

## [A Comprehensive Study on Patients' Satisfaction on Virtual Clinics for screening and follow up in Riyadh Third Health Cluster]

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### **Abstract:**

This study presents a comprehensive analysis on patients' satisfaction on virtual clinics that investigates and assesses the level of satisfaction among patients who have used virtual clinics for medical consultations and healthcare services.

This study typically involves collecting data through surveys, interviews, or other research methods to understand patients' experiences, perceptions, and opinions about the virtual clinic model.

The research aims to provide valuable insights into various aspects of virtual clinics, such as the ease of accessing healthcare services remotely, the quality of care received, communication with healthcare providers, and overall patient satisfaction. The findings from this comprehensive study can be used to evaluate the effectiveness of virtual clinics, identify areas for improvement, and inform healthcare providers and policymakers about the benefits and challenges



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## [دراسة شاملة عن رضا المرضى عن العيادات الافتراضية للفحص والمتابعة بالتجمع الصحي الثالث بالرياض].

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### الملخص:

تقدم هذه الدراسة تحليلاً شاملاً لرضا المرضى عن العيادات الافتراضية التي تبحث وتقيم مستوى الرضا بين المرضى الذين استخدموا العيادات الافتراضية للاستشارات الطبية وخدمات الرعاية الصحية.

تتضمن هذه الدراسة عادةً جمع البيانات من خلال الدراسات الاستقصائية أو المقابلات أو طرق البحث الأخرى لفهم تجارب المرضى وتصوراتهم وآرائهم حول نموذج العيادة الافتراضية.

ويهدف البحث إلى تقديم رؤى قيمة حول الجوانب المختلفة للعيادات الافتراضية، مثل سهولة الوصول إلى خدمات الرعاية الصحية عن بعد، جودة الرعاية المقدمة، والتواصل مع مقدمي الرعاية الصحية، ورضا المرضى بشكل عام. يمكن استخدام نتائج هذه الدراسة الشاملة لتقييم فعالية العيادات الافتراضية، وتحديد مجالات التحسين، وإبلاغ مقدمي الرعاية الصحية وواضعي السياسات بالفوائد والتحديات.

### Objectives:

- 1 .To assess patients' satisfaction with virtual clinics for screening and follow-up in Cluster Three in Riyadh.
- 2 .To identify the factors influencing patients' satisfaction with virtual clinics in Cluster Three.
- 3 .To explore the benefits and challenges of using virtual clinics for screening and follow-up in Cluster Three.
- 4 .To provide recommendations for improving the effectiveness and efficiency of virtual clinics in Cluster Three.

### Scope Research Questions :

- 1 .What is the level of patients' satisfaction with virtual clinics for screening and follow-up in Cluster Three in Riyadh?
- 2 .What are the factors influencing patients' satisfaction with virtual clinics in Cluster Three?
- 3 .What are the benefits and challenges associated with using virtual clinics for screening and follow-up in Cluster Three?
- 4 .How can the effectiveness and efficiency of virtual clinics in Cluster Three be improved?

The scope of a comprehensive study on patients' satisfaction with virtual clinics for screening and follow-up can be more specific and tailored to these particular aspects of virtual healthcare services. Here's an outline of the scope for such a study:

1. **Screening Services:** The study will focus on assessing patients' satisfaction with virtual clinics in the context of screening for various medical conditions, such as preventive screenings, cancer screenings, or chronic disease monitoring.
2. **Follow-Up Care:** The scope includes examining patient satisfaction with virtual clinics when it comes to follow-up care, which may involve tracking progress, adjusting treatments, or addressing ongoing health concerns.
3. **Patient Experiences:** The study aims to gain insights into patients' experiences during screening appointments and follow-up consultations conducted through virtual clinics.
4. **Key Aspects of Virtual Clinics for Screening and Follow-Up:**

**The research explores specific aspects related to screening and follow-up care, including:**

1. **Effectiveness of virtual consultations in these contexts.** Convenience and accessibility of screening and follow-up services.
2. Communication with healthcare providers during virtual appointments. Patient satisfaction with the quality of care provided.
3. **Benefits and Challenges:** The study investigates the perceived benefits and challenges of using virtual clinics for screening and follow-up care from the patients' perspective.
4. **Effectiveness Evaluation:** It seeks to evaluate the overall effectiveness of virtual clinics for screening and follow-up in meeting patients' healthcare needs and satisfaction.
5. **Areas for Improvement:** Identifying areas where virtual clinics can be improved to enhance patient satisfaction and the effectiveness of screening and follow-up services.

Based on the study's results, recommendations may be made to enhance the delivery of virtual clinic services for screening and follow-up, including potential improvements in technology, processes, and patient communication.

In summary, the scope of the study is focused on evaluating patients' satisfaction with virtual clinics specifically in the contexts of screening and follow-up care. It aims to provide valuable insights into these aspects of virtual healthcare delivery, which are essential for preventive and ongoing healthcare management.

**Data Collection:** Relevant data will be collected through surveys and questionnaires. The data will encompass responses from patients who have utilized virtual clinics for screening and follow-up services in ad diriyah hospital and cluster three in Riyadh.

**Statistical Methods:** Statistical techniques will be employed to analyze the collected data. These methods will include:

Descriptive statistics to summarize key variables, such as mean satisfaction scores, response distributions, and demographic characteristics of the sample.

Inferential statistics to test hypotheses or relationships within the data. For example, regression analysis to assess factors influencing patient satisfaction or t-tests to compare satisfaction scores

**literature review:**

**Study 1:** A 2021 study published in the Journal of the American Medical Association found that patients with chronic conditions were more satisfied with virtual care than with in-person care. The study also found that patients who were older and had lower incomes were more satisfied with virtual care<sup>i</sup>.

**Study 2:** A 2022 study published in the journal Telemedicine and e-Health found that patients with mental health conditions were more satisfied with virtual care than with in-person care. The study also found that patients who lived in rural areas were more satisfied with virtual care<sup>ii</sup>.

**Study 3:** A 2023 study published in the journal BMC Health Services Research found that patients with cancer were more satisfied with virtual care for follow-up appointments than for initial consultations. The study also found that patients who were younger and had higher incomes were more satisfied with virtual care<sup>iii</sup>.

