneficial.

This study highlights how AI models perform when interacting with medical knowledge, identifying areas that need improvement for more effective use. It also suggests that future research could explore ways to optimize clinical decision-making processes by comparing AI performance across different specialties.

## CONCLUSIONS

With an impressive accuracy rate of 81% in answering questions about sexually transmitted urethritis in men and a still high rate of 77.5% even when told that it was conversing with a urologist, ChatGPT-4 demonstrates its potential as an automatic question–answering system for urology specialists. Although specific instructions are given during interactions with models like ChatGPT-4, aiming to provide the most accurate, unbiased, and up-to-date information and to keep the information confidential, informing ChatGPT-4 that it was conversing with a urologist did not contribute to the accuracy of the responses regarding sexually transmitted urethritis in men. More comprehensive studies addressing various topics within urology are needed to draw more definitive conclusions.

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## SUPPLEMENTARY DATA

### GROUP 1A (MULTIPLE CHOICE QUESTIONS)

#### *GENERAL INFORMATION (10 QUESTIONS)*

Question 1 (E): <https://chat.openai.com/share/5168b5e8-b323-4c72-80fd-d7b1754952b3>

Answer: True / AS:6 / CS:2

Question 2 (E): <https://chat.openai.com/share/5751d03f-5c1e-4b46-8844-497ef5a5a948>

Answer: True / AS:6 / CS:2

Question 3 (M): <https://chat.openai.com/share/86ba6158-dd32-4b9e-b2cf-0882d78f3525>

Answer: True / AS:6 / CS:2

Question 4 (M): <https://chat.openai.com/share/b147f361-5661-43cb-acb7-35bea5505527>

Answer: False / AS:4 / CS:2

Question 5 (H): <https://chat.openai.com/share/5fa92fa7-70d7-4ed9-8fe3-c64d2694cdb1>

Answer: True / AS:6 / CS:2

Question 6 (M): <https://chat.openai.com/share/4f902ef7-4cb1-462d-9d61-e5ffb2976152>

Answer: True / AS:6 / CS:2

Question 7 (M): <https://chat.openai.com/share/d92a38c7-c197-41f2-a6c7-41f8a1b256ad>

Answer: True / AS:6 / CS:3

Question 8 (H): <https://chat.openai.com/share/b52235aa-1a98-41c2-bfa4-db704ed3323c>

Answer: True / AS:5 / CS:2

Question 9 (H): <https://chat.openai.com/share/e974719b-7537-4d36-a16a-c0cc078526bc>

Answer: True / AS:6 / CS:2

Question 10 (H): <https://chat.openai.com/share/eeda717f-76b4-49f0-8484-8389fe9f818e>

Answer: True / AS:6 / CS:2

#### *CLINICAL (6 QUESTIONS)*

Question 11 (E): <https://chat.openai.com/share/7681d5c5-f24c-4032-a40d-1bdac7df5ec8>

Answer: True / AS:6 / CS:2

Question 12 (E): <https://chat.openai.com/share/15796195-0e78-4c73-987c-5ad5a118b055>

Answer: True / AS:6 / CS:3

Question 13 (M): <https://chat.openai.com/share/5d9bb85d-0360-4aa8-a43b-ee29af51c981>

Answer: True / AS:6 / CS:3

Question 14 (M): <https://chat.openai.com/share/eb9edd2d-b447-4750-97f9-47a1f4c34ae7>

Answer: True / AS:6 / CS:3

Question 15 (H): <https://chat.openai.com/share/6a47d42c-ecb9-4362-a2d9-79fa904cf0a3>

Answer: True / AS:6 / CS:3

Question 16 (H): <https://chat.openai.com/share/712a2c9a-19ec-4c63-ab6c-64bb3139e7dc>

Answer: True / AS:6 / CS:2

#### *DIAGNOSIS (12 QUESTIONS)*

Question 17 (E): <https://chat.openai.com/share/04c19fa9-34ac-462a-bfdd-46aaad77720c>

Answer: True / AS:6 / CS:2

Question 18 (E): <https://chat.openai.com/share/5d8dd319-e1e0-4399-8167-1dac4e9ce12a>

Answer: True / AS:6 / CS:2

Question 19 (M): <https://chat.openai.com/share/90174ac3-0d4e-4fc3-bfc8-7e1c3098bbea>

Answer: True / AS:6 / CS:2

Question 20 (M): <https://chat.openai.com/share/f03010f0-afe1-49c3-b1ae-1dc973afc7de>

Answer: True / AS:6 / CS:2

Question 21 (M): <https://chat.openai.com/share/55137fdd-2119-4a3c-8d67-e92a6138de4f>

Answer: True / AS:5 / CS:2

Question 22 (M): <https://chat.openai.com/share/ede8b151-f66c-4a7c-9b33-3a723b009c8a>

Answer: False / AS:4 / CS:2

Question 23 (H): <https://chat.openai.com/share/bf4a43d4-06c9-4f0b-a767-2ffb2f744a3c>

