

## Precautionary Measures Practices and Burdens among Shingles Patients and their Caregivers

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### Abstract

**Background:** Shingles is viral infection that occurs with reactivation of the varicella-zoster virus. Shingles consider on of the diseases that represent high level of burden to all caregivers **Aim:** This study aimed to assess precautionary measures practices and burdens among shingles patients and their caregivers. **Research design:** A descriptive research design was utilized in this study. **Setting:** The study was conducted at Benha Dermatology and Leprosy Clinics. **Subjects:** A convenience sample of 150 patients and their caregivers who attended in the previous mentioned settings. **Tools of data collection:** Two tools were used: **I):** A structured interviewing questionnaire which to assess patients' socio-demographic data of patients and their caregivers, knowledge regarding shingles and reported practices. **II):** Concerned with burden level of caregivers regarding care of shingles patients. **Results:** 64% & 50% of studied patient and caregivers respectively had poor total knowledge level regarding shingles, while; 50.7% & 45.3% of them respectively had satisfactory level reported practices regarding shingles. Also, 36% of studied caregivers had high total burden level regarding care of shingles patient. **Conclusion:** Less than two thirds and half of the studied patients and caregivers' respectively had poor total knowledge level regarding shingles. Also, more than half of studied caregivers had unsatisfactory total reported practices, while slightly more than half of the studied patients had satisfactory total reported practices regarding shingles. In addition, more than one third of caregivers had high total burden level regarding care of shingles patients. **Recommendation:** Develop health educational and training programs for patient and their caregivers about care shingles.

**Keywords:** Burden, Caregivers, Precautionary Measures, Shingles.

### Introduction

Shingles is primary infection with Varicella-Zoster Virus (VZV) results in the rash of varicella (chickenpox). The virus establishes a latent infection in the nervous system and can reactivate later in life to cause shingles. Shingles is a vexing neurocutaneous disease that appear a latent infection of dorsal sensory or cranial nerve ganglia. More than 90% of elderly people are infected with this virus but not activated (**Kennedy et al., 2018**).

The incidence rate of shingles ranges all over the world from 1.2 to 3.4 /1000 person / year among younger healthy individuals while incidence is 3.9 to 11.8 / 1000 persons /year among patients older than 65 years. This incidence shows that this disease is more

common in adult than younger individuals. Shingles is not seasonal, and recurrences are most common in patients who are immunosuppressed (**Patil et al., 2022**).

A caregiver was an unpaid or paid member who helps the patients with activities of daily living. Typical duties of a caregiver might include taking care of someone who has a chronic illness or disease and managing medications. Caregiving burden refers to the stress, tension, and anxiety that caregivers experience when they are faced with challenges when caring for patients (**Miller et al., 2019**).

Precautionary measures practices are many procedures make to prevent or decrease spreading of infection. Patient isolation and

wearing Personal Protective Equipment is used to prevent spreading of infection. Also, Healthy nutrition and hand washing used also to raise immunity and prevent infection to both caregivers and all family members (Di Muzio et al., 2019).

Community Health Nursing (CHN) is very important member in managing shingles patients. CHNs are aims to enhance health of the patients, caregivers and communities. Community health nurse play an active role to identify shingles and stop spreading of it. The community health nurse works for the prevention and control of disease at various levels. Community health nurse participate as one of the team member especially in investigations of shingles researches (Patil et al., 2022).

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

This study aimed to assess precautionary measures practices and burdens among shingles patients and their caregivers.

#### **Research Questions**

1. What is shingles patients and their caregivers knowledge regarding shingles?
2. What are shingles patients and their caregivers reported practices regarding shingles?
3. What is the burden level of caregivers regarding care of shingles patients?
4. Is there a correlation between the patients and their caregivers knowledge and practices regarding shingles?
5. Is there a correlation between total burden level and total practices among studied caregivers regarding shingles.

#### **Subject and method**

##### **Research design:**

A descriptive research design was used to conduct this study.

##### **Setting:**

The study was conducted at Benha Dermatology and Leprosy Clinics because it has large number of patients suffering from shingles. This place is under the directorate of

health, which consisted of four clinics to treat dermatology and leprosy patient. It's frequency rate 120 patients/ day. It's consisted of 3 floors. The first floor have dermatology clinic, the second floor have physiotherapy clinic, while the third floor have leprosy clinic.

##### **Sampling:**

A convenience sample, all patients and their caregivers who attended to the previous mentioned setting in the last 6 months. Total sample size was 150 patients & their caregivers.

##### **Tools of data collection:**

Two tools were used in this study.

**Tool I:** Structural interviewing questionnaire used in the study developed by the researcher after reviewing the national and international related literature. It was contained three parts:

**Part one:-** To assess (A) patients' socio demographic data included (8 items) such as:- gender, age, level of education, marital status, occupation, income, number of family members and residence.