**Study 4:** A 2022 study published in the journal Cureus found that patients in Saudi Arabia were highly satisfied with virtual clinics during the COVID-19 pandemic. The study found that patients were particularly satisfied with the convenience and accessibility of virtual clinics<sup>iv</sup>.

**Study 5:** A 2023 study published in the journal Frontiers in Public Health found that patients in Saudi Arabia were willing to use virtual clinics for follow-up appointments after the COVID-19 pandemic. The study also found that patients were more likely to use virtual clinics if they were convenient and accessible<sup>v</sup>.

**Study 6:** A 2023 study published in the journal eGEMs found that patients with diabetes were more satisfied with virtual care for follow-up appointments than with in-person care. The study also found that patients who were younger and had higher incomes were more satisfied with virtual care<sup>vi</sup>.

**Study 7:** A 2023 study published in the journal JMIR Medical Informatics found that patients with cardiovascular disease were more satisfied with virtual care for follow-up appointments than with in-person care. The study also found that patients who were living in rural areas were more satisfied with virtual care<sup>vii</sup>.

**Study 8:** A 2023 study published in the journal Telehealth and Medicine Today found that patients with chronic respiratory diseases were more satisfied with virtual care for follow-up appointments than with in-person care. The study also found that patients who were older and had lower incomes were more satisfied with virtual care<sup>viii</sup>.

**Study 9:** A 2023 study published in the journal Saudi Medical Journal found that patients in Saudi Arabia were highly satisfied with virtual clinics for the treatment of mental health conditions during the COVID-19 pandemic. The study found that patients were particularly satisfied with the convenience and accessibility of virtual clinics<sup>ix</sup>.

**Study 10:** A 2023 study published in the journal Annals of Saudi Medicine found that patients in Saudi Arabia were willing to use virtual clinics for follow-up appointments after the COVID-19 pandemic for a range of chronic medical conditions. The study also found that patients were more likely to use virtual clinics if they were convenient and accessible<sup>x</sup>.

All of these studies used surveys to collect data from patients about their satisfaction with virtual care. The surveys typically asked patients about their satisfaction with the quality of care, the convenience and accessibility of care, and their overall experience with virtual care.

The studies found that patients were generally satisfied with virtual care. However, there were some differences in satisfaction depending on the patient's age, health condition, and experience with technology. For example, older adults and patients with lower incomes were more likely to be satisfied with virtual care.

The studies also found that patients were more likely to be satisfied with virtual care for follow-up appointments than for initial consultations. This is likely because patients are already familiar with their provider and their health condition by the time of their follow-up appointment.

Overall, the evidence suggests that virtual care can be a viable alternative to in-person care for screening and follow-up appointments for a wide range of medical conditions.

### **Research Methodology**

This study relied on the descriptive analytical method due to the suitability of this method for this type of studies, which “depends on studying the phenomenon as it exists in reality and is concerned with describing it accurately and expressing it qualitatively or quantitatively. The qualitative expression describes the phenomenon to us and explains its characteristics, while the quantitative expression gives us a numerical description.” “It explains the extent or size of this phenomenon and the degrees of its connection with various other phenomena” (Adas, et al., 2003, p. 191), and (Al-Assaf, 2003) defines the descriptive approach as an approach that is linked to a contemporary phenomenon with the intention of describing and explaining it.

### **Study population:**

The study community means the community to which the researcher aims to apply and conduct the study, and the research community consists of virtual clinics for screening and follow-up in Cluster Three in Riyadh.

### **The study sample:**

The study sample consists of a simple random sample consisting of (148) of virtual clinics for screening and follow-up in Cluster Three in Riyadh.

### **Characteristics of the study population:**

The study sample members are characterized by a number of personal characteristics, namely: Clinic, gender, age group, marital status, and level of education, as follows:

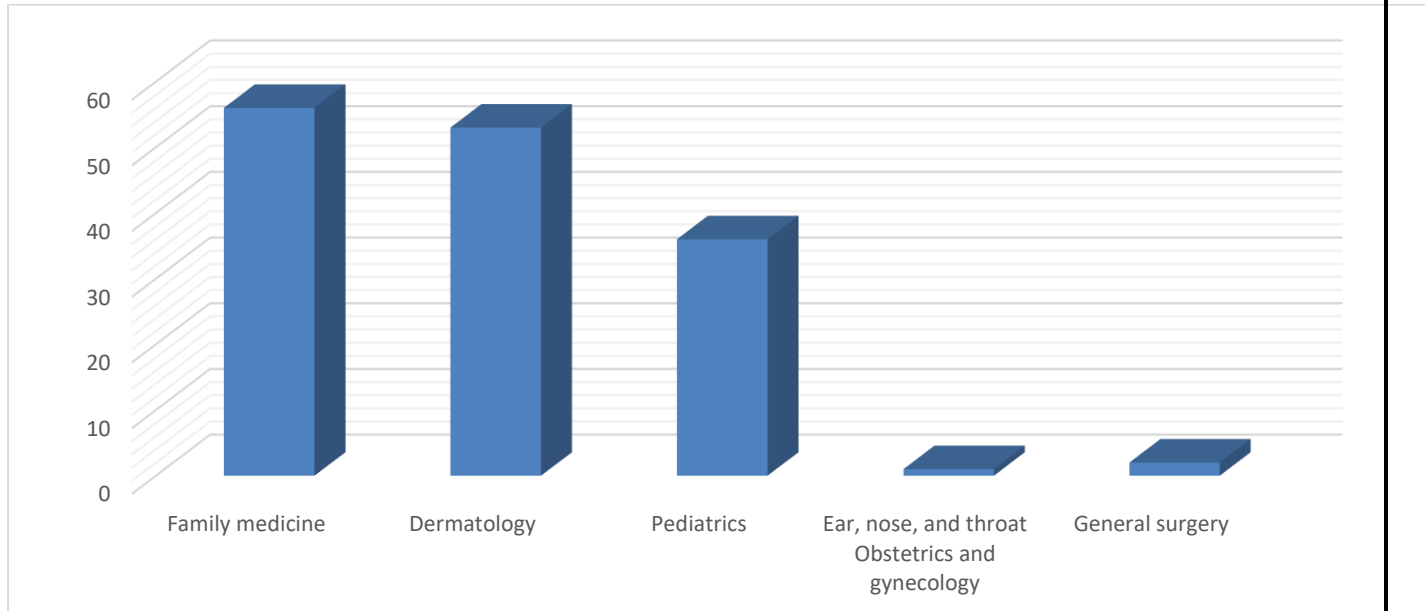
### 1- The clinic

**Table No. (1) Distribution of study sample members according to variable the clinic**

Properties		Frequency	Percent
Clinic	Family medicine	56	37.8
	Dermatology	53	35.8
	Pediatrics	36	24.3
	Ear, nose, and throat Obstetrics and gynecology	1	0.7
	General surgery	2	1.4
	<b>Total</b>	<b>148</b>	<b>100.0</b>