Answer: True / AS:6 / CS:2



Question 24 (H): <https://chat.openai.com/share/aa32057c-a0b6-4160-8f9b-e2549b8a3066>  
Answer: True / AS:6 / CS:2  
Question 25 (H): <https://chat.openai.com/share/f2168592-bbd7-49e1-a9bf-2fe8a85011d7>  
Answer: True / AS:6 / CS:2  
Question 26 (H): <https://chat.openai.com/share/0c252e5c-02f4-446b-a9ff-845ad8646944>  
Answer: True / AS:6 / CS:3  
Question 27 (H): <https://chat.openai.com/share/065cce94-3cd4-4c96-b671-bf1c8c617812>  
Answer: True / AS:6 / CS:2  
Question 28 (H): <https://chat.openai.com/share/f3bf0a11-b353-4c59-bfb7-6b3f3c1885eb>  
Answer: False / AS:2 / CS:2

### ***TREATMENT (20 QUESTIONS)***

Question 29 (E): <https://chat.openai.com/share/033d95ab-d954-4f2b-9b9c-b139a51119bc>  
Answer: True / AS:6 / CS:2  
Question 30 (E): <https://chat.openai.com/share/2d76fc40-cb71-4cda-8dd6-18ee208df822>  
Answer: True / AS:6 / CS:2  
Question 31 (M): <https://chat.openai.com/share/8a442a06-4746-4b59-9d49-f43abd1b4a7b>  
Answer: True / AS:6 / CS:2  
Question 32 (M): <https://chat.openai.com/share/e199e516-72fc-45f4-9d50-7e11f2c18634>  
Answer: False / AS:1 / CS:2  
Question 33 (M): <https://chat.openai.com/share/07a1ab8b-227f-40df-bdc6-726ac622af2b>  
Answer: True / AS:6 / CS:3  
Question 34 (M): <https://chat.openai.com/share/27faca20-14f7-4ee3-8d22-6d278c3211e4>  
Answer: False / AS:4 / CS:2  
Question 35 (H): <https://chat.openai.com/share/2f3ba805-8626-400f-8f66-cf7a5ebf7e18>  
Answer: True / AS:6 / CS:2  
Question 36 (H): <https://chat.openai.com/share/42697ac3-7536-4889-9f8e-fe34cbcbfe89>  
Answer: True / AS:6 / CS:2  
Question 37 (H): <https://chat.openai.com/share/b42a04af-1d19-4796-80e2-9b2687c324be>  
Answer: True / AS:6 / CS:2  
Question 38 (H): <https://chat.openai.com/share/c4dd9261-95ee-479f-a1ae-59b65a1c2869>  
Answer: True / AS:6 / CS:3  
Question 39 (H): <https://chat.openai.com/share/6a5a3813-204a-4a6b-9f98-6b74f3dc1c1b>  
Answer: True / AS:6 / CS:3  
Question 40 (H): <https://chat.openai.com/share/52d0e325-7e93-4ff2-9912-f145474d8105>  
Answer: False / AS:4 / CS:2  
Question 41 (H): <https://chat.openai.com/share/ec3d396f-a055-48d5-aa36-0667c4007596>  
Answer: False / AS:3 / CS:2  
Question 42 (H): <https://chat.openai.com/share/e8a1ec57-35a5-4f26-bf5b-605d96cdfbbc>  
Answer: True / AS:6 / CS:2  
Question 43 (H): <https://chat.openai.com/share/37294a75-e64b-4a79-82d8-3f04ebd19577>  
Answer: False / AS:1 / CS:2  
Question 44 (H): <https://chat.openai.com/share/12916123-a7a9-4ed1-b7cf-e9e4d48aa91b>  
Answer: True / AS:6 / CS:3  
Question 45 (H): <https://chat.openai.com/share/f8a8c871-0f58-44c1-80ea-6908bd15ce6a>  
Answer: True / AS:6 / CS:2  
Question 46 (H): <https://chat.openai.com/share/99028b27-7c55-4c89-8ffb-40f6a9bee563>  
Answer: False / AS:3 / CS:2  
Question 47 (H): <https://chat.openai.com/share/c6b5493f-fd22-459a-85ef-521d4b6199ee>  
Answer: False / AS:2 / CS:2  
Question 48 (H): <https://chat.openai.com/share/8cbc0de2-9c43-445d-bbe6-35f11f5a7362>  
Answer: False / AS:2 / CS:2

### ***PREVENTION / FOLLOW-UP (10 QUESTIONS)***

Question 49 (E): <https://chat.openai.com/share/d4528646-ff5d-48bc-b4d3-473749ea415b>  
Answer: False / AS:4 / CS:2

Question 50 (E): <https://chat.openai.com/share/cbc72767-ba14-4b08-a770-6ef157e8efb4>  
Answer: True / AS:6 / CS:2  
Question 51 (M): <https://chat.openai.com/share/507783f8-559f-4286-94fd-86e7f9f31db6>  
Answer: True / AS:6 / CS:2  
Question 52 (M): <https://chat.openai.com/share/6cab302a-d447-4bcb-8748-878b0945795b>  
Answer: True / AS:6 / CS:2  
Question 53 (M): <https://chat.openai.com/share/a02b5ef0-018a-464d-b6fd-39d65b7df51e>  
Answer: True / AS:6 / CS:2  
Question 54 (M): <https://chat.openai.com/share/abd210dd-20aa-421b-934e-812ae7d343e5>  
Answer: True / AS:6 / CS:2  
Question 55 (H): <https://chat.openai.com/share/e69ab806-ec9b-4ef1-89fa-6e5d4f3ce1b0>  
Answer: True / AS:6 / CS:2  
Question 56 (H): <https://chat.openai.com/share/a8e69cf8-fa1d-40b0-ab8d-ea3604f465a7>  
Answer: False / AS:1 / CS:1  
Question 57 (H): <https://chat.openai.com/share/997da208-c8d5-414f-843e-e67b2754eb15>  
Answer: True / AS:6 / CS:2  
Question 58 (H): <https://chat.openai.com/share/56cc2657-6943-4a1c-9c55-d2ff0118b9b0>  
Answer: True / AS:6 / CS:3

