Knowledge About Herpes Zoster Virus Among Students of College of Health & Medical Technologies in Baghdad

Abstract:

Aims: Herpes zoster, or shingles, is a contagious disease caused by the reactivation of a dormant virus and its subsequent transmission along the sensory nerve to the matching dermatomes**.** This study was carried out to determine the level of knowledge about herpes zoster virus among students of college of health and medical technologies in Baghdad.

Method: the study is analytic cross-sectional study carried out on 215 students of college of health and medical technologies in only four stage departments college in Baghdad about knowledge of herpes zoster virus among them. The study was conducted in college of health and medical technologies/ Baghdad. It was initiated at Eleventh / November/ 2023 to Sixth /February/ 2024.

Results: the majority of studied sample 68.4% were in age group 20-24 years Mean ± SD (24 ± 3 years); 57.2% female, 83.3% single, 84.7% live in urban area. Receiving information was from different sources; studying, family, friend, internet, health workers and other sources (45.1%, 12.1%, 11.2%, 14.4%, 8.4% and 8.8%) respectively. Most study sample had acceptable knowledge score; 36% were weak and just 8% had good score. No significant association were found between knowledge score and demographic variables.

Conclusion: Overall knowledge score was acceptable towards herpes zoster virus among students of college of health and medical technologies for all departments. No significant association between knowledge score and demographic variables.

Keywords: herpes zoster, knowledge, shingles.

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Introduction

Herpes zoster (HZ) or shingles, as its often termed is a highly contagious disease results from reactivation of the varicella zoster virus (VZV), which remain dormant in the cranial sensory ganglia and spinal following primary infection in early life stage [1, 2]. Henceforward, HZ is restricted to people who have previously contracted chickenpox [3]. HZ typically manifests as a dermatological rash with vascularity that does not cross the midline and crusts in ten days [2]. The rash's associated pain might vary greatly. Hypersensitivity, tingling, aching, or searing discomfort are possible negative consequences for patients [2,4]. Multiple predisposing factors have been associated with development of HZ, including malignancy, diabetes mellitus, tuberculosis and immunosuppressive medications HIV infection radiotherapy.[5] Furthermore, around 95% of immunocompetent people over 50 are seropositive for VZV, increasing their chance of getting HZ [6]. Over the years, there has been a worldwide shift toward an aging population. A higher impact of HZ can be anticipated given that the incidence of HZ rises with age [7]. If HZ is not treated or prevented, it may increase the co-morbidities of elderly individuals, which would be detrimental to their quality of life. [8,9] Immunizations have contributed to lower rates of morbidity and mortality from a variety of diseases in a range of age groups [10]. As declined by World Health Organization (WHO) In 2016 (last available estimates), approximately 67% of the global population, had HSV-1 infection (oral or genital) the infection acquired mostly throughout childhood [11]. **Aim of study:** This study was carried out to determine the level of knowledge about herpes zoster virus among students of college of health and medical technologies in Baghdad.

Subject and Method

Design of the study: the study is analytic cross-sectional study carried out on students of college of health and medical technologies in Baghdad about knowledge of herpes zoster virus among them.

Setting of study: The study was conducted in college of health and medical technologies/ Baghdad.

Duration of the study: The study was initiated at Eleventh / November/ 2023 to Sixth /February/ 2024.

Size of sample: This study was conducted on students of college of health and medical technologies in only four stage departments college and for fourth stages students only. It collected about (215) samples.

Data collection: Data was collected by means of a questionnaire designed by the supervisor and the researcher according to scientific books, research and scientific studies then the questionnaire undergoes experts to determine validity of questions. The questionnaire was divided into four parts, the first one includes demographic characteristics; the second part includes general information knowledge about herpes zoster virus.

Inclusion Criteria: 1) Students who agree to participate in the questionnaire.2) Forth stage students only. **Exclusion Criteria:** ١) Students who refused to participate in the questionnaire . 2)Other stages students.

Knowledge Score: This part had 9 questions; each question had multiple choices, and each choice should be answered (yes, no, don't know), the corrected answer given (3) score, the false answer given (1) score, and don't know given (2) score. The maximum score of knowledge was 27, and the minimum score was 9 so, the poor score was (<18), the acceptable score was (18-22.5), and the good score was (≥22.5) (Likert respondent scale).

