

PSYCHOLOGICAL IMPACT OF THE ANTIFLU AWARENESS CAMPAIGN 2009-2010

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Abstract:

The purpose of the study was to determine the anxiety levels in relatives of the affected with swine flu patients, the hospital staff and the students during the flu epidemic.

Method: The anxiety was measured by the State-Trait Anxiety Inventory (STAI) questionnaire in 38 medical students, 31 relatives and 34 nurses and physicians for the period November – December 2009. RESULTS: It was determined that a higher level of anxiety was related with the negative information from media.

Conclusion: High level of anxiety is understandable due to the invasive information. Anxiety after the campaign, suggests the need for support with positive media examples throughout the epidemic.

Key-words: flu, influenza, anxiety, media

Introduction

Every winter, millions of people catch influenza. Seasonal epidemics develop because small but frequent changes occur in the flu viruses. An immune response produced one year provides only partial protection against influenza the next year. Occasionally, new influenza viruses may emerge, that are very different, and to which human population has virtually no immunity. These viruses can start global epidemics (pandemics) that kill millions of people.

Experts have been warning for some time that an influenza pandemic was long overdue and in March 2009, the 1st cases of influenza caused by a new virus called pandemic (H1N1 swine flu) occurred in Mexico. The virus spread rapidly and on 11 Jun 2009, the World Health Organization declared that a global pandemic of pH1N1 influenza was underway.

The emergence of influenza A ("swine flu") in early 2009 led to widespread public concern [1]. Pandemic influenza A (H1N1) 2009 has posed a serious public health challenge world-wide. In absence of reliable information on severity of the disease, the nations are unable to decide on the appropriate response against this disease [2]. The pandemic provided a major challenge to health services around the world. Previous pandemics have led to stockpiling of goods, the victimization of particular population groups, and the cancellation of travel and the boycotting of particular foods (e.g. pork) [3].

In a situation like this the epidemiologists face a dilemma: if they warn of pandemic when it looks like there may be a high risk, a lot of people panic and do weird things. If nothing happens, people think they were crying wolf and pay less attention. If they don't get the word out fast enough when a pandemic starts, a virus could decimate the world population.

Authorities themselves are at loss as how to tackle the threat. To efficiently plan appropriate public health interventions during possible epidemics, governments must take into consideration the following factors about the general population: their knowledge of epidemics, their fears of and psychological responses to them, their level of compliance with government measures and their communities' trusted sources of information.[1].

At this juncture, it is natural that the responsible media explore and tell people how serious the situation is and how it can be tackled. No channel can miss such a serious issue.

An aggressive flu awareness campaign was launched in all Bulgarian media during the period from 1st November to 20th December 2009.

We looked for the impact of mass-media campaign against the flu threat on the emotional state of the population in relation to the real effect of this epidemic.

Subjects and methods:

We recorded the cases of flu in our area allocated to the University Hospital in Stara Zagora, Bulgaria

During this period anxiety was measured by the State-Trait Anxiety Inventory (STAI) of Spielberger. This tool has two parts exploring both anxiety as a state and anxiety as a trait. The questionnaire was submitted to the patients with flu. The analysis of data from the STAI questionnaire was done by a medical psychologist. The state of anxiety was examined according to the

Bulgarian adaptation of the questionnaire State-Trait Anxiety Inventory - Form Y (Spielberger, C.D.), developed by Iv. Paspalanov and D. Stetinski in 1989. The statistical analysis was done by t-test.

The participants in the study were 38 medical students (20 females and 18 males), 34 medical staff - nurses and physicians, (27 females and 7 males) and 31 relatives of patients with influenza, (18 females and 13 males) who have had a close contact with the hospitalized patients (Tabl. 1).

GROUPS DISTRIBUTION	Females Number/Medium age	Males Number/Medium age
MEDICAL STUDENTS	20 / 21.3y.	18 / 24.1y.
MEDICAL STAFF	27 / 26.8y.	7 / 37.2y.
RELATIVES	18 / 42.4y.	13 / 48.9y.

Tabl.1 Distribution of the groups according to gender and age.

The medical students were additionally interviewed using a questionnaire collecting information on their opinion about the presentation of the problem in media.

They were asked the following additional questions:

1. to give an example from media which had caused fear
2. to give an example for spreading misinformation
3. to indicate the reliable sources of information

Results:

Cases of flu

In our university hospital with 287 hospital beds, 20 patients complicated with pneu-

monia were admitted, 7 of them were on artificial ventilation, 3 died. Most of the patients were referred from smaller hospitals in the region because of the severity in clinical presentation and the eventual demand for ventilatory support.

Compared to the previous years the number of affected patients was not higher, but the young population was more vulnerable to the infection with the new pandemic (H1N1 swine flu) virus and developed severe infections requiring intensive care.

Anxiety

The data about A - State and A - Trait of the examined groups are presented in Tabl. 2 and Tabl. 3.

