

# Knowledge About the Herpes Zoster (HZ) Vaccine And Its Acceptance Among The Population In The Kingdom Of Saudi Arabia 2024

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## Abstract

### Background:

Herpes zoster (HZ), commonly referred to as shingles, results from the reactivation of the varicella-zoster virus (VZV). This is the identical pathogen responsible for varicella, also known as chickenpox. Initially, VZV infection leads to varicella. Subsequently, post-varicella, VZV enters a dormant state within the dorsal root ganglia. As individuals age or experience immunosuppression, their cell-mediated immunity to the VZV diminishes, leading to the reactivation of VZV and the onset of zoster, or shingles, which can manifest anywhere on the body. its prevalence in Saudi Arabia is not well established. Vaccination remains a key public health strategy, yet vaccine uptake varies widely. Its prevalence and severity underscore the importance of effective vaccination strategies. Vaccination against HZ has emerged as a crucial public health intervention. In the Kingdom of Saudi Arabia, the prophylactic HZ vaccine which has been licensed is the recombinant subunit glycoprotein E vaccine which is called SHINGRIX. **Aim of the study:** This study aims to assess the Knowledge about the Herpes Zoster (HZ) Vaccine and Its Acceptance among the Population in the Kingdom of Saudi Arabia 2024 addressing a significant gap in current research. **Methods:** A cross-sectional study was conducted at patients with history among the herpes zoster visiting the primary health sector in Saudi Arabia, from May to October 2024, 300 patients were included and data were collected by using a data were collected using an adapted questionnaire distributed via Google forms written questionnaire. **Results:** shows that most of the participants (50.0%) were in the age group (40-49) years , gender the majority of them male was higher compared to female(66.0% and 34.0%) , nationality the majority of participant are Saudi were(82.0%) , the marital status most of participants married were(74.0%) **Conclusion:** The study highlights a significant gap in knowledge and low vaccine uptake among the target population in Saudi Arabia . It underscores the need for educational initiatives and awareness programs to improve understanding and acceptance of the HZ vaccine. These findings can inform healthcare providers and policymakers in developing strategies to enhance vaccination coverage and ultimately improve public health outcomes in the region.

**Keywords:** knowledge, Herpes Zoster, Vaccine, Acceptance , Population, Saudi Arabia .

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## Introduction

Herpes zoster (HZ), commonly referred to as shingles, results from the reactivation of the varicella-zoster virus (VZV). This is the identical pathogen responsible for varicella, also known as chickenpox. Initially, VZV infection leads to varicella. Subsequently, post-varicella, VZV enters a dormant state within the dorsal root ganglia. [1] As individuals age or experience immunosuppression, their cell-mediated immunity to the VZV diminishes, leading to the reactivation of VZV and the onset of zoster, or shingles, which can manifest anywhere on the body. Zoster can give rise to a range of complications including chronic pain known as post herpetic neuralgia, cranial nerve palsies, zoster paresis, and various neurological conditions such as meningoencephalitis, cerebellitis and myelopathy.[2] It may also result in multiple ocular disorders and vasculopathy, which can present with symptoms similar to those of giant cell arteritis. Importantly, these neurological and ocular complications can develop even in the absence of a rash [3].

Vaccination remains a key public health strategy, yet vaccine uptake varies widely, influenced by socio demographic, cultural, and religious factors. Importantly, these addressing a significant gap in current research .[4]

Although the exact prevalence of HZ in Saudi Arabia is not well-documented, there is a global trend of increasing incidence, especially among the elderly population [5]. The global incidence rate of HZ shows variation among different age demographics. In younger, healthy populations, the annual rate of HZ cases is estimated to be between 1.2 to 3.4 per 1000 individuals . This rate increases in adults, with a notable escalation in individuals aged over 50. The incidence further intensifies among those aged 65 and above, with annual rates ranging from 3.9 to 11.8 cases per 1000 individuals [6]. Its prevalence and severity underscore the importance of effective vaccination strategies.