Statistical analysis: Analysis of data was carried out using the available statistical package of SPSS-24 (Statistical Packages for Social Sciences- version 24). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum values). The significance of the difference of different percentages (qualitative data) was tested using the Pearson Chi-square test (x^2-test). Statistical significance was considered whenever the P value was equal to or less than 0.05.

Results:

As shown in table (1) the majority of studied sample 68.4% were in age group 20-24 years Mean ± SD (24 ± 3 years); 57.2% female, 83.3% single, 84.7% live in urban area. Receiving information was from different sources; studying, family, friend, internet, health workers and other sources (45.1%, 12.1%, 11.2%, 14.4%, 8.4% and 8.8%) respectively.

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Table (1): demographic variables of the participants.

Demographic variables		No.	%
Age	20-24 years	147	68.4
	25-29 years	51	23.7
	>30years	17	7.9
	(Mean ± SD)	24 ± 3 years	
Gender	Male	92	42.8
	Female	123	57.2
Marital status	Single	179	83.3
	Married	35	16.3
	Widow	1	0.5
Residency	Urban	182	84.7
	Rural	33	15.3
Source of information	Studying	97	45.1
	Family	26	12.1
	Friend	24	11.2
	Internet	18	8.4
	Other sources	19	8.8
	Health Workers	31	14.4

Several questions asked to determine level of knowledge of students regard with herpes zoster, as Shingles dangerous virus that threatens life approximately 42% had correct answer. The major participants answered correctly when they asked the following questions (Shingles virus contagious, virus transmitted by food and water, person get shingles more than once in his life and majority of people infected with this virus aged more than 50 years). Questions as (Transmission of disease, Shingles virus same as the chickenpox virus and body parts affected) the responses were incorrect. Thirty-seven percent of study sample were don't know is the person get chickenpox cannot get shingles or not.

Table (2): knowledge questions for studied sample

Knowledge questions	Correct		Incorrect		DNK	
	No.	%	No.	%	No.	%
Shingles dangerous virus that threatens life	90	41.9	81	37.7	44	20.5
Shingles virus contagious	116	54.2	57	26.6	41	19.2
Virus transmitted by food and water	87	40.5	60	27.9	68	31.6
Transmitted only by direct contact with rash	60	27.9	98	45.6	57	26.5
Shingles virus same as the chickenpox virus	71	33.0	90	41.9	54	25.1
Who get chickenpox cannot get shingles	80	37.2	54	25.1	81	37.7
Person get shingles more than once in his life	95	44.2	52	24.2	68	31.6
Only affect abdomen and back area	70	32.6	87	40.5	58	27.0
Majority of people infected with this virus aged more than 50 years	112	52.1	103	47.9	0	.0

As shown in table (1) the majority of studied sample 68.4% were in age group 20-24 years Mean ± SD (24 ± 3 years); 57.2% female, 83.3% single, 84.7% live in urban area. Receiving information was from different sources; studying, family, friend, internet, health workers and other sources (45.1%, 12.1%, 11.2%, 14.4%, 8.4% and 8.8%) respectively. No significant association were found between knowledge score and demographic variables, p-value less than 0.05 table (3).

Table (3): association between demographic variables & Total Knowledge Score

Demographic variables	Total Knowledge Score			P-value
	Weak	Acceptable	Good	

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		No.	%	No.	%	No.	%	
Age Group	20-24 years	53	67.9	85	70.2	9	56.3	0.171
	25-29 years	22	28.2	23	19.0	6	37.5	
	>30years	3	3.8	13	10.7	1	6.3	
Gender	Male	39	50.0	50	41.3	3	18.8	.063
	Female	39	50.0	71	58.7	13	81.3	
Marital status	Single	64	82.1	100	82.6	15	93.8	.711
	Married	14	17.9	20	16.5	1	6.3	
	Widow	0	0.0	1	0.8	0	0.0	
Residency	Urban	68	87.2	101	83.5	13	81.3	.720
	Rural	10	12.8	20	16.5	3	18.8	
Source of information	Studying	31	39.7	57	47.1	9	56.3	.784
	Family	10	12.8	14	11.6	2	12.5	
	Friend	8	10.3	14	11.6	2	12.5	
	Internet	6	7.7	11	9.1	1	6.3	
	Other sources	7	9.0	10	8.3	2	12.5	
	Health Workers	16	20.5	15	12.4	0	0.0	
Working in health institution	Yes	17	21.8	40	33.1	4	25.0	0.217
	No	61	78.2	81	66.9	12	75.0	

