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Knowledge and practice towards prevention of dengue fever infection among health care workers in BIN Nasir hospital December 2017

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ABSTRACT

This paper evaluates the knowledge and practice of dengue fever infection among nursing staff in Bin Nasir hospital Saudia Arabia in 20017 82 nurses enrolled in the study. A descriptive study design – Was adopted for this study 82 staff nurses selected randomly, grouping ter age from 20 up to 41 and with different education level and different work experience and departments, self-administered questionaired filled regard knowledge and practice, data arranged tabulated analysed [descriptive and inferential statistics] using spss 20.results respondents revealed good knowledge towards dengue fever, their mean knowledge 63.4%, p .000 and good practice, mean score 64.6% p .000, the results showed significant association between qualification, work experience and work department with both knowledge and practice Ps are .055, .023, .500. Conclusion respondent showed good knowledge and practice, also showed the highly significant association between qualification, work experience and work area and both knowledge and practice. Recommendation establish of regular session towards knowledge and prevention toward dengue fever.

Keywords: *Knowledge, Practice. Nurses and Dengue fever*

1. INTRODUCTION

Dengue fever is a mosquito-borne viral infection found in most tropical and subtropical areas of the world. The incidence of dengue has grown dramatically. Dengue is virus infection has been re-emerging worldwide and the incidence has increased 30-fold in the last 50 years with increasing geographic expansion and emerging in new countries. An estimated 50 million dengue infections occur annually and approximately 2.5 billion people live [1-2]. [1] It is considered as one of the emerging infectious disease globally [2]

This viral pathogen belongs to the genus Flavivirus of the family Flaviviridae [single-strand, non-segmented RNA viruses]. Dengue is transmitted to humans by two species of Aedes mosquitoes, Aedes aegyptiand Aedes albopictus. Although infection with one dengue serotype confers lifetime immunity against re-infection by the same serotype, there is no evidence of cross-immunity. [3]

Over half of the world's population resides in areas potentially at risk for dengue transmission, making dengue one of the most important human viral disease transmitted by arthropod vectors in terms of morbidity and mortality [4]

The various serotypes of the dengue virus are transmitted to humans through the bites of infected Aedes mosquitoes, principally Ae. aegypti. This mosquito is a tropical and subtropical species widely distributed around the world [1]

Dengue fever can cause symptomatic or asymptomatic infection, it is a systemic disease which causes severe and moderate symptoms, it appears abruptly and has three phase febrile, critical and recovery. [5] In 2009, World Health Organization [WHO] and Tropical Disease Research [TDR] dengue put guidelines to classify dengue according to severity who used the signs in subgroup dengue for the clinician in management and close monitoring. These signs are abdominal pain, vomiting, accumulation of fluid, mucosal bleeding, lethargy, liver enlargement, and increasing hematocrit concurrent with the rapid decline in platelet count. [1].

In the absence of a vaccine or specific antiviral to treat dengue fever, vector control is one of the most important preventive And Prevention of dengue fever can be by so many methods

One of the methods of vector control is Environmental management which seeks to change the environment in order to prevent or minimize vector propagation and human contact with the vector-pathogen by destroying altering, removing or recycling non-essential containers that provide larval habitats, other prevention is Improvement of water supply and water-storage systems to control Aedes vectors especially Ae.aegypti. Water piped to households is preferable to water drawn from wells, communal standpipes, rooftop catchments and other water-storage systems, Mosquito-proofing of water-storage containers can be designed to prevent access by mosquitoes for ovipositor. Containers can be fitted with tight lids or, if rain-filled, tightly-fitted mesh screens can allow for rainwater to be harvested from roofs while keeping mosquitoes out. Removable covers should be replaced every time water is removed and should be well maintained to prevent damage that permits mosquitoes to get in and out, Solid waste management Proper storage, collection and disposal of waste are essential for protecting public health from dengue fever. [1]This study aimed to assess knowledge and practice of nurses toward prevention of dengue fever and measured the factors affecting knowledge and practices regarding dengue fever among nurses.

2. MATERIALS and METHODS

The hospital-based cross-sectional study was conducted in Bn Nasir hospital at Saudi Arabia 100 nurse enrolled in the study selected randomly, verbal approval consent taken from participants. The objectives and benefits of the study were explained to respondents They were assured that participation was voluntary and information would be confidential.