In Saudi Arabia, this vaccine is provided at no cost to individuals who are 50 years of age or older. Current vaccines have demonstrated efficacy in reducing the incidence and severity of HZ and its complications, including post herpetic neuralgia [7]. Acceptance of vaccines may also be influenced by cultural and religious views. A recent study in Saudi Arabia that aimed to assess the vaccination rates against HZ showed that only 4.5% of people have gotten the HZ vaccine [8]. This low percentage of vaccinations and the decreased awareness of the Saudi Arabian population regarding the HZ virus and its vaccinations signify the need to educate the general population and increase their awareness. [9] Thus, to evaluate the general public's knowledge, attitude, and practice about HZ immunization in Saudi Arabia, While the importance of vaccination is well recognized globally, limited research has been conducted on the public's KAP towards HZ vaccination in Saudi Arabia. This study aims to fill this gap by providing insights into the local population's understanding and acceptance of the HZ vaccine. The findings are expected to inform healthcare providers, policymakers, and public health practitioners, facilitating the development of strategies to increase vaccination coverage and ultimately improve public health outcomes in the region [10].

## Literature Review

The duration of HZ pain varies considerably, ranging from no pain or pain that lasts for only a few days after rash onset to pain that lasts for years after rash healing [11]. It is important to note that the frail elderly need careful assessment prior to treatment initiation and those they could be affected to a greater extent than “normal” adults by treatment-related adverse events, both in terms of frequency and in the possible severity of outcomes. More specifically, in the event of renal impairment, which is a frequent occurrence in the frail elderly, dosage has to be adjusted depending on creatinine clearance and adequate hydration needs to be ensured (another common problem in the frail elderly whose thirst reflex is diminished). The risk of neurological adverse events (such as headache, dizziness, confusion, tremor, convulsions, etc.) is also increased and their consequences can be serious, leading, for example, to falls with a high risk of fractures potentially leading to a vicious cycle of worsening frailty [12].

A recent study that evaluated the healthcare economic burden of skin disease has shown that herpes (including HZ) is one of the top 10 most costly causes of skin conditions.[13] The incidence of HZ in the general population is estimated to be 4.47 cases per 1000 people in the United States (US) annually and rises to 10.46 per 1000 in those aged above 60.[14] Multiple predisposing factors have been linked to developing HZ, including diabetes mellitus, malignancy, immunosuppressive medications, HIV infection, radiotherapy, and TB.[15]

Previous studies have focused on specific geographic areas or risk groups [16] , highlighting the need for a more comprehensive understanding of the population's knowledge and attitudes towards shingles and its vaccine in Saudi Arabia. Increasing vaccination rates is crucial for reducing the burden of herpes zoster and its complications, particularly in the elderly population.

According to the World Health Organization (WHO), Saudi Arabia a twenty-year audit study of herpes zoster (HZ) in the Asia-Pacific region identified immune senescence and immunosuppression as the principal risk factors for HZ [17] .

Several studies have examined the rate of use of the HZ vaccine in a population. In 2007, approximately 3500 adults older than age 60 in the United States were surveyed, and 1.9% of those surveyed reported having had the HZ vaccine.[18] Of those surveyed who had not been vaccinated, approximately 80% reported that they would receive the vaccine if their doctor recommended it. The 2 most common reasons for declining to be vaccinated were that the patients did not feel it was needed, and many did not think they were at risk.[19]

Study reported that only 6.7% of diabetic patients were diagnosed with herpes zoster. Additionally, 23.7% of them knew someone who had been diagnosed with herpes zoster, whether diabetic or non-diabetic. [20] This rate is lower than the rates in previous studies in Korea, where 14.7% of respondents had a history of herpes zoster and 26.1% among COPD patients in the USA [21].

In 2009, the rate of zoster vaccination among a group of rheumatologic patients was still relatively low (9.1%).[22] One study reported that the major barrier to receiving the HZ vaccine was the cost.[23] Of the vaccines recommended for the older population, the HZ vaccine is among the most expensive. [24]

Studies have shown that various factors influence vaccine uptake, including socio demographic factors, such as age, gender, education level, income, and access to healthcare services. Cultural and religious beliefs may also influence vaccine acceptance. In Saudi Arabia, limited studies have examined the practices related to the herpes zoster vaccine, with one recent study finding that only 4.5% of adults had received the vaccine [25].