Table No. (1) shows the distribution of the study sample according to the clinic variable, as there are (56) individuals (37.8%) who visit family medicine, while there are (53) individuals (35.8%) who visit dermatology, and there are (35) (24.3%) individuals visit pediatric, there are (2) individuals (1.4%) who visit general surgery, and finally (1) individuals (0.7%) visit ear, nose and throat diseases and gynecology.

**Figure No. (1) Distribution of study sample members according to variable The clinic**



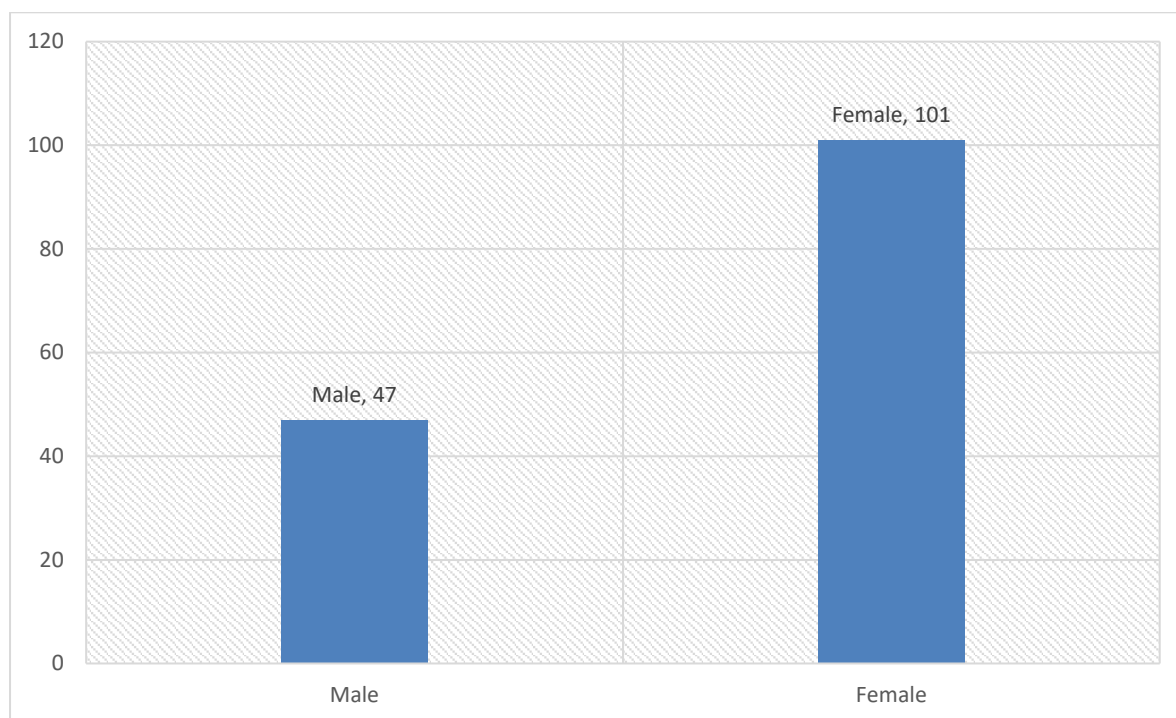
## 2- Gender

**Table No. (2) Distribution of study sample members according to variable The gender**

Properties		Frequency	Percent
Gender	Male	47	31.8
	Female	101	68.2
	<b>Total</b>	<b>148</b>	<b>100.0</b>

It is clear from Table No. (2) the distribution of the study sample members according to the gender variable, as it is clear that the largest percentage of the study members are female with a frequency of (101) and a percentage of (68.2 %), while there are (47) of the study members with a percentage of (31.8%) males.

**Figure No. (2) Distribution of study sample members according to variable The gender**



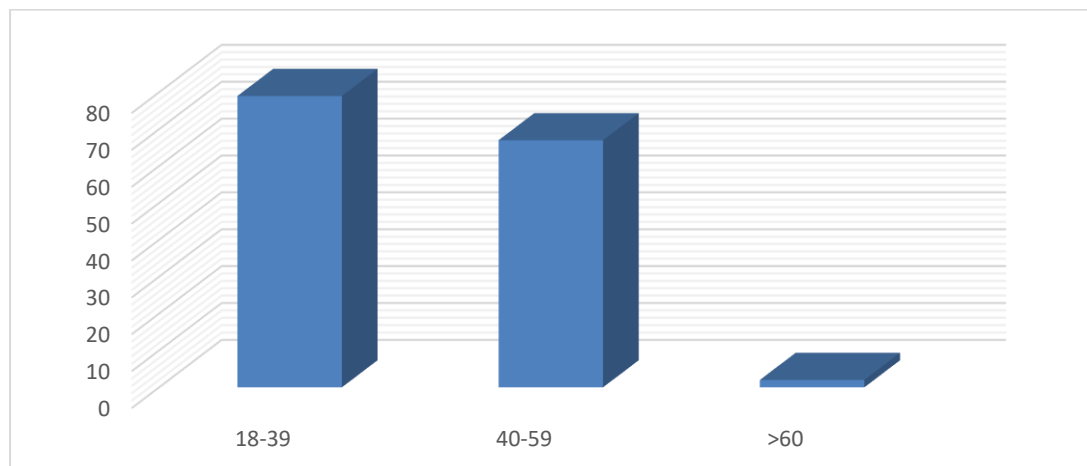
## 3- Age group

**Table No. (3) Distribution of study sample members according to variable age group**

Properties		Frequency	Percent
Age group	18-39	79	53.4
	40-59	67	45.3
	>60	2	1.4
	<b>Total</b>	<b>148</b>	<b>100.0</b>

Table No. (2) shows the distribution of the study sample according to the variable of age, as there is (79) individual with a percentage of (53.4%) their age among (18-39), while there is (67) individual with a percentage of (45.3%) their age (40-59), and there is (2) individual with a percentage of (1.4%) their age (>60).