A questionnaire was developed The first part consisted of (6) items regarding demographic data, such as age, gender educational level, work area and work experience, second part consists of (14 questions) regard dengue fever, cause, life cycle, sign and symptoms transmission and controlling and availability of vaccination. For each knowledge item a true answer was coded '1' and the false answer was coded '0', and the total scores ranged from 0 to 14, The knowledge scores were classified into Poor knowledge (≤50%), Fair knowledge(65-50%), and (≥65%) considered Good knowledge for Practice (8)items were coded '1' if the answer was (yes) and (0) if the answer was (no) ,the total score ranged from 0 to 8 The practice scores were classified into Poor knowledge (≤50%), Fair knowledge(65-50%), and (≥65%) considered Good knowledge data arranged, analyzed using SPSS version 20, frequency description used for socio demographic data, Questions on knowledge, and practices were summed, and the total score of each part was obtained and qui squire test used to use to identify any statistically significant associations between knowledge, practice, and socio demographic variables.

3. RESULTS

82 of nurses enrolled in the study, the majority of them aged between 26-30 years 36 (43.9%), 29(35.4%)their age between20-25 years while17(20.7%) their age between 31-40 years. Most of the respondents are female 47 (57.3%) the rest are male 35(42.7 %) their qualification arranged between bacalerios 48 (58.5%) diploma20 (24.4% and only 14(17.1%) with master degree. Their information about dengue fever is from Newspapers/Magazines 25(30.5%). Most of them tier work experience more than five years48 (58.5%) while 34(41.5%). The majority of respondents work in surgical department 34(41.5%) and 27(32.9%) work in the medical department while the minority 21(25.6%) work in our patient's table 1.

Regard their knowledge towards the cause of dengue fever by a mosquito; Aedes aegypti. Life cycle, whether if epidemics start during hot weather, signs, and symptoms and mode of transmission and other questions related knowledge to dengue fever their mean knowledge is considered as good M+SD (17.3537+2.58377) respectively, the p-value is .000 as shown in Table (2)
In table 3 the respondents showed good practice regard prevention of dengue fever in when covering the water tanks and inspection of refrigerator tray for accumulating water and examine any discarded material that holds water around their house, Use mosquito net or mosquito coil and good practice when Participate in community 'clean surroundings' activities, M+SD is9.6098, 1.48869, P value 000.

From table 4 there is a significant relation in qualification and work experience and work area in both knowledge and attitude Ps are .023, .055, .500 respectively.

Table1: Socio demographic data

Variable	Frequency	%
Age		
20-25 years	29	35.4
26-30 years	36	43.9
31-40 years	17	20.7
Gender		
male	35	42.7
female	47	57.3
Qualification level		
diploma	20	24.4
BSC Nursing	48	58.5

master degree	14	17.1
Sources of information regard dengue fever		
Television	16	19.5
Newspapers/Magazines	25	30.5
Radio	19	23.2
Leaflets/Pamphlets	7	8.5
Internet	15	18.3
work experience		
1-3 years	34	41.5
more than 3 years	48	58.5
work area		
medical ward	27	32.9
surgical ward	34	41.5
out-patient	21	25.6

Table 2: Knowledge of nurses regard dengue fever

variable	yes	no	Mean	SD
Dengue fever is caused by the mosquito; Aedes aegypti	73(89%)	9(11%)	1.1098	.31451
Life cycle of the Aedesmosquito is one week	73(89%)	9(11%)	1.1098	.31451
Dengue fever affects all age groups	65(79.3%)	17(20.7%)	1.2073	.40788
Dengue epidemics start during hot weather	49(59.8%)	33(40.2)	1.4024	.49341
Dengue is a flu-like illness.	56(68.3%)	25(31.7%)	1.3171	.46820
Chills and high fever, intense headache, muscle and joint pains are the most common presentation of dengue fever	67(81.7%)	15(18.3%)	1.1829	.38899
Dengue can be transmitted by direct blood contact	62(75.6%)	20(24.4%)	1.2439	.43208
Transmission cycle is " Man-Mosquito-Man"	59 (72. %)	23 (28%)	1.2805	.45200
Mosquitoes transmitting dengue infection bites only early in the morning	60(73.2%)	22(26.8%)	1.2683	.44580
Control of dengue is by combating the breeding of mosquitoes	65(79.3%)	17(20.7%)	1.2073	.40788
Abate can be beneficial in killing mosquitoes larvae	64(78%)	18(22%)	1.2195	.41646
There is a vaccine for dengue	58(70%)	24(29.3%)	1.2927	.45779
Paracetamol is the drug of choice for dengue treatment	64(78%)	18(22%)	1.2195	.41646
Do I have to worry if one of my family members was diagnosed to have dengue a year ago	58(70%)	24(29.3%)	1.2927	.45779
Mean knowledge score	frequency		%	
Good knowledge (≥65%)	52		63.4	
Fair knowledge (65-50%)	27		32,9	
Poor knowledge (≤50%)	3		3.7	