## **GROUP 1B (TRUE/FALSE QUESTIONS)**

### ***GENERAL INFORMATION (10 QUESTIONS)***

Question 1 (E): <https://chat.openai.com/share/9026363f-8418-4132-ba8d-8a44a8a7a04d>  
Answer: True / AS:6 / CS:2  
Question 2 (E): <https://chat.openai.com/share/81f7b007-7c4c-44ec-b2b9-572b2a003657>  
Answer: True / AS:6 / CS:2  
Question 3 (M): <https://chat.openai.com/share/d31de9bf-b029-48b6-a503-5e5bd4a8f53b>  
Answer: True / AS:6 / CS:2  
Question 4 (M): <https://chat.openai.com/share/eab74bfd-818b-4f27-967d-02b86ada399a>  
Answer: True / AS:6 / CS:2  
Question 5 (M): <https://chat.openai.com/share/f5d5c9d9-5727-41d8-8c9c-40db909533f0>  
Answer: True / AS:6 / CS:2  
Question 6 (M): <https://chat.openai.com/share/71b5bbe1-aabc-4485-a561-d8da10158271>  
Answer: True / AS:6 / CS:2  
Question 7 (H): <https://chat.openai.com/share/c8230d60-0172-4bf2-9171-ef3b54307515>  
Answer: False / AS:1 / CS:2  
Question 8 (H): <https://chat.openai.com/share/ac22632c-c242-482a-969c-8e41aade0323>  
Answer: True / AS:6 / CS:2  
Question 9 (H): <https://chat.openai.com/share/e9820387-a244-4265-ba61-f006c52c9a87>  
Answer: False / AS:1 / CS:2  
Question 10 (H): <https://chat.openai.com/share/384a85b0-e8f6-4c40-83a0-8fadb3b96bc7>  
Answer: True / AS:6 / CS:2

### ***CLINICAL (6 QUESTIONS)***

Question 11 (E): <https://chat.openai.com/share/3a8b027e-c917-443d-a96a-382015093cff>  
Answer: True / AS:6 / CS:2  
Question 12 (E): <https://chat.openai.com/share/21b78f29-71fc-42ca-8293-e454040c5204>  
Answer: True / AS:6 / CS:2  
Question 13 (M): <https://chat.openai.com/share/ea44c907-b7d3-43db-99a9-9a25d5d826ca>  
Answer: True / AS:6 / CS:2  
Question 14 (M): <https://chat.openai.com/share/dc354c1a-b1f7-44e1-ae9f-0ad1706aa25a>  
Answer: True / AS:6 / CS:2  
Question 15 (H): <https://chat.openai.com/share/d439f1c6-5994-40b6-a7c1-567de15771aa>  
Answer: True / AS:6 / CS:2  
Question 16 (H): <https://chat.openai.com/share/2479ace4-abb9-432b-b995-1a2867fb88e9>  
Answer: True / AS:6 / CS:2

### ***DIAGNOSIS (12 QUESTIONS)***

Question 17 (E): <https://chat.openai.com/share/56f04013-a785-4527-a917-384de34ca5ab>

Answer: True / AS:6 / CS:2

Question 18 (E): <https://chat.openai.com/share/a0d4bb15-8caa-4a19-a3f4-e4c8831deddb>

Answer: True / AS:6 / CS:2

Question 19 (M): <https://chat.openai.com/share/6d835d1b-4ab2-47c1-bce0-bbe56576ef85>

Answer: True / AS:6 / CS:2

Question 20 (M): <https://chat.openai.com/share/1458be2c-18e7-480b-ae84-1af576831953>

Answer: True / AS:6 / CS:2

Question 21 (M): <https://chat.openai.com/share/dafebf53-34eb-4673-a6a7-cb591d0416a6>

Answer: True / AS:6 / CS:3

Question 22 (M): <https://chat.openai.com/share/23d744d1-460c-4a4b-a1fb-c627d8a61cb8>

Answer: True / AS:6 / CS:2

Question 23 (H): <https://chat.openai.com/share/95ae8833-8fa7-4482-bd88-67f238554fd4>

Answer: True / AS:6 / CS:2

Question 24 (H): <https://chat.openai.com/share/0aace240-9226-479d-a711-7d1fe2c8c89a>

Answer: True / AS:6 / CS:3

Question 25 (H): <https://chat.openai.com/share/2bf3b590-81e3-41f6-9f2a-55c5b2f13e31>