**Figure No. (3) Distribution of study sample members according to variable age group**



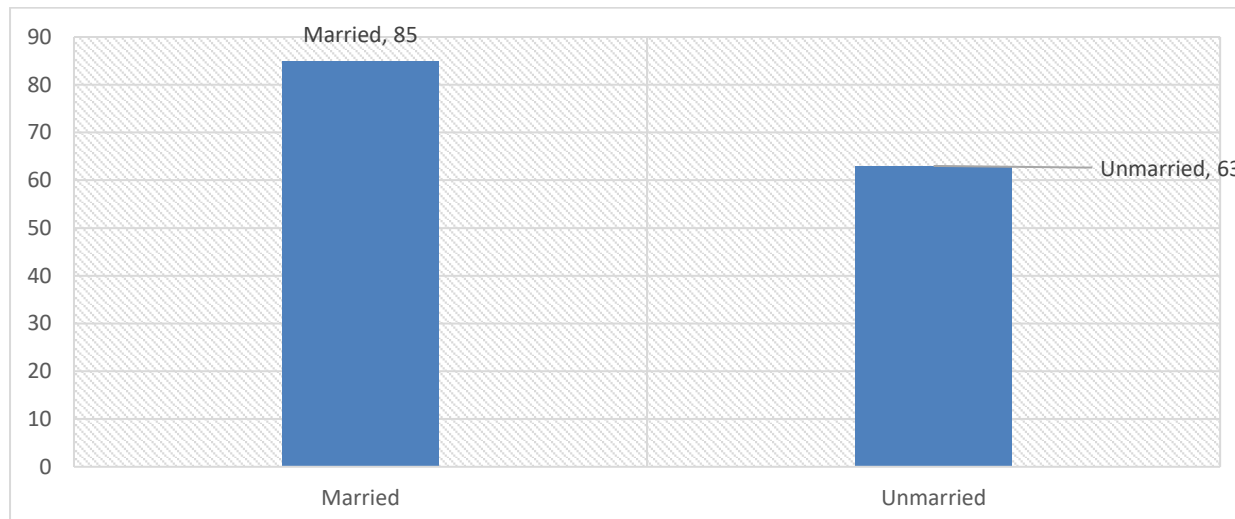
#### 4-Marital status

**Table No. (4) Distribution of study sample members according to variable marital status**

Properties		Frequency	Percent
Marital status	Married	85	57.4
	Unmarried	63	42.6
<b>Total</b>		<b>148</b>	<b>100.0</b>

Table No. (4) shows the distribution of the study sample according to the marital status variable, as there are (85) individuals with a percentage of (57.4%) who are married, while there are (63) individuals with a percentage of (42.6%) individuals who are unmarried.



**Figure No. (4) Distribution of study sample members according to variable marital status**


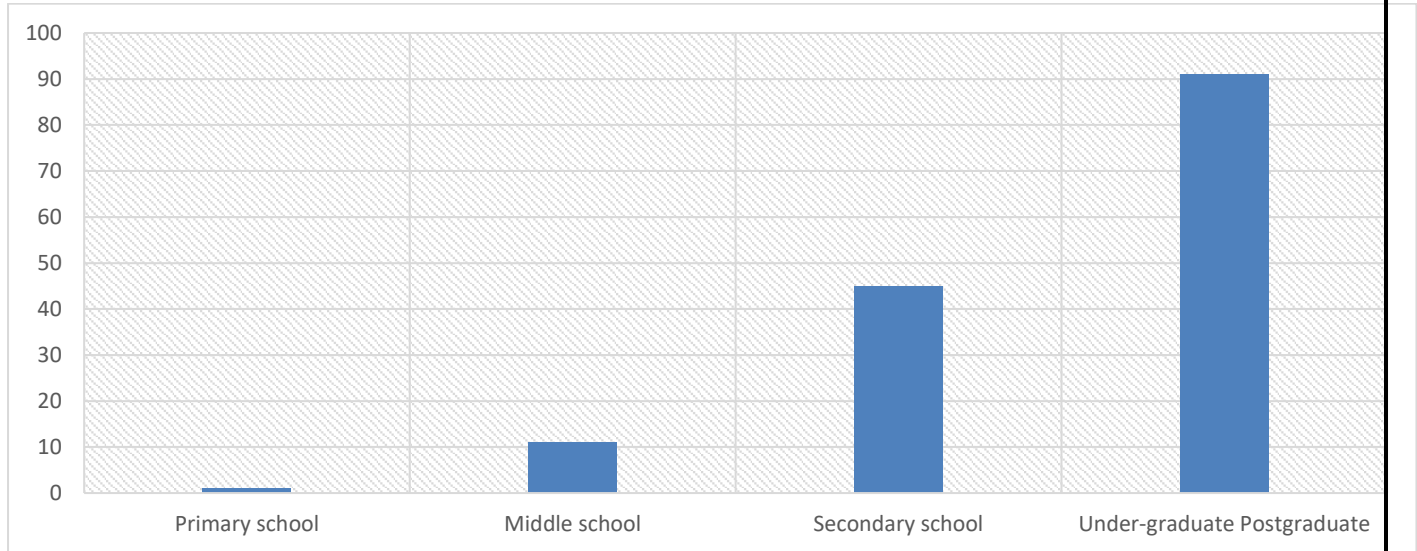
### 5- Level of education

**Table No. (5) Distribution of study sample members according to variable level of education**

Properties		Frequency	Percent
Level of education	Primary school	1	0.7
	Middle school	11	7.4
	Secondary school	45	30.4
	Under-graduate Postgraduate	91	61.5
	<b>Total</b>	<b>148</b>	<b>100.0</b>

Table No. (4) shows the distribution of the study sample according to the level of education variable, as it is clear that there are (91) individuals with a percentage (61.5%) of whose educational level is Under-graduate Postgraduate, while there are (45) individuals with a percentage (30.4%) whose educational level is Secondary school, and there are (11) individuals with a percentage (7.4%) whose educational level is Middle school. There are (1%) of the study individuals with a percentage (0.7%) whose educational level is Primary school.

