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Community Medicine

KNOWLEDGE OF INFLUENZA H1N1 A AMONG PRIMARY HEALTHCARE PHYSICIANS BY THEIR SERVICE FACTORS: A CROSS SECTIONAL STUDY IN RURAL NAGPUR

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ABSTRACT
Background: India is ranked third among the most affected countries for cases and deaths of Influenza A (H1N1) globally. Reducing influenza A/H1N1 related morbidity and mortality varies with whether Health care workers are knowledgeable, have positive attitudes, and acquire adequate information. Present study was carried out to assess knowledge regarding H1N1 influenza A in relation to the service factors amongst primary health centre physicians of rural Nagpur(Central India).
Methods: A cross-sectional study was conducted amongst primary health centre physicians (Medical officers) in rural Nagpur who have completed at least 6 months in service. The estimated sample size was 45. Data on socio-demographic details and various knowledge components of H1N1 influenza A was collected using predesigned, pre-tested questionnaire. Data was analysed using descriptive statistics to summarize baseline characteristics & Chi-square and Fisher exact test were used where appropriate.
Result: We found no significant relation of training status, length of service and outbreak work experience with the basic knowledge about: H1N1 influenza, its treatment and preventive measures among medical officers.
Conclusion: Service factors like: previous formal training, duration of service & work experience had no significant role as to awareness regarding H1N1 influenza A, its treatment & prevention amongst primary health centres physicians of rural Nagpur.

KEYWORDS : Influenza A (H1N1), Public health physicians, Service factors

Introduction:

Influenza A (H1N1) is the most recent of the pandemic diseases that has affected the world's population. In 2009, the World Health Organization reported 1,77,457 laboratory confirmed cases of influenza A/H1N1 and 1,462 deaths.(Rajoura, Roy, Agarwal, & Kannan, 2011)

India is ranked third among the most affected countries for cases and deaths of Influenza A (H1N1) globally with highest number of cases reported in 2009 (27,236), followed by 2010 (20,604) and 2012 (5,054 cases). While the highest number of deaths took place in 2010 (1,763), followed by 2009 (981) and 2012 (405).(WHO, Mar, 2014)

In addition to being a high risk group in the transmission of the disease by nature of their work, health care workers will be expected to play a leadership role in disseminating targeted implementation preventive strategies and education programs aimed at reducing influenza A/H1N1 related morbidity and mortality. Evidence is available that the achievement of these goals varies with whether Health care workers are knowledgeable, have positive attitudes, and acquire adequate information.(Bali, et al., 2013)

Objective: Present study was carried out to assess knowledge regarding H1N1 influenza A and its association with factors related to the service amongst primary health centre physicians of rural Nagpur (Central India)

Methodology: A cross-sectional study was conducted from January 2016 to February 2017 amongst primary health centre physicians (Medical officers) in rural Nagpur who have completed at least 6 months in service after approval from institutional ethics committee. The estimated sample size was 45. Written, informed consent of the study subjects was obtained. Data on socio-demographic details and various knowledge components of H1N1 influenza A was collected using predesigned, pre-tested questionnaire. Descriptive statistics (percentage, mean, standard deviation, range) were used to summarize baseline characteristics of the study subjects. Chi-square and Fisher exact test were used where appropriate. P value <0.05 was considered to be statistically significant.

Results: Majority (83.67%) of medical officers were in the age group of 25 - 55 years with mean age 40.40 (± 9.60) years & 63.37% were males. educational status of medical officers. Around 31 (63.27%) of medical officers were MBBS while 18 (36.73%) were BAMS. Mean length of service was 12.18 ± 8.99 years and range 1 – 36 years. About

19 (38.78%) medical officers had one or more formal training regarding H1N1 influenza A and 10 (20.41%) medical officers had experience of work during past outbreaks of H1N1 influenza.

Majority of medical officers had correct knowledge regarding causative organism (97.96%), symptoms (89.80%), mode of transmission (100.00%), incubation period (73.47%) and categorization of patients (61.22%) of H1N1 influenza.

While correct knowledge about proper mask to be used and its disposal was 51.02 % and 57.14 % respectively. Only 18 (36.73%) of medical officers had correct knowledge about different types of masks available. All the medical officers (100.00%) had correct knowledge about drug of choice for H1N1 influenza, 23 (46.94%) had correct knowledge of dose of the drug and further only17 (34.69%) knew adverse effects of the drug.