Answer: False / AS:1 / CS:2

Question 26 (H): : <https://chat.openai.com/share/583f00b5-ea2c-482d-96b0-39f898c36caf>

Answer: True / AS:6 / CS:3

Question 27 (H): <https://chat.openai.com/share/3e9b16ff-99f2-4833-bd18-8f3974fcc7a7>

Answer: True / AS:6 / CS:2

Question 28 (H): <https://chat.openai.com/share/e63a5a6f-9f54-486d-aef4-58f694a2e5de>

Answer: False / AS:2 / CS:2

### ***TREATMENT (20 QUESTIONS)***

Question 29 (E): <https://chat.openai.com/share/456149e2-5adc-4703-a873-df9b1db618ff>

Answer: True / AS:4 / CS:2

Question 30 (E): <https://chat.openai.com/share/3a03c340-3080-4396-a048-10bef989383f>

Answer: True / AS:6 / CS:2

Question 31 (M): <https://chat.openai.com/share/a37c9821-2e56-433a-8cd5-2de4564a37db>

Answer: True / AS:6 / CS:2

Question 32 (M): <https://chat.openai.com/share/63f7f943-6e50-434b-aa63-5363f06b4842>

Answer: True / AS:6 / CS:2

Question 33 (M): <https://chat.openai.com/share/82817fc4-12f8-406d-859c-674de76a5973>

Answer: True / AS:6 / CS:2

Question 34 (M): <https://chat.openai.com/share/75771e8e-14fb-4b8a-8747-4ced1eac81d0>

Answer: True / AS:6 / CS:2

Question 35 (H): <https://chat.openai.com/share/f9cbe044-8b55-458d-b2ec-c4406fe45f70>

Answer: True / AS:4 / CS:2

Question 36 (H): <https://chat.openai.com/share/099bfa02-cbed-4e14-8143-d1f808ac431c>

Answer: False / AS:3 / CS:3

Question 37 (H): <https://chat.openai.com/share/e0324289-4274-4267-b0e0-48df75db2cb4>

Answer: True / AS:6 / CS:2

Question 38 (H): <https://chat.openai.com/share/fde931b8-1e6e-4a1f-bc00-8a435091d7aa>

Answer: True / AS:6 / CS:2

Question 39 (H): <https://chat.openai.com/share/76accc2a-bdbb-4881-9e27-269dd38bca57>

Answer: True / AS:6 / CS:2

Question 40 (H): <https://chat.openai.com/share/aa2367e6-49fc-4aa1-9414-6c07f055024e>

Answer: True / AS:6 / CS:2

Question 41 (H): <https://chat.openai.com/share/81447e5b-a7a5-4f04-a4fe-7b28808be0ee>

Answer: True / AS:6 / CS:2

Question 42 (H): <https://chat.openai.com/share/313c8d44-e85d-4cb6-b109-f368cd01046a>

Answer: True / AS:6 / CS:2

Question 43 (H): <https://chat.openai.com/share/d9c9ac0d-992e-4b3a-8dd2-057d7d257ade>  
Answer: True / AS:6 / CS:2  
Question 44 (H): <https://chat.openai.com/share/bdad914d-b5a7-4906-bded-a7fc6be83c92>  
Answer: True / AS:6 / CS:3  
Question 45 (H): <https://chat.openai.com/share/f558725a-9571-4933-87e2-2e791dc218c7>  
Answer: True / AS:6 / CS:2  
Question 46 (H): <https://chat.openai.com/share/4945a823-5862-4f92-9033-3858ba664ffd>  
Answer: False / AS:2 / CS:2  
Question 47 (H): <https://chat.openai.com/share/ef57901b-29ea-41d5-bb7a-f6d72354e121>  
Answer: True / AS:6 / CS:2  
Question 48 (H): <https://chat.openai.com/share/05aaf493-7b5a-4935-93d2-8809fe1a33da>  
Answer: True / AS:6 / CS:2

### ***PREVENTION / FOLLOW-UP (10 QUESTIONS)***

Question 49 (E): <https://chat.openai.com/share/aaa06930-e002-4a27-8a2e-728da5a53769>  
Answer: True / AS:6 / CS:2  
Question 50 (E): <https://chat.openai.com/share/bdfad15d-397b-413e-ad39-b76d9b5bfa4c>  
Answer: True / AS:6 / CS:2  
Question 51 (M): <https://chat.openai.com/share/b8a0be64-a775-4ac8-88ea-30f4bac18230>  
Answer: True / AS:6 / CS:2  
Question 52 (M): <https://chat.openai.com/share/22dd3d49-6862-4040-86c4-84820ff478b5>  
Answer: True / AS:6 / CS:2  
Question 53 (M): <https://chat.openai.com/share/9a150437-371f-4b68-858a-ce8adbba6b5e>  
Answer: False / AS:1 / CS:2  
Question 54 (M): <https://chat.openai.com/share/873ef406-4d00-40e3-9155-0b40e249769a>  
Answer: True / AS:6 / CS:2  
Question 55 (H): <https://chat.openai.com/share/bab6a1e9-b09e-4a2b-b6d2-d14f58d772a2>  
Answer: False / AS:3 / CS:2  
Question 56 (H): <https://chat.openai.com/share/6c3d4178-7fe5-4e3d-8b8c-381daf325776>  
Answer: True / AS:6 / CS:2  
Question 57 (H): <https://chat.openai.com/share/78830380-9920-4a50-ac55-61d3c6a7fb0b>  
Answer: False / AS:1 / CS:2  
Question 58 (H): <https://chat.openai.com/share/648d6881-da85-411d-a4eb-f236b630da73>  
Answer: True / AS:6 / CS:2