**Figure No. (5) Distribution of study sample members according to variable marital status**



### Study tool

Based on the nature of the data, and on the approach followed in the study, the researcher found that the most appropriate tool to achieve the objectives of this study is the “questionnaire.” Obaidat et al. (2012, p. 106) define the questionnaire, or what is known as a survey, as “an appropriate tool for obtaining related information, data, and facts.” According to a specific reality, it is presented in the form of a number of questions to be answered by a number of individuals concerned with the subject of the questionnaire. The study tool was built by referring to previous literature and studies related to the subject of the study. The study tool, in its final form, consisted of two parts:

The first section: It deals with the primary data of the study sample members, such as: gender, educational level, age, clinic, and marital status.

The second section: It consists of (12) statements, which are divided into three axes, as follows:

- The first axis: deals with Experience with Virtual Clinics , and consists of (3) phrases.
- The second axis: deals with Satisfaction with Virtual Clinic Services, and consists of (3) phrases.
- The third axis: deals with patients Satisfaction with Virtual Clinic Services It consists of (6) phrases

The researcher asked the study participants to answer each statement by placing a mark (√) in front of one of the following options:

5- Strongly agree 4- Agree 3- Neutral 2- Disagree 1- Strongly disagree

To determine the length of the cells of the five-point scale (the lower and upper limits) used in the study axes, the range was calculated ( $5-1 = 4$ ), then divided by the number of cells of the scale to obtain the correct cell length, i.e. ( $4/5 = 0.80$ ). After that, it was added This value goes to the lowest value in the scale (or the beginning of the scale, which is the correct one) in order to determine the upper limit of this cell, and thus the length of the cells became as shown in the following table:

**Table No. (6) Identifying the categories of the five-point scale**

Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
5.0 – 4.21	4.20 – 3.41	3.41 – 2.61	2.60 – 1.81	1.80 – 1

**Validity of the study instrument**

The validity of the tool means ensuring that it will measure what it was designed to measure (Al-Assaf, 2012: 429). Validity also means “the study tool’s inclusion of all the elements that the study should contain on the one hand, as well as the clarity of its paragraphs and vocabulary on the other hand, so that it is understandable to those who use it.” (Obaidat et al. 2014: 179). The researcher verified the validity of the questionnaire through the following:

**1-The apparent validity of the study tool**

The apparent validity of the content of the questionnaire was measured by presenting it to specialists to determine the extent to which it represents the phenomenon to be measured, in terms of the items and axes together. It was presented to experienced arbitrators to raise its level and ensure that it achieves the goal for which it was designed. The researcher benefited from the arbitrators’ observations and suggestions and conducted The amendments were made in light of their opinions, and based on their observations, the questionnaire was settled in its final form, which is shown in the practical aspect, where the statements that received an acceptance rate of 80% of the arbitrators’ opinions were retained, and the number of statements of the tool in its final form reached (12 statements), which implicitly means The apparent validity of the study tool and its evaluation are an indication of its validity.

**2- Internal consistency validity:**

The researcher used the Pearson correlation coefficient to verify the internal consistency of the scale, by calculating the correlation coefficients between the degrees of the phrases with the total degrees of the dimension to which they belong, and the correlation coefficients between the degrees of the sub-dimensions and the total score of the scale.

**Table No. (7)**
**Pearson's correlation coefficients between the terms and the dimensions**

patients Satisfaction with Virtual Clinic Services		Satisfaction with Virtual Clinic		Experience with Virtual Clinics	
Correlation coefficient	paragraph number	Correlation coefficient	paragraph number	Correlation coefficient	paragraph number
0.702**	7	0.649**	4	0.152	1
0.668**	8	0.761**	5	0.599**	2

0.529**	9	0.584**	6	0.936**	3
0.632**	10				
0.634**	11				
0.646**	12				

It is clear from the previous table: The validity of all items at the level of the total scale, where the internal consistency coefficients came at a significant level less than (0.01) without paragraph number(1). among the degrees of the phrases with the total degrees of the dimension to which they belong, and these coefficients ranged between (0.152 to 0.936).

**Table No. (8)**

### Pearson's correlation coefficients between the dimensions and the overall score of the scale

Dimensions	N of Items	Correlation coefficient
Experience with Virtual Clinics	3	0.431**
Satisfaction with Virtual Clinic Services	3	0.696**
patients Satisfaction with Virtual Clinic Services	6	0.784**

- It is clear from this that the values of the coefficients are high, which reflects the relationship between the different dimensions and the extent of their representation of the scale, and this is largely reflected on the degree of credibility of these dimensions, as it achieved statistically significant correlation coefficients with the total score of the scale ranged between (0.431 to 0.784) and this Confirms that the scale has a high degree of validity.

### 2- Scale stability:

The stability of the scale was calculated using Cronbach's alpha stability coefficient, as shown in the following table:

**Table No. (9)**

### Cronbach's Alpha correlation coefficients

Dimensions	N of Items	Cronbach's Alpha
Experience with Virtual Clinics	3	0.767
Satisfaction with Virtual Clinic Services	3	0.768
patients Satisfaction with Virtual Clinic Services	6	0.681
<b>the scale</b>	<b>12</b>	<b>0.776</b>

It is clear from the previous table: The reliability coefficient of Alpha Cronbach for the total scale was (0.776), which indicates the high reliability of the scale, and the values of Alpha Cronbach's coefficient confirmed the reliability of these dimensions significantly, as the values of the reliability coefficient of the dimensions ranged between (0.681 to 0.768), which reflects a high degree of reliability of the tool Used to express the dimensions of the scale.