B- To assess caregivers' socio demographic data included (10 items) such as:- gender, age, level of education, marital status, occupation, income, number of family members, residence, relation with the patient and place of residence from the patient .

**Second part:** Concerned with knowledge of studied patients and their caregivers regarding shingles, which included 12 items (meaning, causes, signs and symptoms, diagnosis, complications, high risk factors, mode of transmission, incubation period, vaccine for shingles, prevention methods, duration of treatment and treatment).

##### **Scoring system:**

The scoring system of knowledge of both patients and caregivers was calculated as follows (2) score for correct and complete answer, and (1) score for correct and incomplete answer, while (0) score for don't know. For each question of knowledge, the score of the items was summed- up and the total divided by

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the number of items. These scores were converted into a percent score.

The total knowledge score = 24 points and classified as the following:

- Good when total score was >75% more than 18 points.
- Average when the total score was 50 – 75% its equal 12-18 points.
- Poor when total score was <50% less than 12 points.

**Third part:-** Shingles patients' & their caregivers reported practices which divided into three items as following; **Dealing with infection:-** Regarding patient include 9 items. Regarding caregiver included 7 items. **Hand washing** which include 7 items. **Nutrition** during shingles disease which include (3 items).

### **Scoring system:**

Each step of patients' and their caregivers' reported practices were two level of answer: done or not done. These were respectively 1, 0. The scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a present score.

a) The total patients' reported practices score = (19 points). The total practices scores were considered satisfactory if the score of the total practices  $\geq 50\%$  ( $\geq 9$  points) and considered unsatisfactory if it is  $< 50\%$  ( $< 9$  points).

b) The total caregivers' reported practices score = (17 points). The total practices scores were considered satisfactory if the score of the total practices  $\geq 50\%$  ( $\geq 8$  points) and considered unsatisfactory if it is  $< 50\%$  ( $< 8$  points).

**Tool 2:** Concerned with burden level of caregivers regarding care of shingles patients, adopted from (Graessel et al., 2014) and modified by the researcher to assess caregivers burden regarding care of shingles patient. It was translated into Arabic by researcher. It included 4 main areas as following: **Physical burdens** which included 6 items. **Psychological burdens**

which included 10 items. **Financial burdens** which included 5 items. **Social burdens** which included 7 items.

### **Scoring system:**

The scoring system for burden level of caregivers regarding care of shingles patient was calculated as follow (2) score for agree, and (1) score for neutral while (0) for disagree. These scores were converted into a present score. The total burden score = (56 points). The total burden score considers high when total score was ( $>75\%$ ) more than 42 points, consider moderate when the total score was (50 – 75%) its equal 29-42 points, and consider low when total score was ( $<50\%$ ) less than 28 point.

### **Content validity:**

Content validity of the tools was done by five of Faculty's Staff Nursing experts from the Community Health Nursing Specialties who reviewed the tools for clarity, relevance, comprehensiveness, and applicability and give their opinion.

### **Reliability of the tool:**

The reliability of the tool was applied by the researcher for testing the internal consistency of the tool, by administration of the same tools to the same subjects under similar condition on one or more occasion. Answers from repeated testing were compared (test-re-test reliability). The reliability was done by Cronbach's Alpha coefficient test which revealed that which of the two tools consisted of relatively homogenous items as indicated by the moderate to high reliability of each tool. The internal consistency of the knowledge was 0.757, while practice was 0.73 and burden was 0.71.

### **Ethical consideration:**

All ethical issues were assured; oral consent has been obtained from each patient and caregiver before conducting the interview and given them brief orientation to the purpose of the study. They were also reassured that all information gathered would be treated confidentiality and used only for the purpose of

the study. Patient and caregiver had right to withdraw from the study at any time without giving any reasons.

**Pilot study:**

The pilot study was carried out on 15 patients and 15 caregivers who represented 10% of the sample size. The pilot study was aimed to assess the tool clarity, applicability and time needed to fill each tool, completing the sheet consumed about 30-45 minutes. No modifications were done, so the pilot study sample was included in the total sample.

**Field work:**

The data was collected from patients and caregivers who attended to Benha Dermatology and Leprosy Clinics. The study was conducted at a period of six months from January 2022 to the end June 2022. The researcher visited Benha Dermatology and Leprosy Clinics respectively in three day per week (Tuesday, Wednesday and Thursday) from 8 am to 12 pm to collect data from all patients and their caregivers. The average time needed for the sheet was around 30-45 minutes, the average number interviewed at the outpatient were 1-2 patients and caregiver /day depending on their responses of the interviewers. At the first, The interview was conducted with both patient and caregiver together to assess their knowledge and reported practices. Then, conduct the interview with patient's caregiver alone to assess the burden of care.