### **Rationale:**

study aims to assess the Knowledge about the Herpes Zoster (HZ) Vaccine and Its Acceptance among the Population in the Kingdom of Saudi Arabia 2024. Globally, the incidence of herpes zoster varies across different age groups. Among healthy, young individuals, the annual occurrence ranges from 1.2 to 3.4 cases per 1000 individuals. However, in adults, there is an increased prevalence compared to the younger population. Notably, among those over 50 years, herpes zoster becomes more prevalent, and individuals above 65 years experience a further escalation in incidence, ranging from 3.9 to 11.8 cases per 1000 individuals annually. This age-stratified information underscores the impact of age on the prevalence of herpes zoster, with a notable increase in the risk among individuals over 50 years old and particularly those above 65 years old. The low vaccine uptake is concerning because shingles can lead to serious health problems. To increase vaccine acceptance, we suggest implementing awareness campaigns .

### **Aim of the study:**

To assess the Knowledge about the Herpes Zoster (HZ) Vaccine and Its Acceptance among the Population in the Kingdom of Saudi Arabia 2024 .

### **Objectives:**

To assessment of the knowledge, and Vaccine Acceptability of Herpes Zoster in Saudi Arabia 2024 .

### **Methodology:**

#### **Study design:**

This study is descriptive type of cross-sectional study was conducted among 300 candidates this study included visitors to health centers, in primary health sector in Saudi Arabia

#### **Study Area**

The study has been carried out in the Saudi Arabia of is the holiest spot on Earth and the principal place of the pilgrims to perform Umrah and Hajj. It is located in the western area in Kingdom of Saudi Arabia and called the Holy Capital. Contains a population around 5 million. This study has been conducted in Saudi Arabia in the primary health sector in Saudi Arabia. From March to September 2024, and it reflects a diversified demographic profile with a considerable portion of the population comes from rural descent, while others come from an urban one. This difference translates into biological, socioeconomic and lifestyle differences in Saudi Arabia population .

#### **Study Population**

The study has been conducted regarding visitors to health centers, in March to September 2024 in primary health sector in Saudi Arabia .

#### **Selection criteria:**

##### **Inclusion criteria**

- Visitors to health centers in primary health sector complain about herpes zoster in Saudi Arabia .
- All nationalities

##### **Exclusion criteria :**

- No specific exclusion criteria.

##### **Sample size**

Visitors to health centers in primary health sector complain about herpes zoster in Saudi Arabia, the sample size has been calculated by applying Raosoft sample size calculator based on (The margin of error: 5%, Confidence level: 95%, and the response distribution was considered to be 20%) accordingly the Sample size is (300) in primary health sector after official communication with the primary health sector in the Saudi Arabia and adding 10 more to decrease margin of error. After adding 5% oversampling, the minimum calculated sample has been 300. Computer generated simple random sampling technique was used to select the study participants.

##### **Sampling technique:**

Systematic random sampling technique is adopted. After that, by using random number generator, then simple random sampling technique has been applied to select from primary health sector. Also, convenience sampling technique will be utilized to select the participants in the study. By using systematic sampling random as dividing the total population by the required sample size; (300) .

##### **Data collection tool**

The self-administered questionnaire is designed based on previous studies to assessment of awareness, knowledge, and Vaccine Acceptability of Herpes Zoster in Saudi Arabia. The questionnaire has been developed in English. The questions were first pre-tested and were revised and finalized after it has been pilot tested. Before completing the survey, participants were required to indicate their consent using a forced response question followed by the survey questionnaires. The survey is estimated to take 15 min to complete.

To collect the information, a set of questions were constructed and developed. All questions were closed-ended, with tick boxes provided for responses; participants answered the questionnaires from the March to September the period of study in 2024.

### **The questionnaire consisted of questions that**

First part General and Socio demographic information. These variables included contact data (email or mobile phone number),(age, gender, Sources of information). Other variables were education level, economic level .

A questionnaire has been developed that had Socio demographic data and questions related to knowledge. The two senior faculty members checked the questionnaire's validity and comprehension, and it was revised according to their suggestions. A pilot study has been conducted on population to check the questionnaire's understanding and responses further, and its Cronbach's alpha was 0.75. The results of the pilot study were not included in the final analysis.