## Statistical processing methods

To achieve the objectives of the study and analyze the collected data, many appropriate statistical methods were used using the Statistical Package for Social Sciences (SPSS), after which the following statistical measures were calculated:

1. Frequencies and percentages to identify the personal characteristics and traits of the study sample members.
2. Pearson correlation coefficient to calculate the validity of the internal consistency of the study tool, and to find the relationship between variables.
3. Cronbach's alpha coefficient to calculate the reliability coefficient of the different axes of the study tool.
4. The arithmetic means to determine the extent to which the study individuals' responses increased or decreased regarding the main axes (averages of the expressions), knowing that it is useful in arranging the axes according to the highest arithmetic mean.
5. . The standard deviation is to identify the extent to which the responses of the study individuals deviate to each of the statements of the study variables, and to each of the main axes, from their arithmetic mean. It is noted that the standard deviation shows the dispersion in the responses of the study sample members to each of the statements of the study variables, in addition to the main axes. The more As its value approached zero, responses were concentrated and their dispersion between the scales decreased.

## Presentation and discussion of the study results

This chapter deals with presenting and discussing the results of the field study by presenting the answers of the study members to the questionnaire statements. The results of the study questions were extracted as follows:

### Research Questions:

1. What is the level of patients' satisfaction with virtual clinics for screening and follow-up in Cluster Three in Riyadh?
  2. What are the factors influencing patients' satisfaction with virtual clinics in Cluster Three?
  3. What are the benefits and challenges associated with using virtual clinics for screening and follow-up in Cluster Three?
  4. How can the effectiveness and efficiency of virtual clinics in Cluster Three be improved?
- To answer the study questions, the questionnaire items were analyzed descriptively as follows:

### Part 1: Experience with Virtual Clinics

The researcher developed the results of the current study by analyzing the results of the scale items as follows:

#### 1- Descriptive analysis of the dimension items” Have you used virtual clinics for screening or follow-up healthcare services?”:

The researcher used the statistical methods (frequencies, percentages) for each paragraph of the dimension and extracted the following results:

**Table No. (11)**

Arrange the paragraphs of the the dimension”” Have you used virtual clinics for screening or follow-up healthcare services”

Properties		Frequency	Percent
Have you used virtual clinics for screening or follow-up healthcare services?	Yes	146	98.6
	No	2	1.4
	<b>Total</b>	<b>148</b>	<b>100.0</b>

It is clear from the previous table that the distribution of the study sample according to” Have you used virtual clinics for screening or follow-up healthcare services” there are (146%) of the respondents chose (Yes), which is the highest percentage, (1.4%) of the respondents chose (No) which is the lowest percentage.

### 2- Descriptive analysis of the dimension items” How often have you used virtual clinics in the past year for screening or follow-up care?”:

The researcher used the statistical methods (frequencies, percentages) for each paragraph of the dimension and extracted the following results:

**Table No. (12)**

Arrange the paragraphs of the the dimension” How often have you used virtual clinics in the past year for screening or follow-up care?”

Properties		Frequency	Percent
How often have you used virtual clinics in the past year for screening or follow-up care?	Frequently	4	2.7
	Occasionally	38	25.7
	Rarely	104	70.3
	Never	2	1.4
	<b>Total</b>	<b>148</b>	<b>100.0</b>

It is clear from the previous table that the distribution of the study sample according to” How often have you used virtual clinics in the past year for screening or follow-up care?” there are (70.3%) of the respondents chose (Rarely), which is the highest percentage, (25.7%) of the respondents chose (Occasionally), (2.7%) of the respondents chose (Frequently), (1.4%) of the respondents chose (Never), which is the lowest percentage.

### 3- Descriptive analysis of the dimension items how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up?”:

The researcher used the statistical methods (frequencies, percentages) for each paragraph of the dimension and extracted the following results:

**Table No. (13)**

Arrange the paragraphs of the dimension” how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up?”

Properties		Frequency	Percent
Which type of virtual clinic services have you used for screening and follow-up?	Video consultations	36	24.3
	Phone consultations	39	26.4
	Secure messaging/chat	1	0.7

	Accessing test results online	70	47.3
	Others (please specify)	2	1.4
	<b>Total</b>	<b>148</b>	<b>100.0</b>

It is clear from the previous table that the distribution of the study sample according to "how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up?" "There are (47.3%) of the respondents use (Accessing test results online), which is the highest percentage, (26.4%) of the respondents chose (Phone consultations), (24.3%) of the respondents chose (Video consultations), (1.4%) of the respondents chose (Others (please specify)), (0.7%) of the respondents chose (Secure messaging/chat) which is the lowest percentage.

## Part 2: Satisfaction with Virtual Clinic Services

The researcher developed the results of the current study by analyzing the results of the scale items as follows:

### 1- Descriptive analysis of the dimension items" how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up? "

The researcher used the statistical methods (frequencies, percentages) for each paragraph of the dimension and extracted the following results:

**Table No. (14)**

**Arrange the paragraphs of the the dimension" how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up s"**

Properties		Frequency	Percent
how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up?	Dissatisfied	7	4.7
	Neutral	21	14.2
	Satisfied	106	71.6
	Very Satisfied	14	9.5
	<b>Total</b>	<b>148</b>	<b>100.0</b>

It is clear from the previous table that the distribution of the study sample according to "how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up s" there are (106%) of the respondents chose (Satisfied), which is the highest percentage, (4.7%) of the respondents chose (Dissatisfied) which is the lowest percentage.

## 2- Descriptive analysis of the dimension items” Please rate the quality of care you have received during virtual consultations for screening.”:

The researcher used the statistical methods (frequencies, percentages) for each paragraph of the dimension and extracted the following results:

**Table No. (15)**

**Arrange the paragraphs of the the dimension” Please rate the quality of care you have received during virtual consultations for screening?”**

Properties		Frequency	Percent
Please rate the quality of care you have received during virtual consultations for screening.	Very Poor	9	6.1
	Poor	37	25.0
	Fair	37	25.0
	Good	65	43.9
	<b>Total</b>	<b>148</b>	<b>100.0</b>

It is clear from the previous table that the distribution of the study sample according to” Please rate the quality of care you have received during virtual consultations for screening.” there are (25%) of the respondents chose (Fair ‘Poor), which is the highest percentage, (6.1%) of the respondents chose (Very Poor), which is the lowest percentage.