**Statistical analysis:**

All data collected were organized, tabulated and analyzed using appropriate statistical test. The data were analyzed by using the Statistical Package for Social Science (SPSS) version 21, which was applied to calculate frequencies and percentages, mean and standard deviation as well as test statistical significance and associations by using Chi- square test ( $X^2$ ) and linear correlation coefficient (r), and matrix correlation to detect the relation between the variables (P value).

**Significance levels were considered as follows:**

- Highly significant (HS)  $P \leq 0.001^{**}$
- Statistically Significant (S)  $P \leq 0.05^*$
- Not significant (NS)  $P > 0.05$

**Results**

**Table (1):** Shows that; 64% of the studied patients were females, 66% of them were married, and 50% of them aged from 50 to less than 60 years old with mean age  $53.72 \pm 9.35$  years. 38 % of them had intermediate learning and 36% were employee. Also, 50% of them had 3 to 5 family members.

**Figure (1):** This figure shows that; 54% of studied patients had enough income, and 14% of them had enough and saved income while, 32% of them didn't have enough income.

**Figure (2):** This figure shows that; 58% of studied patient didn't have family history of shingles while, 42% of them had family history of shingles.

**Table (2):** Shows that, 57.3% of the studied caregivers were females, 64.7% of them aged from 30 to less than 40 years old with mean age  $36.26 \pm 9.49$ , 50.6% of them had secondary education and 56.6% of them were married. Also, 62% of the studied caregivers were employee and, 54.7% of them had 3 to5 family members. In addition, 62% of the studied caregivers were the son/ daughter of their patients and 67.3% of them were living in another house of their patients.

**Figure (3):** Shows that; 64% of studied patients had poor total knowledge level while, 24% of them had average total knowledge level and 12% of them had good total knowledge level regarding shingles.

**Figure (4):** Shows that; 50% of the studied caregivers had poor total knowledge level, while, 32% of them had good total knowledge level, and 18% of them had average total knowledge level regarding shingles.

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**Figure (5):** Illustrates that; 50.7% of studied patients had satisfactory total practices. While, 49.3% of them had unsatisfactory total practices regarding shingles.

**Figure (6):** Illustrates that; 45.3% of caregivers had satisfactory total practices. While, 54.7% of them had unsatisfactory total practices regarding shingles.

**Figure (7):** Illustrates that, 36% of the studied caregivers had high total burden level, and 30.7% of them had moderate total burden level,

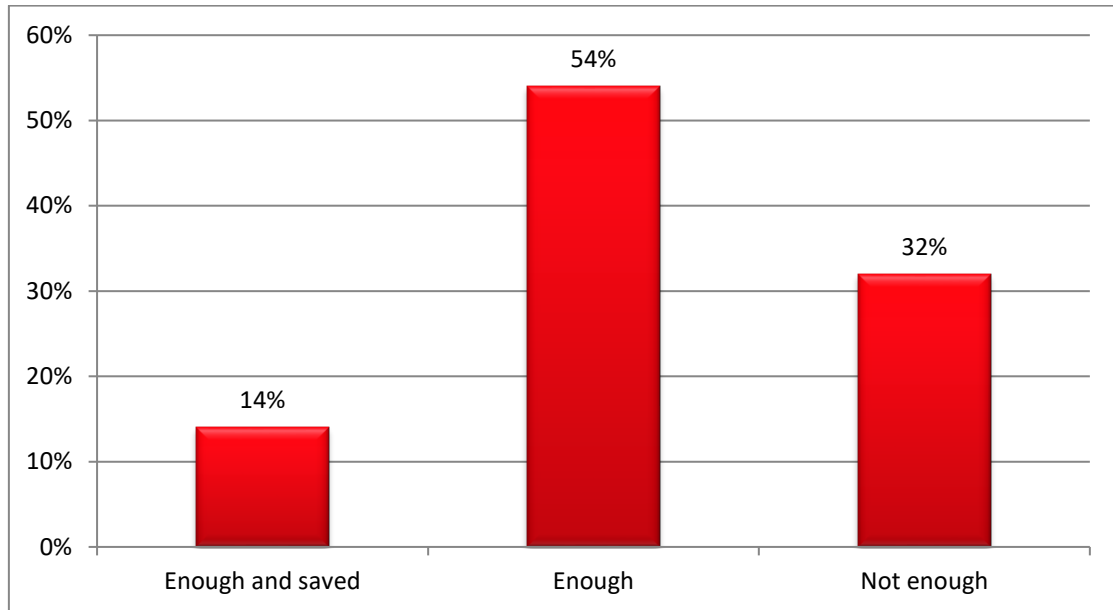
while 30% of them had low total burden level regarding care of shingles patients.