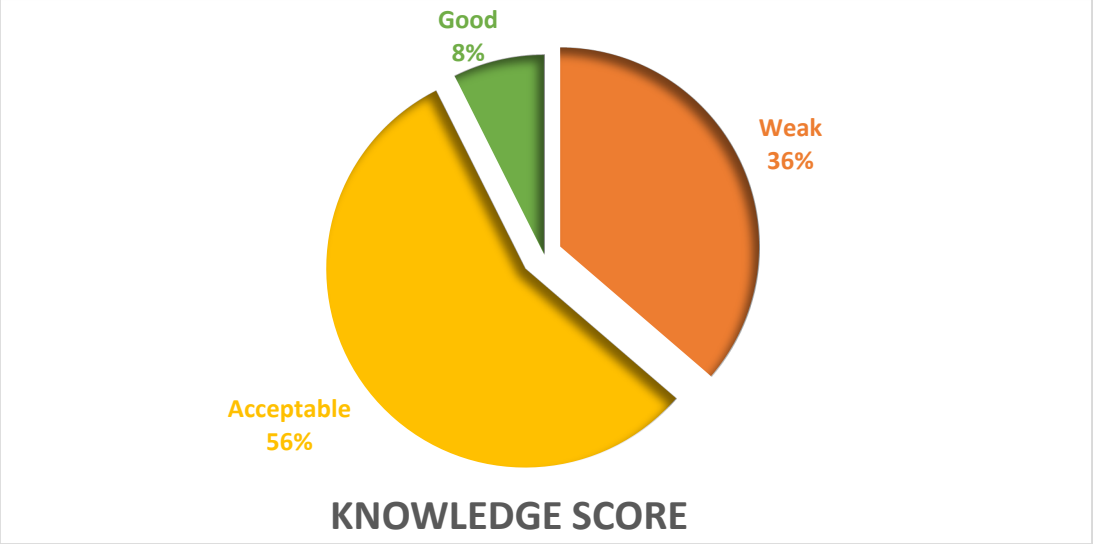

Figure (1): total knowledge score regarding herpes zoster

Figure (1) reveals that the majority of study sample had acceptable knowledge score; 36% were weak and just 8% had good score.

Discussion

Herpes zoster is a disease associated with aging that can significantly impair quality of life for affected individuals. Anyone infected with varicella (chickenpox) virus in childhood is at risk for reactivation of dormant virus and the onset of zoster disease, although it occurs with increasing frequency in the elderly as a result of waning of cell-mediated immunity [12]. In current study most of the study sample had sufficient knowledge about the disease as the greatest percentage of sample (56%) having fair or acceptable knowledge about herpes zoster. and (8%) having good knowledge. These results are similar with what had been reported in Malaysia by Hesham et.al.,2009, who found that the majority of participant had sufficient information [13].

In this study regarding socio- demographic characteristics about study participants the highest percentage of ages (68.4%) that was in the age group (20 -25 years) years and the lowest percentage (7.9%) of studied sample was in the group (>30) years, the percentage of female in the studied sample was (57.2%,) was more than the percentage of male participants (42.8%). these results are similar when compared with the result of a similar study conducted in Namibia by

Tomas et.al.,2022 who found that higher percentage of participant was in age group (18-25) and regarding gender who found proportion of female was slightly higher than the males as well, the percentage of female was 56% while the percentage of males was (44%.) [14]. Regarding the general knowledge about herpes zoster, the correct answers about (shingles dangerous virus that threatens life) was (41.9%) this result agreement with what had been reported in the results of a study conducted Hesham et.al.,2009 at the university Kebangsaan Malaysia, who found that (40.8%) answered correctly that f varicella can be fatal [13]. In this study only (27.9) had correct knowledge about transmission of virus. this result lower than what had been reported in United Arab Emirates by Arif et.al.,2019 who found that the majority of the study sample had knowledge about transmission of virus, this difference may be due to the difference in societies [15]. In current study about 52.1% had correct answers about (majority of people infected with this virus aged more than 50 years) this result disagree with percentage of correct answers 71% that founded in study conducted in Namibia by Tomas et.al.,2022 I think this differ due to low knowledge of participants in our study about risk group who may infected with this virus. Older adults have a greater risk of developing complications from shingles, typically due to having weaker immune systems [13].