The assessment to assessment of awareness, knowledge, and Vaccine Acceptability of Herpes Zoster in Saudi Arabia among visitors to health centers as per each topic/question, and also as per each response/answer . Data entry and analysis were carried out using the Statistical Package for the Social Sciences. Data collection technique:

Researcher has been visits the selected primary health sector after getting the approval from the ministries of health. The researcher has been obtained permission from participants.

After the arrival of the participants has been explained the purpose of the study to all participants attending .

### **Data entry and analysis:**

The Statistical Package for Social Sciences (SPSS) software version 24.0 has been used for data entry and analysis. Descriptive statistics (e.g., number, percentage) and analytic

### **Pilot study**

A pilot study has been conducted in the same sector due to the similarity to the target group using the same questionnaire to test the methodology of the study. As a feedback, the questionnaire has been clear and no defect has been detected in the methodology

### **Ethical Approval**

This study was approved from regional research center in Saudi Arabia. Each participant gave a verbal consent prior to recruitment and confidentiality was assured for each situation.

**Budget:** Self-funded

### **Results**

**Table 1: Distribution of socio-demographic characteristics of participant . (n-300)**

	N	%
<b>Age</b>		
30-39 y	87	29
40-49 y	150	50
≥50 y	63	21
<b>Gender</b>		
Male	198	66

Female	102	34
<b>Nationality</b>		
Saudi	246	82
Non -Saudi	54	18
<b>Educational</b>		
High school or below	63	21
Undergraduate	105	35
Postgraduate	132	44
<b>Employment status</b>		
Employed	219	73
Unemployed	81	27
<b>History of chronic diseases</b>		
Yes	204	68
No	96	32
<b>Chronic disease</b>		
Hypercholesterolemia	231	77
Hypertension	156	52
Diabetes mellitus	204	68
Respiratory disease	60	20
<b>Marital status</b>		
Single	78	26
Married	222	74
<b>Patient enrollment sites in health centers</b>		
Internal medicine clinic	66	22
Family medicine clinic	213	71
Geriatric clinic	21	7
<b>Income status</b>		
Less than 10000RS	117	39
10000-20000 RS	162	54
More than 20000 RS	21	7

Table 1 shows that most of the participants (50.0%) were in the age group (40-49) years follow by the age 30-39 were (29.0%) followed by  $\geq 50$  years were (21.0%), regarding gender the majority of them male was higher compared to female(66.0% and 34.0%) , regarding nationality the majority of participant are Saudi were(82.0%) while non-Saudi practitioner were(18.0%), regarding educational the majority of participant are postgraduate were(44.0%) while Undergraduate practitioner were(35.0%) but the High school or below were (21.0%), regarding employment status the majority of participant are employed were(73.0%) while unemployed were(27.0%), regarding history of chronic diseases the majority of participant answer Yes were(68.0%) while No were(32.0%), regarding chronic disease the majority of participant hypercholesterolemia were (77.0%) while Diabetes mellitus were (68.39%) but Hypertension were (52.0%) while Respiratory disease were (20.0%), regarding the marital status most of participants married were(74.0%) while single were(26.0%), regarding patient enrollment sites in health centers the

majority of participant Family medicine clinic were (71.0%) while Internal medicine clinic were (22.0%) but Geriatric clinic were (7.0%) , regarding Income status the majority of participant are between 10000 to 20000 were(54.0%) while less than 10000 were(39.0%) but more than 20000 were (7.0%) .

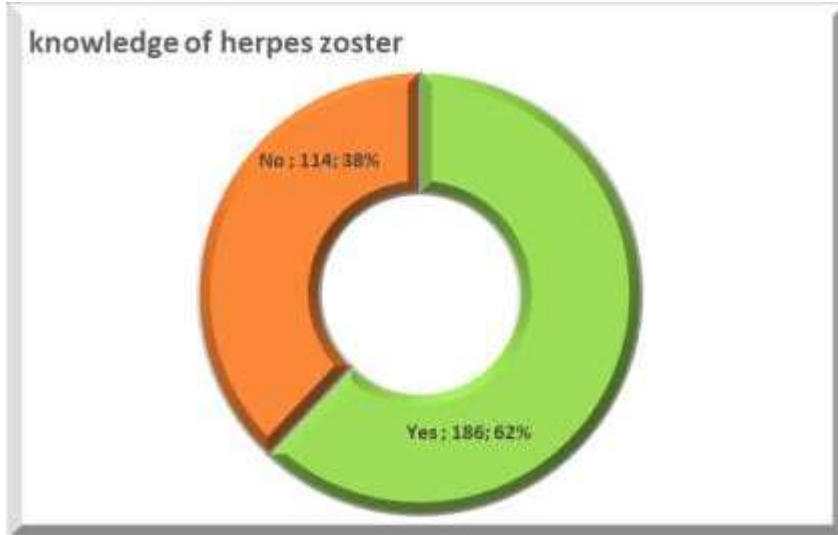
**Table 2: Distribution of the knowledge and intention to receive (HZ) vaccination and sources of Information about its Vaccine**