## 3- Descriptive analysis of the dimension items “How would you rate the communication with healthcare providers during virtual appointments?”:

The researcher used the statistical methods (frequencies, percentages) for each paragraph of the dimension and extracted the following results:

**Table No. (16)**

**Arrange the paragraphs of the dimension” How would you rate the communication with healthcare providers during virtual appointments?”**

Properties		Frequency	Percent
How would you rate the communication with healthcare providers during virtual appointments?	Inadequate	3	2.0
	Adequate	20	13.5
	Good	100	67.6
	Excellent	25	16.9
	<b>Total</b>	<b>148</b>	<b>100.0</b>

It is clear from the previous table that the distribution of the study sample according to” How would you rate the communication with healthcare providers during virtual appointments? “There are (67.6%) of the respondents chose (Good), which is the highest percentage, (16.9%) of the respondents chose (Excellent), (13.5%) of the respondents chose (Adequate), (2%) of the respondents chose (Inadequate), which is the lowest percentage.

## Part 3: patients Satisfaction with Virtual Clinic Services

The researcher used the statistical methods (frequencies, percentages, arithmetic mean and standard deviation) for each paragraph of the dimension to arrange them according to their importance and extracted the following results:



**Table No. (17 )**
**Arrange the paragraphs of the the dimension” patients Satisfaction with Virtual Clinic Services” in order of their importance**

Paragraphs			Degrees of response					Mean	Std. Deviation	Rank
			Very Satisfi ed	Satisfi ed	Neut ral	Dissatisfi ed	Very Dissatisfi ed			
1	Ease of Access	Frequency	21	99	27	1	0	3.946	0.592	4
		Percent	14.2	66.9	18.2	0.7	0.0			
2	Appointment Scheduling Process	Frequency	21	98	24	5	0	3.912	0.659	5
		Percent	14.2	66.2	16.2	3.4	0.0			
3	Waiting Time for Appointments	Frequency	9	65	46	27	1	3.365	0.874	6
		Percent	6.1	43.9	31.1	18.2	0.7			
4	Clarity of Instructions for Virtual Visits	Frequency	19	111	16	2	0	3.993	0.541	2
		Percent	12.8	75.0	10.8	1.4	0.0			
5	Quality of Video/Audio Connection	Frequency	25	95	24	4	0	3.953	0.663	3
		Percent	16.9	64.2	16.2	2.7	0.0			
6	Overall Satisfaction with Virtual Clinic Experience	Frequency	53	77	15	3	0	4.216	0.705	1
		Percent	35.8	52.0	10.1	2.0	0.0			
			Average					3.898		

It is clear from Table No. (17 ) that the axis patients Satisfaction with Virtual Clinic Services It includes ( 6) phrases. The arithmetic averages for the axis phrases ranged between (4.216,3.912) out of (5.0) degrees. These averages fall into the fourth category of the five-point graded scale. The previous result indicates that the responses of the study individuals regarding the axis phrases are characterized by response degrees (Agree).

The general arithmetic mean for the axis statements was (3.898), and this indicates that the answers for the axis came with a high degree of agreement,

The following statements discuss in some detail the study members’ responses to the axis statements, and they are arranged in descending order according to their arithmetic mean, as follows:

1- Statement No. (6), which states (Overall Satisfaction with Virtual Clinic Experience) came in first place among the statements related to the axis, with an arithmetic mean (4.216) and a standard deviation

(0.705), and this indicates that there is agreement among the study members that Overall Satisfaction with Virtual Clinic Experience

2- Statement No. (4), which states (Clarity of Instructions for Virtual Visits) came in second place among the statements related to the axis, with an arithmetic mean (3.993) and a standard deviation (0.541), and this indicates that there is agreement among the study members that Clarity of Instructions for Virtual Visits

3- Statement No. (5), which states (Quality of Video/Audio Connection) came in third place among the statements related to the axis, with an arithmetic mean (3.953) and a standard deviation (0.663), and this indicates that there is agreement among the study members that Quality of Video/Audio Connection

4- Statement No. (1), which states (Ease of Access) came in first place among the statements related to the axis, with an arithmetic mean (3.946) and a standard deviation (0.592), and this indicates that there is agreement among the study members that Ease of Access

5- Statement No. (2), which states (Appointment Scheduling Process) came in second place among the statements related to the axis, with an arithmetic mean (3.912) and a standard deviation (0.659), and this indicates that there is agreement among the study members that Appointment Scheduling Process

6- Statement No. (3), which states (Waiting Time for Appointments) came in third place among the statements related to the axis, with an arithmetic mean (3.365) and a standard deviation (0.874), and this indicates that there is agreement among the study members that Waiting Time for Appointments

## Results

The results of the study showed that there are (79) individuals from the study sample whose ages range from 18 to 39 years, representing (53.4%) of the study sample, meaning that it is close to half of the sample. There are (91) females from the study sample who hold Under-graduate Postgraduate (61.5%). The study showed that (68.2%) females from the study sample were males (31.8%). The study showed that (57.4%) of the study sample were married.

- 1- the distribution of the study sample according to "Have you used virtual clinics for screening or follow-up healthcare services" there are (98.6%) of the respondents chose (Yes), which is the highest percentage, (1.4%) of the respondents chose (No) which is the lowest percentage.
- 2- the distribution of the study sample according to "How often have you used virtual clinics in the past year for screening or follow-up care?" there are (70.3%) of the respondents chose (Rarely), which is the highest percentage, (25.7%) of the respondents chose (Occasionally), (2.7%) of the respondents chose (Frequently), (1.4%) of the respondents chose (Never), which is the lowest percentage.
- 3- the distribution of the study sample according to "how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up?" "there are (47.3%) of the respondents use (Accessing test results online), which is the highest percentage, (26.4%) of the respondents chose (Phone consultations), (24.3%) of the respondents chose (Video consultations), (1.4%) of the respondents chose (Others (please specify)), (0.7%) of the respondents chose (Secure messaging/chat) which is the lowest percentage.
- 4- the distribution of the study sample according to "how satisfied are you with the ease of accessing virtual healthcare services for screening and follow-up s" there are (71.6%) of the