Conclusion

Overall knowledge score was acceptable towards herpes zoster virus among students of college of health and medical technologies for all departments. No significant association between knowledge score and demographic variables.

Recommendations: Awareness sessions and scientific symposium from time to time on communicable diseases should performed known in society, and encourage students to participate in them. More detailed and accurate studies are need to diagnose these gaps and work to address them in the future.

References

[1] Blair RJ. Varicella Zoster virus. Pediatr Rev. 2019;40:375–7. doi:10.1542/pir.2017-0242.

[2] Cohen JI. Clinical practice: Herpes zoster. N Engl J Med. 2013;369:255–63. doi:10.1056/NEJMcp1302674.

[3] Freer G, Pistello M. Varicella-Zoster virus infection: natural history, clinical manifestations, immunity and current and future vaccination strategies. New Microbiologica. 2018;41(2):95–105.

[4] Schmader K. Herpes Zoster. Clin Geriatr Med. 2016;32:539–53. doi:10.1016/j.cger.2016.02.011.

[5] Babamahmoodi F, Alikhani A, Ahangarkani F, Delavarian L, Barani H, Babamahmoodi A. Clinical manifestations of herpes zoster, its comorbidities, and its complications in North of Iran from 2007 to 2013. Neurol Res Int. 2015;2015:10–13. doi:10.1155/2015/896098.

[6] Johnson RW, Alvarez-Pasquin M-J, Bijl M, Franco E, Gaillat J, Clara JG, Labetoulle M, Michel J-P, Naldi L, Sanmarti LS, et al. Herpes zoster epidemiology, management, and disease and economic burden in Europe: a multidisciplinary perspective. Ther Adv Vaccines. 2015;3:109–20. doi:10.1177/2051013615599151.

[7] Wolfson LJ, Daniels VJ, Altland A, Black W, Huang W, Ou W. The impact of varicella vaccination on the incidence of varicella and Herpes Zoster in the United States: updated evidence from observational databases, 1991-2016. Clin Infect Dis. 2020;70:995–1002. doi:10.1093/cid/ciz305.

[8] Pickering G, Gavazzi G, Gaillat J, Paccalin M, Bloch K, Bouhassira D. Is herpes zoster an additional complication in old age alongside comorbidity and multiple medications? Results of the post hoc analysis of the 12-month longitudinal prospective observational ARIZONA cohort study. BMJ Open. 2016;6:1–8. doi:10.1136/bmjopen-2015-009689.

[9] Curran D, Oostvogels L, Heineman T, Matthews S, McElhaney J, McNeil S, Diez-Domingo J, Lal H, Andrews C, Athan E, et al. Quality of
life impact of an adjuvanted recombinant zoster vaccine in adults aged 50 years and older. Journals Gerontol - Ser a Biol Sci Med Sci. 2019;74:1231–38. doi:10.1093/gerona/gly150.

[10] Ciabattini A, Nardini C, Santoro F, Garagnani P, Franceschi C, Medaglini D. Vaccination in the elderly: the challenge of immune changes with aging. Semin Immunol. 2018;40:83–94. doi:10.1016/j.smim.2018.10.010.

[11] https://www.who.int/news-room/fact-sheets/detail/herpes-simplex-virus

[12] Weinberg, J. M. (2007). Herpes zoster: epidemiology, natural history, and common complications. Journal of the American academy of dermatology, 57(6), S130-S135.

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[13] Hesham, R., Cheong, J. Y., & Hasni, J. M. (2009). Knowledge, attitude and vaccination status of varicella among students of Universiti Kebangsaan Malaysia (UKM). Med J Malaysia, 64(2), 119.

[14] Tomas, N., & Kampanza, F. (2022). Awareness of varicella-zoster virus among undergraduate students at the University of Namibia. Journal of Public Health in Africa, 13(2).

[15] Arif, N., & Qadir, M. I. (2019). Survey about the awareness of chicken pox among biology students. Journal of Human virology and retrovirology, 7(1), 326-8.

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