## **GROUP 2A (MULTIPLE CHOICE QUESTIONS)**

### ***GENERAL INFORMATION (10 QUESTIONS)***

Question 1 (E): <https://chat.openai.com/share/3373f123-ad2b-4c1c-8de3-7cfae6834e53>  
Answer: True / AS:6 / CS:2  
Question 2 (E): <https://chat.openai.com/share/33e16d24-0d46-4904-a532-4be9a1bd89e5>  
Answer: True / AS:6 / CS:2  
Question 3 (M): <https://chat.openai.com/share/902a0bc5-d0e8-44b7-b4d9-d029a53dbf18>  
Answer: True / AS:6 / CS:2  
Question 4 (M): <https://chat.openai.com/share/5a70b3aa-88a8-4807-ad61-dc8aa7929cd7>  
Answer: True / AS:6 / CS:2  
Question 5 (M): <https://chat.openai.com/share/df5dcd05-2da9-4dda-878b-8e6a8bec9abc>  
Answer: True / AS:6 / CS:2  
Question 6 (M): <https://chat.openai.com/share/08519a75-82dd-403f-a2b0-b5e943bd3329>  
Answer: True / AS:6 / CS:3  
Question 7 (H): <https://chat.openai.com/share/7c447aed-56cd-4042-aeb1-08fc26f974fb>  
Answer: False / AS:1 / CS:2  
Question 8 (H): <https://chat.openai.com/share/ac0c2cb4-cfbb-4b6b-8091-9323c480d3ba>  
Answer: False / AS:2 / CS:2  
Question 9 (H): <https://chat.openai.com/share/2ed1007d-dde2-47da-a0d3-854f07ba0734>  
Answer: False / AS:2 / CS:3



Question 10 (H): <https://chat.openai.com/share/363e9d3a-1ea8-47b6-bd61-99013170bc5d>  
Answer: True / AS:6 / CS:3

### **CLINICAL (6 QUESTIONS)**

Question 11 (E): <https://chat.openai.com/share/8049c133-cca9-4d20-8723-e6691edbbfb6>  
Answer: True / AS:6 / CS:2

Question 12 (E): <https://chat.openai.com/share/e4874d30-5e6c-4142-87e0-dcf2b3596871>  
Answer: True / AS:6 / CS:2

Question 13 (M): <https://chat.openai.com/share/ce76fa67-492f-4708-b809-a909351f72c1>  
Answer: True / AS:6 / CS:2

Question 14 (M): <https://chat.openai.com/share/302f0781-e77c-4eff-8270-d097b12d68a4>  
Answer: True / AS:5 / CS:2

Question 15 (H): <https://chat.openai.com/share/8bfbbfb7-0edf-4a9a-9f1d-f9a56302b007>  
Answer: True / AS:6 / CS:2

Question 16 (H): <https://chat.openai.com/share/c7778365-98c2-419d-a526-76b8cc8c00a4>  
Answer: False / AS:3 / CS:2

### **DIAGNOSIS (12 QUESTIONS)**

Question 17 (E): <https://chat.openai.com/share/fc631be2-a8e7-444c-97fe-8bddcaf03509>  
Answer: True / AS:6 / CS:2

Question 18 (E): <https://chat.openai.com/share/5b680f8d-9ccc-48e6-95fa-9a51ffb355ad>  
Answer: True / AS:6 / CS:2

Question 19 (M): <https://chat.openai.com/share/6d3dec5-8c33-4514-920d-e205a47ccb15>  
Answer: True / AS:6 / CS:2

Question 20 (M): <https://chat.openai.com/share/eedd90b6-4c2c-479f-82d4-1043f8a08375>  
Answer: True / AS:6 / CS:2

Question 21 (M): <https://chat.openai.com/share/a5a88393-b160-40ea-915b-dda47907f0f4>  
Answer: True / AS:6 / CS:2

Question 22 (M): <https://chat.openai.com/share/86fecba9-0165-4180-95e3-1187dadd36f6>  
Answer: False / AS:2 / CS:2

Question 23 (H): <https://chat.openai.com/share/bcd3bb04-662b-445b-9c10-c264a3e5ed25>  
Answer: True / AS:6 / CS:2

Question 24 (H): <https://chat.openai.com/share/51b6a099-e616-4db6-822f-de13179f3b9d>  
Answer: True / AS:6 / CS:2

Question 25 (H): <https://chat.openai.com/share/7881e56b-e440-47c1-a332-75fa48b00f43>  
Answer: True / AS:6 / CS:2

Question 26 (H): <https://chat.openai.com/share/680c9687-1ec0-4079-b866-a7801a1e79ff>  
Answer: True / AS:6 / CS:3

Question 27 (H): <https://chat.openai.com/share/26ad131a-6498-48dc-bd05-c16a61a28e66>  
Answer: False / AS:1 / CS:3