**Table (3):** Clarifies that, there were positive correlation between the studied patients and caregivers' total knowledge level and their total practices regarding shingles.

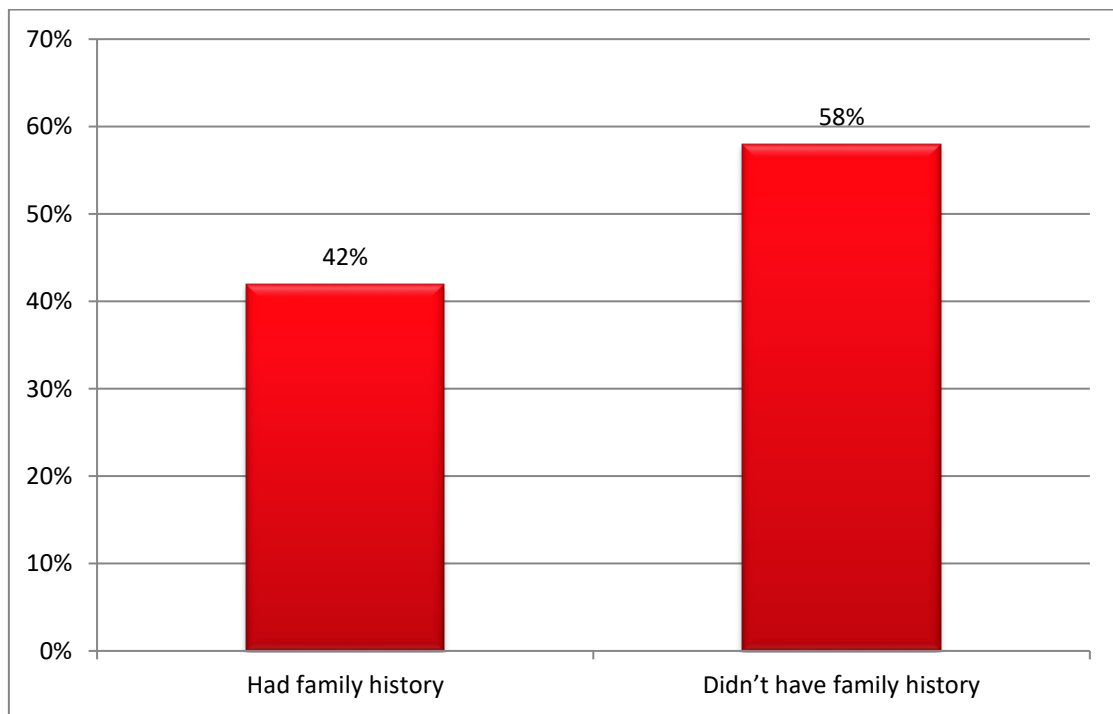
**Table (4):** Shows that, there were positive correlation between total burden level and total practices among studied caregivers regarding shingles,  $p < 0.05$ .

**Table (1): Frequency distribution of the studied patients regarding their socio-demographic characteristics (n=150).**

Socio-demographic characteristics	No.	%
<b>Sex</b>		
Male	54	36.0
Female	96	<b>64.0</b>
<b>Age</b>		
30 <40	9	6.0
40 <50	18	12.0
50 <60	75	<b>50.0</b>
≥ 60	48	32.0
<b>Min –Max</b>	<b>35-68</b>	
<b>Mean ±SD</b>	<b>53.72±9.35</b>	
<b>Educational level</b>		
Can't read and write	42	28.0
Basic education	39	26.0
Intermediate education	57	<b>38.0</b>
University education and more	12	8.0
<b>Marital status</b>		
Single	27	18.0
Married	99	<b>66.0</b>
Widow	24	16.0
<b>Occupation</b>		
Not work / house wife	51	34.0
Employee	54	<b>36.0</b>
Retired	24	16.0
Free work	21	14.0
<b>Number of family members</b>		
2	12	8.0
3-5	75	<b>50.0</b>
6 and more	63	42.0