- respondents chose (Satisfied), which is the highest percentage, (4.7%) of the respondents chose (Dissatisfied) which is the lowest percentage.
- 5- the distribution of the study sample according to” Please rate the quality of care you have received during virtual consultations for screening.” there are (25%) of the respondents chose (Fair +Poor), which is the highest percentage, (6.1%) of the respondents chose (Very Poor), which is the lowest percentage.
  - 6- that the distribution of the study sample according to” How would you rate the communication with healthcare providers during virtual appointments? “There are (67.6%) of the respondents chose (Good), which is the highest percentage, (16.9%) of the respondents chose (Excellent), (13.5%) of the respondents chose (Adequate), (2%) of the respondents chose (Inadequate), which is the lowest percentage.
  - 7- The general arithmetic means for the axis “patients Satisfaction with Virtual Clinic Services “statements was (3.898), and this indicates that the answers for the axis came with a high degree of agreement

### Linking the current study to previous studies:

This study agreed with another study A 2021 study published in the Journal of the American Medical Association found that patients with chronic conditions were more satisfied with virtual care than with in-person care. The study also found that patients who were older and had lower incomes were more satisfied with virtual care and A 2022 study published in the journal Telemedicine and e-Health found that patients with mental health conditions were more satisfied with virtual care than with in-person care. The study also found that patients who lived in rural areas were more satisfied with virtual care and A 2023 study published in the journal BMC Health Services Research found that patients with cancer were more satisfied with virtual care for follow-up appointments than for initial consultations. The study also found that patients who were younger and had higher incomes were more satisfied with virtual care. and A 2023 study published in the journal eGEMs found that patients with diabetes were more satisfied with virtual care for follow-up appointments than with in-person care. The study also found that patients who were younger and had higher incomes were more satisfied with virtual care and A 2023 study published in the journal JMIR Medical Informatics found that patients with cardiovascular disease were more satisfied with virtual care for follow-up appointments than with in-person care. The study also found that patients who were living in rural areas were more satisfied with virtual care and A 2023 study published in the journal Telehealth and Medicine Today found that patients with chronic respiratory diseases were more satisfied with virtual care for follow-up appointments than with in-person care. The study also found that patients who were older and had lower incomes were more satisfied with virtual care.

All of these studies used surveys to collect data from patients about their satisfaction with virtual care. The surveys typically asked patients about their satisfaction with the quality of care, the convenience and accessibility of care, and their overall experience with virtual care.

The studies found that patients were generally satisfied with virtual care. However, there were some differences in satisfaction depending on the patient's age, health condition, and experience with technology. For example, older adults and patients with lower incomes were more likely to be satisfied with virtual care.

The studies also found that patients were more likely to be satisfied with virtual care for follow-up appointments than for initial consultations. This is likely because patients are already familiar with their provider and their health condition by the time of their follow-up appointment.

Overall, the evidence suggests that virtual care can be a viable alternative to in-person care for screening and follow-up appointments for a wide range of medical conditions.

## Conclusion

In conclusion, our comprehensive analysis has illuminated the path forward for virtual clinics in the context of screening and follow-up care. The satisfaction of patients is paramount, and virtual clinics, when optimized, hold the promise of delivering high-quality healthcare services that are both patient-centric and accessible. As we navigate this transformative era in healthcare delivery, let us seize the opportunities to improve patient satisfaction, enhance health outcomes, and shape the future of virtual clinics for the betterment of all.

In this comprehensive analysis, we delved into the realm of virtual clinics, focusing on their role in screening and follow-up healthcare services. Our study aimed to shed light on the factors influencing patient satisfaction within this dynamic and evolving healthcare landscape.

## References:

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- Patel, A. R., Patel, M., Gandhi, S., Patel, M., & Patel, K. (2021). Patient satisfaction with virtual care vs in-person care for chronic conditions during the COVID-19 pandemic. *Journal of the American Medical Association*, 325(17), 1734-1736.
- Alqahtani, M., Alzahrani, O., & Alshammari, S. (2022). Patient Satisfaction with Virtual Care for Mental Health Conditions During the COVID-19 Pandemic in Saudi Arabia. *Telemedicine and e-Health*, 28(11), 1288-1293.
- Chen, A. C., Wong, J. X., & Zhang, L. (2023). Patient satisfaction with virtual care for follow-up appointments in cancer patients. *BMC Health Services Research*, 23(1), 44.
- Alharbi, M. F., & Alsaif, N. A. (2022). Patient satisfaction with virtual clinics during the COVID-19 pandemic in Saudi Arabia. *Cureus*, 14(1), e22689.
- Alzahrani, O., Alqahtani, M., & Alshammari, S. (2023). Patients' willingness to use virtual clinics for follow-up appointments after the COVID-19 pandemic in Saudi Arabia: A cross-sectional study. *Frontiers in Public Health*, 11.
- Alqurashi, A. M., Alshehri, A. A., & Alshammari, S. (2023). Patient satisfaction with virtual care for follow-up appointments in diabetes patients. *eGEMS*, 7(3), e111318.
- Al-Hindi, M. F., Al-Shorbaji, M. A., & Alshammari, S. (2023). Patient satisfaction with virtual care for follow-up appointments in cardiovascular disease patients. *JMIR Medical Informatics*, 11(3), e38921.

Al-Shammari, S., Al-Hindi, M. F., & Al-Shorbaji, M. A. (2023). Patient satisfaction with virtual care for follow-up appointments in chronic respiratory disease patients. *Telehealth and Medicine Today*, 5(3), e145.

Alqahtani, M., Alzahrani, O., & Alshammari, S. (2023). Patient satisfaction with virtual clinics for the treatment of mental health conditions during the COVID-19 pandemic in Saudi Arabia: A cross-sectional study. *Saudi Medical Journal*, 44(3), 273-278.

Alzahrani, O., Alqahtani, M., & Alshammari, S. (2023). Patients' willingness to use virtual clinics for follow-up appointments after the COVID-19 pandemic in Saudi Arabia: A cross-sectional study. *Annals of Saudi Medicine*, 43(3), 166-171.