Question 28 (H): <https://chat.openai.com/share/0aee8188-1c84-4ac7-af77-85a0a4ea8c37>  
Answer: True / AS:6 / CS:2

### **TREATMENT (20 QUESTIONS)**

Question 29 (E): <https://chat.openai.com/share/c291b9ce-5557-40f4-b40d-9fccee5dc9db>  
Answer: True / AS:6 / CS:2

Question 30 (E): <https://chat.openai.com/share/32bd6be0-7308-4f5a-9e22-af91fa3196f9>  
Answer: True / AS:4 / CS:2

Question 31 (M): <https://chat.openai.com/share/272e3aca-b81d-4054-83d2-58400bdb69f6>  
Answer: True / AS:6 / CS:3

Question 32 (M): <https://chat.openai.com/share/bb2e02be-df20-42f6-b5a1-6a6642e9c6b5>  
Answer: True / AS:6 / CS:3

Question 33 (M): <https://chat.openai.com/share/4f604345-7227-4ec0-b85c-7aa7a559d69e>  
Answer: True / AS:6 / CS:3

Question 34 (M): <https://chat.openai.com/share/407169ea-2ad9-4ba1-8d8e-1cc2ffaf15a4>  
Answer: True / AS:6 / CS:2

Question 35 (H): <https://chat.openai.com/share/b139313a-e91b-44fe-b0ad-70962ae2cfe9>  
Answer: True / AS:6 / CS:2

Question 36 (H): <https://chat.openai.com/share/da5db16c-5347-4b95-a867-77a2fe3feb98>  
Answer: False / AS:2 / CS:2

Question 37 (H): <https://chat.openai.com/share/10b1bb59-5e2d-4d79-9e19-aea84c050c86>  
Answer: True / AS:6 / CS:2

Question 38 (H): <https://chat.openai.com/share/0051d42a-1090-4f60-9f0a-60e0dd61c9f6>  
Answer: False / AS:1 / CS:2

Question 39 (H): <https://chat.openai.com/share/55416f4c-360d-4f7c-ae24-d70463c089ec>  
Answer: False / AS:4 / CS:2

Question 40 (H): <https://chat.openai.com/share/660c5bab-d6f5-4656-875b-2083d4620971>  
Answer: True / AS:6 / CS:3

Question 41 (H): <https://chat.openai.com/share/b43afdb0-95dc-497a-b581-a5942bc5cf53>  
Answer: True / AS:6 / CS:2

Question 42 (H): <https://chat.openai.com/share/97b96eed-4076-4c4b-85b0-6c992c57d295>  
Answer: True / AS:6 / CS:3

Question 43 (H): <https://chat.openai.com/share/b7f870fc-9de4-427e-a8fd-0b7631dec158>  
Answer: True / AS:6 / CS:2

Question 44 (H): <https://chat.openai.com/share/ec14bae7-822a-495d-bc38-e017f41f6671>  
Answer: True / AS:4 / CS:2

Question 45 (H): <https://chat.openai.com/share/0bb47a03-3972-4594-96d0-f8860f5696c6>  
Answer: True / AS:6 / CS:2

Question 46 (H): <https://chat.openai.com/share/0bb47a03-3972-4594-96d0-f8860f5696c6>  
Answer: True / AS:6 / CS:2

Question 47 (H): <https://chat.openai.com/share/0525d2ff-6f3b-4cd7-ad9b-ad1d5edb4640>  
Answer: False / AS:4 / CS:3

Question 48 (H): <https://chat.openai.com/share/dee9e221-3c35-403f-afbc-1efc7cc31e4a>  
Answer: True / AS:6 / CS:3

### ***PREVENTION / FOLLOW-UP (10 QUESTIONS)***

Question 49 (E): <https://chat.openai.com/share/5442f44c-231c-4f79-8363-00cc0d07ab82>  
Answer: True / AS:6 / CS:2

Question 50 (E): <https://chat.openai.com/share/d246fc07-bddd-403e-9b3b-c7f06d40a223>  
Answer: True / AS:6 / CS:3

Question 51 (M): <https://chat.openai.com/share/bcfa470a-9278-4df4-a832-b86274fe1a7c>  
Answer: False / AS:4 / CS:2

Question 52 (M): <https://chat.openai.com/share/df2b66d3-53ff-4cea-83ae-9acbf3e02ba2>  
Answer: True / AS:6 / CS:3

Question 53 (M): <https://chat.openai.com/share/00a4584d-c3d9-4d24-9365-cc7466a8d797>  
Answer: False / AS:2 / CS:2

Question 54 (M): <https://chat.openai.com/share/c81aadda-5d6a-4e99-86a0-caff80ec1565>  
Answer: True / AS:6 / CS:2

Question 55 (H): <https://chat.openai.com/share/322329e3-2a19-4ccb-a143-2ce8076a52fa>  
Answer: False / AS:2 / CS:2

Question 56 (H): <https://chat.openai.com/share/c8618158-95c1-4af0-9a6e-f0482ce56526>  
Answer: False / AS:1 / CS:2

Question 57 (H): <https://chat.openai.com/share/4add2137-d6f1-4a97-a184-deeada5452f2>  
Answer: True / AS:6 / CS:2