	N	%
<b>How did you learn about the herpes zoster?</b>		
Healthcare provider	165	55
Family or friends	57	19
The internet (e.g., social media, websites)	57	19
Personal experience of having herpes zoster	15	5
Knowing someone who had herpes zoster	6	2
<b>How did you learn about the herpes zoster vaccine?</b>		
Healthcare provider	87	29
Family or friends	54	18
Someone who had herpes zoster	102	34
The internet (e.g., social media, websites)	57	19
<b>knowledge of herpes zoster</b>		
Yes	186	62
No	114	38
<b>knowledge of herpes zoster vaccination</b>		
Yes	117	39
No	183	61
<b>knowledge of Intention to vaccination</b>		
Yes	87	29
No	213	71

Table 2 distribution of the knowledge and intention to receive (HZ) vaccination and sources of Information about its Vaccine shows regarding did you learn about the herpes zoster the most of the participants healthcare provider were (55.0%) followed by the internet (e.g., social media, websites) were (19.0%) and family or friends were (19.0%) while Personal experience of having herpes zoster were (5.0%) but the Knowing someone who had herpes zoster were (2.0%) , regarding the did you learn about the herpes zoster vaccine the majority of participant someone who had herpes zoster were (34.0%) followed by healthcare provider were (29.0%) but family or friends were (18.0%) while The internet (e.g., social media, websites) were (19.0%) , regarding knowledge of herpes zoster the majority of participant answer Yes were(62.0%) while No were(38.0%), regarding knowledge of herpes zoster vaccination the majority of participant

answer No were(61.0%) while Yes were(39.0%) regarding the knowledge of Intention to vaccination the majority of participant answer No were (71.0%) but the Yes (29.0%) .

**Figure (1): Distribution of the awareness, knowledge of (HZ) .**



**Table 3 . Distribution of the factors Impacting Decisions For or Against Receiving the Herpes Zoster (HZ) Vaccine**

	N	%
<b>Reasons cited for getting the HZ vaccine</b>		
Recommended by health care provider	183	61
Recommended by media/ads	45	15
Recommended by friends	63	21
Recommended by family	9	3
<b>Reasons cited for not getting the Herpes Zoster vaccine</b>		
Have not heard about it	54	18
Do not think I will develop shingles	132	44
The physician did not recommend it	129	43
Afraid of the side effects	150	50
Financial reasons	69	23
Do not believe in vaccines in general	30	10
Have a weak immune system and cannot receive live virus vaccines	45	15
Allergic to the zoster vaccine	81	27
Do not think zoster will cause significant or lasting illness	48	16
Do not think the vaccine works	96	32
Someone told me not to get the vaccine	120	40



Table 3 distribution of the factors Impacting Decisions For or Against Receiving the Herpes Zoster (HZ) Vaccine shows regarding reasons cited for getting the HZ vaccine the most of the participants recommended by health care provider were (61.0%) followed by recommended by friends were (21.0%) followed by recommended by media/ads were (15.0%) while Recommended by family were (3.0%) , regarding the reasons cited for not getting the Herpes Zoster vaccine the majority of participant afraid of the side effects were (50.0%) followed by physician did not recommend it were (43.0%) but someone told me not to get the vaccine were (40.0%) while do not think I will develop shingles were (44.0%) , while do not think the vaccine works were (32.0%) but Allergic to the zoster vaccine were (22.0%) while financial reasons and have not heard about it were (27.0%) while do not think zoster will cause significant or lasting illness were (16,0%) but have a weak immune system and cannot receive live virus vaccines were (15.0%) while do not believe in vaccines in general were (10.0%)