**Figure (1): Percentage distribution of the studied patients regarding their income/ month (n=150).**

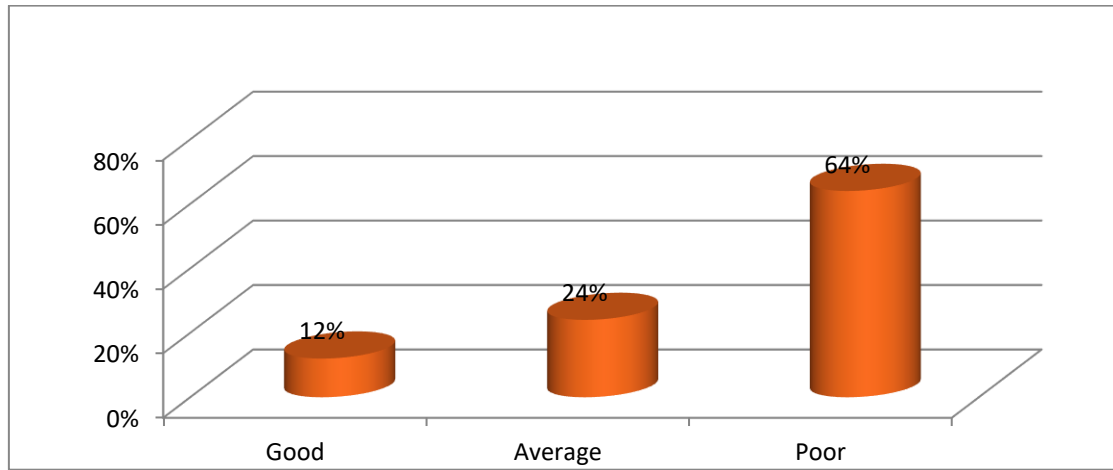


**Figure (2): Percentage distribution of the studied patients regarding their family history of shingles (n=150).**

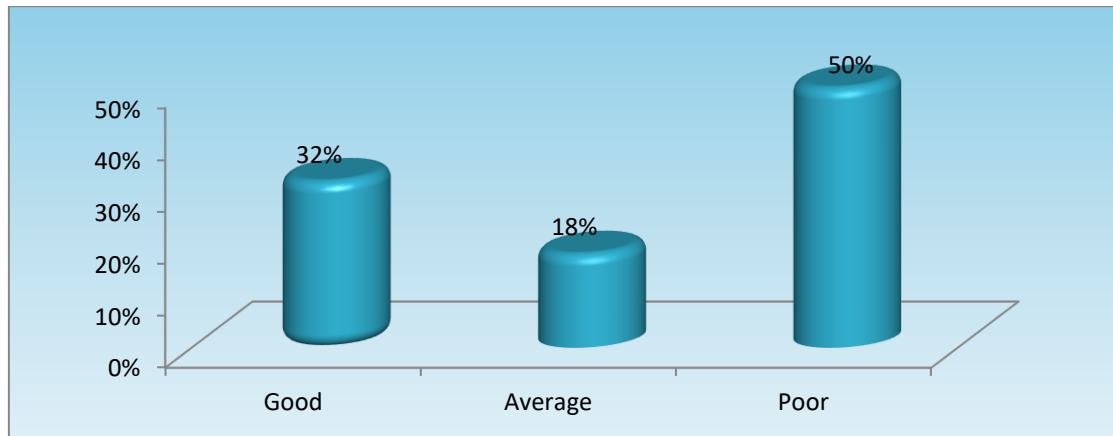
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**Table (2): Frequency distribution of the studied caregivers regarding their socio-demographic characteristics (n=150).**

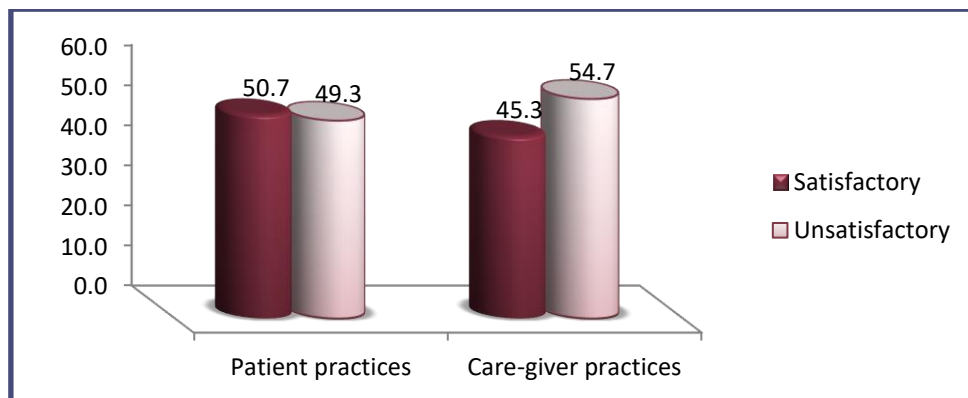
<b>Socio-demographic characteristics</b>	<b>No.</b>	<b>%</b>
<b>Sex :</b>		
Male	64	42.7
Female	86	<b>57.3</b>
<b>Age:</b>		
>30	8	5.3
30 <40	97	<b>64.7</b>
40 <50	20	13.3
50 <60	25	16.7
<b>Min –Max</b>	<b>19-55</b>	
<b>Mean ±SD</b>	<b>36.26±9.49</b>	
<b>Educational level:</b>		
Illiterate	7	4.7
Basic education	30	20.0
Secondary education	76	<b>50.6</b>
University education or more	37	24.7
<b>Marital status:</b>		
Single	45	30.0
Married	85	<b>56.6</b>
Divorced	10	6.7
Widow	10	6.7
<b>Occupation</b>		
Not work / house wife	57	38.0
Employee	93	<b>62.0</b>
<b>Number of family members:</b>		
2	26	17.3
3-5	82	<b>54.7</b>
6 and more	42	28.0
<b>Relative relationship:</b>		
Brother/ sister	31	20.7
Son/ daughter	93	<b>62.0</b>
Father/ mother	18	12.0
No relationship	8	5.3
<b>Place of residence from the patient:</b>		
The same house	49	32.7
Another house	101	<b>67.3</b>