Table 3: Practice of nurses regard dengue fever

Variable	Yes	No	Mean	SD	P value
Cover water tanks	78(95.1%)	4(4.9%)	1.0488	.21673	.000
Inspect refrigerator tray	63(76.8%)	19(23.2)	1.2317	.42452	.000
Examine mosquito larvae both indoors and outdoors pots	62(75.6%)	20(24.4%)	1.2439	.43208	.000
Drain water from flower pot	55(67.1%)	27(32.9%)	1.3293	.47284	.002
Examine any discarded material that holds water around your house	66(80.5%)	16(19.5%)	1.1951	.39873	.000
Use mosquito net or mosquito coil	69(84.1%)	13(15.9%)	1.1585	.36749	.000
Use mosquito repellant	60(73.2%)	22(26.8%)	1.2683	.44580	.000
Participate in community 'clean our surroundings' activities	71(86.6%)	11(13.4%)	1.1341	.34291	.000
Mean practice score	frequency		%		
Good practice (≥65%)	53		64.6		
Fair practice (65-50%)	22		26.8		
Poor practice (≤50%)	7		8.5		

Table 4: Correlation between demographic data and knowledge

Variable	Frequency (%)	Mean	SD	P value
Knowledge				
Age				
20-25 years	20(38.5)	1.853	.793	.919
26-30 years	24(46.1)			
31-40 years	8(15.4)			
gender				
male	18(34.6)	1.5732	.49766	.152
female	34(65.4)			
qualification				
diploma	15(28.8)	1.9268	.64369	.055
BSC Nursing	27(51.9)			
master degree	10(19.2)			
Work experience				.023
1-3 years	19(36.5)	1.5854	.49569	
more than 3 years	33(63.5)			
Work area				
medical ward	17(32.7)	1.9268	.76627	.500
surgical ward	23(44.2)			
out-patient	12(23)			
attitude				
Age				
20-25 years	20(37.7)	1.5732	.73907	.919
26-30 years	25(47.1)			
31-40 years	8(15)			
gender				
male	21(39.6)	1.5732	.49766	.152
female	32(60.3)			
qualification				
diploma	14(26.4)	1.9268	.64369	.735
BSC Nursing	32(60.3)			
master degree	7(13.2)			
Work experience				.
1-3 years	17(32)	1.5854	.49569	.023
more than 3 years	36(67.9)			
Work area				
medical ward	18(33.9)	1.9268	.76627	.500
surgical ward	25(47.1)			
out-patient	10(18.9)			

3. DISCUSSION

The majority of our respondents are female and their qualification is BSC Nursing 58.5% similarly to study done in Narayana Medical College Hospital, Nellore in which their major respondent's qualification is BSC Nursing 34%, in same study their work experience between 2-3 years 38% while our respondents experience more than 3 years and result is 58.5 % (6)
In this study, Newspapers/Magazines was reported as the most common source of information, this is at variance to study done in Thailand whereby mass media was cited to have a major role in disseminating information about dengue (7)

This study found that the knowledge of respondents regard dengue fever was relatively high (63.4%) previous study done in south Delhi found similar results rate (90.0% to 98.5%) (8) in relation to departmental place the majority of our respondents work in surgical department 41.5% opposite to study done in Narayana Medical College Hospital, Nellore where their majority respondents work in medical department 32% (6): regard practice the results of this study revealed good practice regard prevention of dengue fever (p.000)same results seen in study done among nurses students in India which showed good practice towards prevention of dengue fever after education program($p<0.001$. (9) Other study done in Malaysia showed good practice regard prevention of dengue fever p 0.030. (10)

The analysis finds indicates clearly that 63.4%of nurses had adequate mean knowledge. And 64.6% of them had good mean practice regard prevention of dengue fever regard association between demographic data and knowledge, there is significant relation between good knowledge and qualification, work experience and work department, this is similar to study in Malaysia, where the education is highly significant with knowledge while the age is highly significant with practice. (10)

4. CONCLUSION

In conclusion, as a result of this study indicated that respondents had good knowledge and practice regard dengue fever, also there is a significant association between knowledge and practice with qualification and work experience and work area.
Recommendation: Keeping updating knowledge regard dengue fever and annual session for all health care workers and keeping on eye regard prevention of dengue fever.

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