Only half of the medical officers 24 (48.98%) knew about availability of different vaccines for H1N1 influenza. Further only 07 (14.29%) had knowledge about doses of the vaccine and only 11 (22.45%) mentioned contraindications of the vaccine. Majority of medical officers 35 (71.43%) had knowledge about frequent hand washing and cough hygiene or etiquettes as a method of prevention, while only 13 (26.53%) told avoiding public gatherings and 19 (38.78%) mentioned public awareness as a method of prevention of H1N1 influenza.

Table 1 shows relation of basic knowledge about H1N1 influenza among medical officers with some factors related to their service. We found no significant relation of training status, length of service and outbreak work experience with the basic knowledge about: H1N1 influenza, its treatment and preventive measures among medical officers. Only significant association was between knowledge of different types of masks available with length of service. Younger medical officers with < 5 years of service were better aware about different types of masks available for preventing transmission of H1N1 influenza.

Discussion:

Majority of medical officers had fair to good knowledge of H1N1 influenza A, its treatment & preventive measures. These findings are similar to studies by Rajoura & others(Rajoura, et al., 2011), Coulibaly & others(Coulibaly, et al., 2013), Khazaeipour & others(Khazaeipour, Ranjbarnovin, & Hoseini, 2010), Mishra & others (Mishra, et al., 2016), Albano & others(Albano, Matuozzo, Marinelli, & Di Giuseppe, 2014), & Bali & others(Bali, et al., 2013).

Table 1. Basic knowledge of Medical officers (n=49) about H1N1 influenza A by their service factors

Correct Knowledge	Training status			Length of service			Outbreak Work experience		
	YES n=19	NO n=30	p value	<5 yrs n=13	≥5 yrs n=36	p value	YES n=10	NO n=39	p value
Causative organism	18 (94.74%)	30 (100%)	0.3878	13 (100 %)	35 (97.22%)	0.7374	09 (90.00%)	39 (100 %)	0.2041
Symptoms	16 (84.21%)	28 (93.33%)	0.2881	12 (92.31%)	32 (88.89%)	0.5993	08 (80.00%)	36 (92.31%)	0.2667
Mode of transmission	19 (100%)	30 (100%)	1.00	13 (100 %)	36 (100 %)	1.00	10 (100 %)	39 (100 %)	1.00
Incubation Period	14 (73.68%)	22 (73.33%)	0.6235	11 (84.62%)	25 (69.44%)	0.2492	07 (70.00%)	29 (74.36%)	0.5329
Period of communicability	05 (26.32%)	14 (46.67%)	0.1302	06 (46.15%)	13 (36.11%)	0.3765	03 (30.00%)	16 (41.03%)	0.3986
Categories of Patients	11 (57.89%)	19 (63.33%)	0.4662	09 (69.23%)	21 (58.33%)	0.3643	04 (40.00%)	26 (66.67%)	0.1197
Different Masks available	04 (21.05%)	14 (46.67%)	0.0641	10 (76.92%)	08 (22.22%)	0.0008	01 (10.00%)	17 (43.59%)	0.0495
Mask to be used in PHC	08 (42.11%)	17 (56.57%)	0.2421	05 (38.46%)	20 (55.56%)	0.2321	05 (50.00%)	20 (51.28%)	0.6099
Disposal of used mask	13 (68.42%)	15 (50.00%)	0.1654	07 (53.85%)	21 (58.33%)	0.5155	08 (80.00%)	20 (51.28%)	0.0986

In this study there was no significant relation of training status, length of service and outbreak work experience with the basic knowledge about H1N1 influenza among medical officers. These findings are in contrast with study by N Kumar & others(Kumar N, 2010).

This may be due to most medical officers being relatively old (mean age 40.40 ± 9.60 years) and had longer service duration (36 i.e. 73.47 % had > 5years of service), may not have updated knowledge of H1N1 influenza A. Also MBBS and BAMS medical officers have different levels of knowledge. Another reason can be infrequent and inadequate formal training of medical officers regarding H1N1 influenza A.

Conclusion:
The present study concluded that service factors like: previous formal training, duration of service & work experience had no significant role as to awareness regarding H1N1 influenza A, its treatment & prevention, amongst primary health centres physicians of rural Nagpur.

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