**Figure (3): Percentage distribution of the studied patients regarding their total knowledge level about shingles (n=150).**



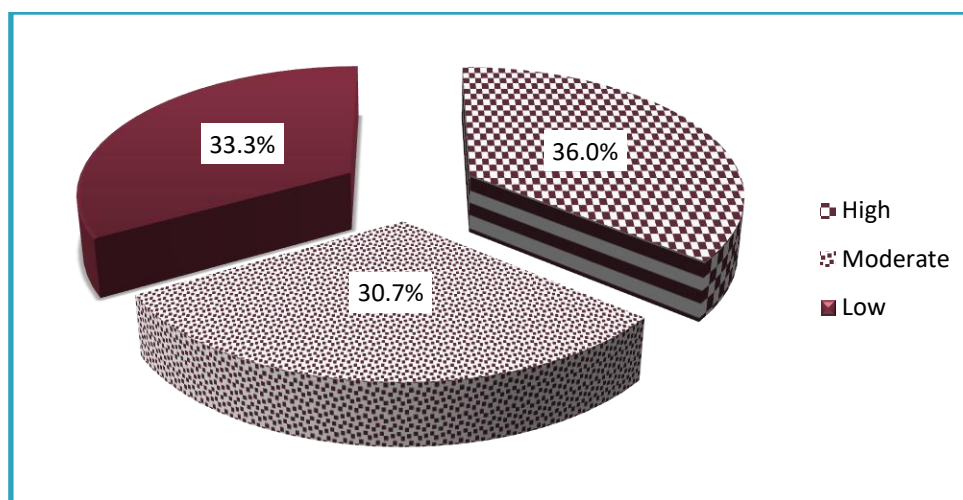
**Figure (4): Percentage distribution of the studied caregivers regarding their total knowledge level about shingles (n=150).**



**Figure (5): Percentage distribution of the studied patients and caregivers regarding their total practices level about shingles (n=150).**



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**Figure (6):** Percentage distribution of the studied caregivers' total burden level regarding care of studied patients (n=150).

**Table (3):** Correlation between the studied patients and caregivers' total knowledge level and total practices regarding shingles

Total practices	Total knowledge	
	r.	p-value
Patient	0.744	0.035*
Care-giver	0.566	0.042*

**Table (4):** Correlation between total burden level and total practices among studied caregivers regarding shingles.

Total practices	Total burden of care	
	r.	p-value
	0.749	0.026*

### Discussion

Shingles or herpes zoster is a disease caused by the reactivation of varicella-zoster virus which remains latent in sensory ganglia after a previous varicella infection. Shingles is typically manifests as a unilateral, painful, vesicular rash limited to the affected dermatome. The most common complication of shingles is Post Herpetic Neuralgia (PHN), clinically significant pain persisting or appearing 3 months after rash onset. Pain during the acute shingles episode or PHN may have a substantial negative impact on patients' Health-Related Quality of Life (HRQL) and

their physical/social activities. Shingles complications create a significant burden for the patient, careers, healthcare systems and employers. Prevention and treatment of shingles complications remain a therapeutic challenge despite recent advances (Díez-Domingo et al., 2021).

According to the socio-demographic characteristics of the studied patients; the current study result indicated that more than two thirds of them were females. This result agreed with Ibrahim et al. (2019), who conducted a study about "Sero-prevalence of

varicella-zoster virus among pregnant women in Fayoum Governorate, Egypt", and found that the varicella-zoster virus was detected among the majority (88.3%) of the studied pregnant women. This might be due to the studied women may have a low immunity.

Concerning the studied patients' age and educational level; the present study results showed that half of studied patients aged from 50 to less than 60 years old with mean age  $53.72 \pm 9.35$  years; and more than one third of them had intermediate education. These results were supported by **Jung et al. (2015)**, who developed a study about "Epidemiological study on the incidence of herpes zoster in Nearby Cheonan, Korean", and found that the majority (91%) of the studied patients were above the age of 50 with mean age of 56 years, and most (84%) of them had intermediate education. This might be due to the older age population is high risk for any type of infection due to their low immunity and low level of knowledge about the disease.