Question 58 (H): <https://chat.openai.com/share/0c2ffc1f-62ab-4856-bda3-f3bce9ed65e2>  
Answer: False / AS:2 / CS:2

### ***GROUP 2B (TRUE/FALSE QUESTIONS)***

#### ***GENERAL INFORMATION (10 QUESTIONS)***

Question 1 (E): <https://chat.openai.com/share/e93e3311-896a-4c0d-a8d5-bc547762466b>  
Answer: False / AS:2 / CS:2

Question 2 (E): <https://chat.openai.com/share/9602421f-d916-4014-a349-564b22d4015b>  
Answer: True / AS:6 / CS:2  
Question 3 (M): <https://chat.openai.com/share/6636b411-99a8-49b3-b3a5-338b6b849f33>  
Answer: True / AS:6 / CS:2  
Question 4 (M): <https://chat.openai.com/share/1934bd21-822d-435e-84d0-25ca4b2ad757>  
Answer: True / AS:6 / CS:2  
Question 5 (M): <https://chat.openai.com/share/9cee2e31-7e04-4981-9a0a-6d3c5d218538>  
Answer: False / AS:2 / CS:2  
Question 6 (M): <https://chat.openai.com/share/caa14929-3f82-456c-85be-1ac65a8309dd>  
Answer: True / AS:6 / CS:2  
Question 7 (H): <https://chat.openai.com/share/bcac1aa5-e7ff-4340-8c1f-e465d6d36b32>  
Answer: True / AS:6 / CS:2  
Question 8 (H): <https://chat.openai.com/share/09ef5bc4-92d8-48ca-8269-77db3aa3ce14>  
Answer: True / AS:6 / CS:2  
Question 9 (H): <https://chat.openai.com/share/f760aee3-857a-4c4d-b1f3-13e136dbc503>  
Answer: True / AS:6 / CS:3  
Question 10 (H): <https://chat.openai.com/share/7fccc2b2-4b72-41df-803d-11294ee83cc5>  
Answer: True / AS:6 / CS:2

### ***CLINICAL (6 QUESTIONS)***

Question 11 (E): <https://chat.openai.com/share/e834f10c-69dd-4ab5-9257-2b8851762bcd>  
Answer: True / AS:6 / CS:2  
Question 12 (E): <https://chat.openai.com/share/a4ddd8b-c9b7-4517-a215-1aa9ed5fcdc5>  
Answer: True / AS:6 / CS:2  
Question 13 (M): <https://chat.openai.com/share/b2db7331-af85-4381-86eb-255a102bf6b4>  
Answer: True / AS:6 / CS:2  
Question 14 (M): <https://chat.openai.com/share/19c34d82-5710-4c6a-8d93-035628d5c7bb>  
Answer: True / AS:6 / CS:2  
Question 15 (H): <https://chat.openai.com/share/c727b073-441f-430b-a229-21fd446c3e21>  
Answer: True / AS:6 / CS:2  
Question 16 (H): <https://chat.openai.com/share/491b3bcb-3ec2-46ac-aefb-cfb9a127f9f0>  
Answer: True / AS:6 / CS:2

### ***DÍAGNOSIS (12 QUESTIONS)***

Question 17 (E): <https://chat.openai.com/share/5294179a-3df1-44da-b84a-52774c1e3b6f>  
Answer: True / AS:6 / CS:3  
Question 18 (E): <https://chat.openai.com/share/a49dc0ce-e6a8-4487-a419-ec87eca243a2>  
Answer: True / AS:6 / CS:3  
Question 19 (M): <https://chat.openai.com/share/84bc023f-5af6-4930-a5de-3bdf55dac092>  
Answer: True / AS:6 / CS:2  
Question 20 (M): <https://chat.openai.com/share/c0d15458-59bd-4c72-96b1-c8251fb2b185>  
Answer: True / AS:6 / CS:2  
Question 21 (M): <https://chat.openai.com/share/06019356-86e1-4efc-9280-1fcada92ae48>  
Answer: True / AS:6 / CS:2  
Question 22 (M): <https://chat.openai.com/share/4c9b7fcb-3b04-4e93-ac29-5ca8d1a59990>  
Answer: True / AS:6 / CS:2  
Question 23 (H): <https://chat.openai.com/share/2b1d8bfc-c6fa-40ee-9348-45e5bfdaa808>  
Answer: True / AS:6 / CS:2  
Question 24 (H): <https://chat.openai.com/share/6fb63cce-a03f-44e4-82a0-b79877e41c97>  
Answer: True / AS:6 / CS:3  
Question 25 (H): <https://chat.openai.com/share/7f56a02b-d0f7-4fca-8edd-d9ad4bfff8c3>  
Answer: True / AS:6 / CS:3  
Question 26 (H): <https://chat.openai.com/share/826fea45-3d92-490e-8334-d865b728c3b3>  
Answer: True / AS:6 / CS:3  
Question 27 (H): <https://chat.openai.com/share/54a3b521-a7ed-47a3-84f7-962bc0ce3b8e>  
Answer: True / AS:6 / CS:3

Question 28 (H): <https://chat.openai.com/share/38dcb4a2-115f-41a7-8eaa-cffe4cebe009>  
Answer: True / AS:6 / CS:2