**Table 4 Distribution of the relationship of the Socio-demographic characteristics and knowledge of herpes zoster**

		knowledge of herpes zoster				Chi-square	
		Yes (n=186)		No (n=114)		X <sup>2</sup>	P-value
		N	%	N	%		
Age	30-39 y	77	41.40	10	8.77	63.415	<0.001*
	40-49 y	60	32.26	90	78.95		
	≥50 y	49	26.34	14	12.28		
Gender	Male	92	49.46	106	92.98	59.656	<0.001*
	Female	94	50.54	8	7.02		
Nationality	Saudi	155	83.33	91	79.82	0.590	0.443
	Non -Saudi	31	16.67	23	20.18		
Educational attainment	High school or below	16	8.60	47	41.23	91.867	<0.001*
	Undergraduate	50	26.88	55	48.25		
	Postgraduate	120	64.52	12	10.53		
Employment status	Employed	120	64.52	99	86.84	17.874	<0.001*
	Unemployed	66	35.48	15	13.16		
History of chronic diseases	Yes	160	86.02	44	38.60	73.055	<0.001*
	No	26	13.98	70	61.40		
Marital status	Single	50	26.88	28	24.56	0.198	0.657
	Married	136	73.12	86	75.44		
Patient enrollment sites in health centers	Internal medicine clinic	30	16.13	36	31.58	24.043	<0.001*
	Family medicine clinic	150	80.65	63	55.26		
	Geriatric clinic	6	3.23	15	13.16		
Income status	Less than 10000RS	55	29.57	62	54.39	26.606	<0.001*
	10000-20000 RS	122	65.59	40	35.09		
	More than 20000 RS	9	4.84	12	10.53		

Table (4) distribution of the relationship of the Socio-demographic characteristics and knowledge of herpes zoster show regarding age have a significant relation were P-value=0.001, X<sup>2</sup> were (63.415) increase in Yes in age 30-39 years were (41.40%) followed by ≥50 years were (26.26) while regarding No increase in

40-49 years were (78.95), regarding gender have a significant relation were  $P$ -value=0.001,  $X^2$  were (59.656) increase in Yes in female were (50.54%) followed by male were (49.46%) regarding No increase in male were (92.98%) followed by female were (7.02%), regarding nationality have no significant relation were  $P$ -value=0.443,  $X^2$  were (0.590) increase in Yes in Saudi were (83.33%) followed non-Saudi were (16.67%) while regarding No increase in Saudi were (79.82%) , regarding educational have a significant relation were  $P$ -value=0.001,  $X^2$  were (91.867) increase in Yes in Postgraduate were (64.52%) followed Undergraduate in No were (48.25%) followed by High school or below were (41.23%), regarding employment status have a significant relation were  $P$ -value=0.000,  $X^2$  were (17.874) increase in Yes in employed were (64.52%) followed by employed in No were (86.84%) , regarding patient enrollment sites in health centers have a significant relation were  $P$ -value=0.001,  $X^2$  were (24.043) increase in Yes in family medicine clinic were (80.65) followed by No in family medicine clinic were (55.26%) regarding Income status have a significant relation were  $P$ -value=0.001,  $X^2$  were (26.606) increase in Yes in 10000- 20000 RS were (65.59%) followed by Less than 10000RS in No were (54.39%).

## Discussion

In the present study, we assessment of knowledge, and Vaccine Acceptability of Herpes Zoster in Saudi Arabia 2024, and analyzed the predictors of HZ vaccination. Additionally, a study conducted in the US found that gaining a better understanding of HZ and its vaccine was a leading factor in participants' willingness to take the vaccine. [26] Hence, public health awareness campaigns that underscore the importance of vaccination as well as HZ vaccine recommendations, while underlining the HZ associated sequel, could essentially improve the willingness to take the HZ vaccine.

In our study shows that most of the participants (50.0%) were in the age group (40-49) years , gender the majority of them male was higher compared to female(66.0% and 34.0%) , nationality the majority of participant are Saudi were(82.0%) , the marital status most of participants married were(74.0%), patient enrollment sites in health centers the majority of participant Family medicine clinic were (71.0%) .(See table 1).