As regards the studied patients' marital status; the present study showed that more than two thirds of studied patients were married, and half of them had from 3 to 5 members in their family. These results were similar to **Koshy et al. (2018)**, who performed a study about "Epidemiology, treatment and prevention of herpes zoster: A comprehensive review in India", and found that more than two thirds (67.6%) of the studied patients were married, and the majority (89%) of them had from 3 to 5 members in their family. This might be due to the nature of their place of residence.

Regarding the studied patients' occupation; the present study results illustrated that more than one third of studied patients were employees, and regarding patients' income; more than half of them had enough monthly income. These findings were in agreement with **Johnson et al. (2018)**, who performed a

"Cross-sectional survey of work and income loss consideration among patients with herpes zoster in England when completing a quality of life questionnaire, England", and found that more than three quarters (76.5%) of the studied patients were employees and around half (49.8%) of them had enough monthly income. This might be due to they are responsible for household expenses.

Regarding the studied caregivers demographic characteristics; the current study result showed that more than half of them were females. This result was in the same line with **El-Afandy & Sabea (2018)**, who developed a study about "Herpes zoster epidemiological model's program: its effects on elderly patients and their family caregivers in Egypt", and found that more than two thirds (68%) of the studied caregivers were females. This might be due to it is customary for women to provide the care for patients.

Concerning the studied caregivers' age; the present study results indicated that more than two thirds of them aged 30 to less than 40 years old with mean age  $36.26 \pm 9.49$  years, and regarding caregivers' educational level; slightly more than half of them had secondary education. These results agreed with **Mizukami et al. (2018)**, who carried out a study about "The impact of herpes zoster and post-herpetic neuralgia on health-related quality of life in Japanese adults aged 60 years or older, Japan", and found that more than half (55%) of the studied caregivers aged 30 to less than 40 years old, and around two thirds (65.9%) of them had secondary education. This might be due to that it is the most appropriate age for taking the responsibility of caring of shingles patients.

Also, the present study indicated that, more than half of the studied caregivers were married, and regarding caregivers' occupation; less than two thirds of them were employees, regarding caregivers' income; more than three

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quarters of them had enough monthly income. These results were in the same line with **Aboushama et al. (2020)**, who developed a study about "Self-care practices for preventive measures of herpes zoster among patients and their caregivers in Egypt", and found that less than half (44.5%) of the studied caregivers were married, and more than one third of them (37.5%) were employees, while disagreed with them as they found that more than half (59.5%) of the studied caregivers didn't had enough monthly income. This might be due to the caregivers in the study are working in an appropriate place which provide an adequate salary.

The findings of the present study also represented that, more than half of the studied caregivers' had 3 to 5 family members. This finding agreed with **Rampakakis et al.(2017)**, who conducted a study about "Association between work time loss and quality of life in patients with herpes zoster in North America", and found that more than three quarters (76.5%) of the studied caregivers had 3 to 5 family members. This might be due to most of the families composed of the parents and two to three children.

Furthermore, the results of the present study denoted that more than two thirds of the studied caregivers were the patients' son/ daughter, and were living in another house. These results disagreed with **Wudiri (2016)**, who performed a study about "The roles for cholesterol in herpes simplex virus entry and infectivity in Washington State, United States of America", and stated that one quarter (25%) of the studied caregivers were the patients' wives, and they were living in the same house. This might be due to most of the studied caregivers in the study were females so that they were living in a separate house which is their husbands' house.

Concerning the studied patients' total knowledge level regarding shingles; the present study findings illustrated that more than one tenth of them had good total knowledge level and less than quarter of them had average total knowledge level, while less than two thirds of them had poor total knowledge level regarding shingles. These findings disagreed with **Blank et al . (2018)**, who developed a study about "Herpes zoster among persons living with HIV in the current antiretroviral therapy in America", and showed that one fifth (20%) of the studied patients had good total knowledge level, half of them (50%) had average total knowledge level, while the rest of the sample (30%) had poor total knowledge level regarding shingles. This might be due to the studied patients in the study didn't participate at any health educational program regarding shingles.

Concerning the studied caregivers' total knowledge level regarding shingles; the present study results showed that less than one third of them had good total knowledge level and less than one fifth of them had average total knowledge level, while half of them had poor total knowledge level regarding shingles. These results contradicted with **Bloch & Johnson (2017)**, who performed a study about "Varicella zoster virus transmission in the vaccine era: unmasking the role of herpes zoster in Oxford", and showed that half (50%) of the studied caregivers had good total level of knowledge regarding shingles, less than one fourth (20%) of them had average knowledge, while less than one third (30%) of them had poor total level of knowledge. This might be due to the studied caregivers need more educational programs regarding shingles.