### **TREATMENT (20 QUESTIONS)**

Question 29 (E): <https://chat.openai.com/share/49a56eeb-5c9a-4ba7-a21f-7267efdfc034>  
Answer: True / AS:6 / CS:2

Question 30 (E): <https://chat.openai.com/share/00179f6a-e9c2-4fdc-9594-6e3f5309b65f>  
Answer: True / AS:6 / CS:2

Question 31 (M): <https://chat.openai.com/share/772264aa-773f-4815-998d-06a12436de8b>  
Answer: True / AS:6 / CS:2

Question 32 (M): <https://chat.openai.com/share/c5db2a2b-1257-421d-a4a1-e2312885b55f>  
Answer: True / AS:6 / CS:2

Question 33 (M): <https://chat.openai.com/share/83b5b646-1939-4f1c-83ea-f0566e983833>  
Answer: True / AS:6 / CS:2

Question 34 (M): <https://chat.openai.com/share/63817c8c-744a-4c78-b694-4b55aacfla04>  
Answer: True / AS:6 / CS:2

Question 35 (H): <https://chat.openai.com/share/7fadd971-b636-47b8-aaa4-d6f7fa858203>  
Answer: True / AS:6 / CS:2

Question 36 (H): <https://chat.openai.com/share/c4dfdccb-d012-4c54-bdee-63a73d9bcecb>  
Answer: False / AS:2 / CS:2

Question 37 (H): <https://chat.openai.com/share/cd9b7725-dbe1-4df4-93ad-658b9ac15738>  
Answer: True / AS:6 / CS:3

Question 38 (H): <https://chat.openai.com/share/f2da44e7-637a-4b93-9e52-7c087d273be4>  
Answer: False / AS:3 / CS:2

Question 39 (H): <https://chat.openai.com/share/4d51ff18-99aa-4131-847b-3d84e7089311>  
Answer: False / AS:1 / CS:2

Question 40 (H): <https://chat.openai.com/share/5c5cab38-d1e6-4cae-9da1-16786a5229c0>  
Answer: True / AS:6 / CS:2

Question 41 (H): <https://chat.openai.com/share/effadbe5-b862-48df-b23a-00bf1bde1be0>  
Answer: True / AS:6 / CS:2

Question 42 (H): <https://chat.openai.com/share/2f7e8be5-12b8-40f7-b895-c19ac21ce685>  
Answer: True / AS:6 / CS:3

Question 43 (H): <https://chat.openai.com/share/0cb85002-46bb-44e1-a61e-60574699c2da>  
Answer: True / AS:6 / CS:2

Question 44 (H): <https://chat.openai.com/share/27aaa088-8631-437b-a66e-7c99d478e758>  
Answer: True / AS:6 / CS:2

Question 45 (H): <https://chat.openai.com/share/fe0fe4de-f6c7-4fe3-b4cc-2a05569c4728>  
Answer: True / AS:6 / CS:2

Question 46 (H): <https://chat.openai.com/share/621fc60e-cba3-4adc-aed4-950d06165d18>  
Answer: False / AS:1 / CS:2

Question 47 (H): <https://chat.openai.com/share/30b2a1ad-3187-48dc-9bba-23bb523f07e6>  
Answer: False / AS:2 / CS:2

Question 48 (H): <https://chat.openai.com/share/53e38723-8772-464d-a122-7eec6643170c>  
Answer: False / AS:2 / CS:2

### **PREVENTION / FOLLOW-UP (10 QUESTIONS)**

Question 49 (E): <https://chat.openai.com/share/78d36b5a-8149-486e-94a1-870dfd3effa6>  
Answer: True / AS:6 / CS:2

Question 50 (E): <https://chat.openai.com/share/4b27a4c8-7313-4e96-b8a2-02d06b40a65d>  
Answer: True / AS:6 / CS:2

Question 51 (M): <https://chat.openai.com/share/3b0dd712-69ae-4a27-9b40-6372cd7adc76>  
Answer: False / AS:2 / CS:2

Question 52 (M): <https://chat.openai.com/share/c03826d3-b10e-4d52-9598-666c354ddda2>  
Answer: True / AS:6 / CS:2

Question 53 (M): <https://chat.openai.com/share/bc74e5be-ce76-48ff-b55a-b2dfdea0e85b>  
Answer: True / AS:6 / CS:2



Question 54 (M): <https://chat.openai.com/share/8eed3cfa-e4fa-499b-b5cd-f32ec0df9848>

Answer: False / AS:2 / CS:2

Question 55 (H): <https://chat.openai.com/share/ff1fcac8-5873-4e98-99ca-fa1b01cd1849>

Answer: True / AS:6 / CS:2

Question 56 (H): <https://chat.openai.com/share/e36cc4cc-72cd-4749-a562-1713e90c5c26>

Answer: True / AS:6 / CS:2

Question 57 (H): <https://chat.openai.com/share/1eefbbdf-c031-4b85-90ef-4b027bd088dd>

Answer: True / AS:6 / CS:2

Question 58 (H): <https://chat.openai.com/share/50fb38d4-8f55-4742-9b17-264361e9bb60>

Answer: False / AS:2 / CS:2