Our findings reveal considerable gaps in knowledge and low vaccine uptake, a trend consistent with global observations but accentuating specific regional challenges. Knowledge of HZ in our cohort was moderate, but misconceptions about transmission and prevention were common. Knowledge about the shingles vaccine was limited, with only an overall poor knowledge level of participants. [27]These results align with other Saudi studies, which also report limited awareness about HZ and its vaccine, though regional variances exist. For instance, a study conducted in Saudi Arabia with citizens aged 50 and older reported mean knowledge scores of 28.6% for HZ and 37.1% for the vaccine. This indicates a general lack of awareness, which is consistent with our findings . [22]

Among those who had not been vaccinated, expressed willingness to receive HZ vaccination in the future . The most frequent reason was “severe sequel,” followed by “knowing someone who has HZ” and “recommendation from a doctor or other health-care professionals.” Overall, this indicates that education about the disease and its sequel by health professionals including doctors can help motivate patients to accept HZ vaccination. The key reason cited by most of the respondents who did not want to receive HZ vaccination was the high cost. [27] The cost of the HZ vaccine has been reported previously to be a major obstacle to vaccination efforts [29]. However, most studies have shown that vaccination against HZ is likely to be cost-effective [22]. Conducted a review of 15 cost-effectiveness studies in North America and Europe and concluded that most studies showed that vaccination against HZ is cost-effective. In our study distribution of the factors Impacting Decisions For or Against Receiving the Herpes Zoster (HZ) Vaccine shows regarding reasons cited for getting the HZ vaccine the most of the participants recommended by health care provider were (61.0%) followed by recommended by friends were (21.0%) while Recommended by family were (3.0%) , the reasons cited for not getting the Herpes Zoster vaccine the majority of participant afraid of the side effects were (50.0%) while do not think zoster will cause significant or lasting illness were (16,0%)(See table 3 )

The unexpected finding that participants with education were more willing to take the shingles vaccine than those with higher education raises questions about the role of health literacy and vaccine hesitancy in vaccine uptake. Previous studies have found that individuals with lower educational levels are often at a disadvantage in terms of health literacy, which may impact their ability to understand and act on health-related information, including recommendations for vaccination [24].

However, some studies have reported that higher education levels may be associated with increased vaccine hesitancy, which is defined as a delay or refusal of vaccination despite the availability of vaccine services [25]. However, other studies have found no association between education level and vaccine hesitancy education level and vaccine hesitancy [29]. One possible explanation for the observed association between education and willingness to receive the shingle vaccine is that individuals with lower education levels may have less access to healthcare services and, therefore, may be more motivated to take advantage of preventive health measures when they become available. Additionally, people with lower educational levels may have higher levels of trust in healthcare providers and are more likely to follow their recommendations [28].

regarding age have a significant relation were P-value=0.001, X2 were (63.415) increase in Yes in age 30-39 years were (41.40%) gender have a significant relation were P-value=0.001, X2 were (59.656) increase in Yes in female were (50.54%), nationality have no significant relation were P-value=0.443, X2 were (0.590) increase in Yes in Saudi were (83.33%), educational have a significant relation were P-value=0.001, X2 were (91.867) increase in Yes in Postgraduate were (64.52%), employment status have a significant relation were P-value=0.000, X2 were (17.874) increase in Yes in employed were (64.52%) patient enrollment sites in health centers have a significant relation were P-value=0.001, X2 were (24.043) increase in Yes in family medicine clinic were (80.65) Income status have a significant relation were P-value=0.001, X2 were (26.606) increase in Yes in 10000-20000 RS were (65.59%) (See table 4)

## Conclusion

The study highlights a significant gap in knowledge and low vaccine uptake among the target population . It underscores the need for educational initiatives and awareness programs to improve understanding and acceptance of the HZ vaccine. These findings can inform healthcare providers and policymakers in developing strategies to enhance vaccination coverage and ultimately improve public health outcomes in the region. Future research should explore the incidence of shingles and the efficacy of vaccination and other, minority races because some populations have a lower incidence of the disease and the cost-effectiveness of the vaccine in these groups is not known. To achieve higher HZ vaccination rates, public awareness, education, and redesign of the health care delivery system should be explored

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