Concerning the studied patients' and caregivers' total reported practices level regarding shingles; the study results revealed that slightly more than half of the studied

patients, and less than half of the studied caregivers had satisfactory total practices level regarding shingles respectively, while less than half of the studied patients and more than half of the studied caregivers had unsatisfactory total practices level regarding shingles respectively. These results disagreed with **Harvey (2016)**, who developed a study about "Making good decisions: examining the cost-effectiveness and optimal timing of the herpes zoster vaccine in the United States", and found that most (91%) and (89%) of the studied patients and their caregivers had unsatisfactory total practices level regarding shingles respectively. This might be due to the lack of health education about herpes zoster.

Regarding the studied caregivers' total burden level due to caring of shingles patients; the current study findings revealed that more than one third of them had high total burden level, less than one third had moderate total burden level, and low total burden level. These findings disagreed with **Hajbaghery & Ahmadi (2019)**, who developed a study about "Caregiver burden and its associated factors in caregivers of children and adolescents with chronic conditions in Isfahan", and found that (8.5%), (35.1%), and (47%) of the studied caregivers were suffering from severe, moderate, and mild burden respectively, and only (9.4%) of them perceived no burden. This might be due to the prolonged period of illness and susceptibility of being infected.

According the correlation between the studied patients' and studied caregivers' total knowledge level and their total practices regarding shingles; the current study denoted that there were statistically significant relation between the studied patients and caregivers' total knowledge level and their total practices regarding shingles. These results were agreed with **El\_Afandy & Sabea (2018)**, who found that there were highly statistically significant relation between knowledge and practices of

the elderly patients and family caregivers post the application of epidemiological model's program. This might be due to the high level of knowledge is usually associated with satisfactory practices.

Concerning correlation between the studied caregivers' total burden level regarding caring of patients with shingles and their total practices; the present study showed that there was a statistically significant correlation found between the studied caregivers' total burden level and their total practices. This result agreed with **Rampakakis et al. (2017)**, who conducted a study about "Association between work time loss and quality of life in patients with herpes zoster in North America", and stated that there was highly statistically significant correlation found between the studied caregivers' total sense of burden and their total practices level. This might be due to the prolonged illness is usually associated with excessive sense of burden which also have an effect on the patients' and caregivers' practices.

At the end of this discussion, caregivers had more information about shingles than patients. While patient had more satisfactory level of practices than care givers. The cause of this may be due to caregivers have a greater interest in the disease in terms of information to protect themselves from the infectious disease. While, patient have more satisfactory level of practices due to the fact that they do more procedures for themselves and large number of them was independent.

### **Conclusion**

More than two thirds and half of the studied patients and caregivers' respectively had poor total knowledge level regarding shingles. Also, more than half of studied caregivers had unsatisfactory total reported practices, while slightly more than half of the studied patients had satisfactory total reported practices regarding shingles. In addition, More than one

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third of caregivers had high total burden level regarding care of shingles patients, there were positive correlation between the studied patients and caregivers' total knowledge level and their total practices regarding shingles and there were positive correlation between total burden level and total practices among studied care-givers regarding shingles.

### **Recommendations**

- 1- Develop health educational and training programs for patient and their caregivers about shingles.
- 2- Empower the patients and their caregivers to apply appropriate self care practice regarding shingles.
- 3- Further studies regarding precautionary measures practices for patients and their caregivers about shingles.

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الإجراءات الاحترازية والأعباء بين مرضى الحزام الناري ومقدمي الخدمة  
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يعتبر مرض الحزام الناري من الأمراض المعدية والتي تنتشر بشكل كبير بين كبار السن وينتقل باكثر من طريقة من طريق انتقال العدوى من المريض الي مقدمي الرعاية. لذلك هدفت الدراسة إلى تقييم ممارسات التدابير الاحترازية والأعباء بين مرضى الحزام الناري والقائمين على رعايتهم. وقد أجريت الدراسة في عيادات بنها للأمراض الجلدية والحزام على ١٥٠ مريض ومقدم رعاية. وقد كشفت النتائج أن هناك ارتباط إيجابي بين مستوى المعرفة الكلي للمرضى الخاضعين للدراسة ومقدمي الرعاية وممارساتهم الاجمالية فيما يتعلق ب الحزام الناري ، وكان هناك ارتباط إيجابي بين إجمالي مستوى العبء و إجمالي الممارسات بين مقدمي الرعاية المدروسين فيما يتعلق بالحزام الناري. كما أوصت الدراسة على اعداد برامج تعليمية وتدريبية صحية للمرضى والقائمين على رعايتهم حول الحزام الناري وايضا مزيد من الدراسات حول ممارسات التدابير الاحترازية للمرضى والقائمين على رعايتهم حول الحزام الناري.