GROUPS DISTRIBUTION	Gender distribution		A – State Raw score	A – Trait Raw score
	Females	Mean		
MEDICAL STUDENTS	N = 20	Std. Deviation	48,65	50,25
			2,32	2,40
	Males	Mean	47,56	49,28
	N = 18	Std. Deviation	2,66	2,30
MEDICAL STAFF	Females	Mean	50,67	51,22
	N = 27	Std. Deviation	3,39	2,90
	Males	Mean	48,86	52,14
	N = 7	Std. Deviation	2,67	2,04
RELATIVES	Females	Mean	54,56	54,00
	N = 18	Std. Deviation	2,73	4,10
	Males	Mean	50,15	47,77
	N = 13	Std. Deviation	1,63	3,32

Tabl. 2 Data about A-State and A-Trait of the examined groups.

GROUP DISTRIBUTION	Gender distribution		A – State Raw score	A – Trait Raw score
MEDICAL STUDENTS	N = 38	Mean	48,13	49,79
		Std. Deviation	2,52	2,37
MEDICAL STAFF	N = 34	Mean	50,29	51,41
		Std. Deviation	3,30	2,74
RELATIVES	N = 31	Mean	52,63	51,39
		Std. Deviation	3,21	4,87

Tabl. 3. The overall data about A-State and A-Trait of the examined groups.

The situational anxiety of the medical staff was higher ($P<0.01$) compared to the results found in students. This is probably due to the fact that the staff had longer exposure and close contact with patients who contracted influenza and developed complications. Probably knowing the possible complications and the close observations of their condition in reality has reflected upon increasing the situational anxiety.

The scores of the situational anxiety of the relatives of the hospitalized patients was higher to those of students ($P<0.001$), and to medical staff ($P<0.01$). The fact that a complication of influenza led to hospitalization of their relative and their relative had been admitted in an Intensive Care Unit and the close observations of their condition have influenced the situational anxiety (Tabl.4 and Tabl. 5)

A - State	MEDICAL STUDENTS	MEDICAL STUFF	RELATIVES
MEDICAL STUDENTS			
MEDICAL STAFF	$P<0.01$ (t = 2,809)		
RELATIVES	$P<0.001$ (t = 6,643)	$P<0.01$ (t = 2,775)	

Tabl. 4. Paired Simples Test - A-State.

A - Trait	MEDICAL STUDENTS	MEDICAL STUFF	RELATIVES
MEDICAL STUDENTS			
MEDICAL STAFF	$P<0.05$ (t = 2,443)		
RELATIVES	$P<0.05$ (t = 2,158)	n.s.	

Tabl. 5. Paired Simples Test - A-Trait.

The results of the study revealed the presence of a higher personal anxiety among the medical staff, working in the ICU ($P<0.05$), compared to the medical students. Probably this is a result of the higher levels of stress to which the medical specialists in this unit are exposed daily.

At the moment of the study, the participants in the group of the relatives of hospitalized patients are defined as anxious outside the concrete situation, which is determined as a personal trait. Their personal anxiety is higher, compared to those, found in students ($P<0.05$) and is without a significant difference compared

to what was established in the group of the medical specialists. Higher levels of personal anxiety in these two groups are probably determined by different factors.

The higher personal anxiety revealed by the relatives of the hospitalized patients could be attributed to the contradictive, sometimes unclear information distributed by different media. Overexposure to the information about influenza at that time, together with the registered higher incidence of serious complications and deaths – topics to which the relatives are quite sensitive, could also be an additional reason for the higher levels of anxiety in this

group. Higher personal anxiety is associated with higher possibility for reaction with higher situational anxiety in situations associated with threat, which are unclear, undefined, dynamic and complicated [9,10].

The opinion of medical students

The medical students expressed a confidence in physicians and scientists, but had strong reservations about politicians, deputies and the media (Tabl. 6).

Repeated information about swine flu in all media	33
Focusing the attention on the dead patients	30
Information that each case of swine flu has severe presentation and risk of lethal outcome	26
The speculation that the epidemy is a result of laboratory modified virus	17
To emphasize on the danger not on the measures that should be taken	12
Repeating the number of the affected patients	12
Exaggeration of the threat	11
Presentation of the important information by journalists	10
To present Tamiflu as a panacea	8

Tabl. 6. Description of the negative examples from media indicated by the medical students

They indicated the following negative examples from media which could be anxiety producing: They did not like when every five minutes we were informed by different media about swine flu and the journalists focused the attention with repeated the information about the dead patients and interviewed their relatives. According to the medical students the important information should be presented by medical experts, not by the journalists.

They pointed as a negative example the information about the conspiracy theories of the laboratory origin of the swine flu virus. When there is no evidence to support these theories, information like that should not be discussed in the media. These speculations could also reinforce anxiety. When presenting Tamiflu as a panacea significant numbers of people respond to both the hope and the fear, obtain their own personal Tamiflu stockpiles, which is unnecessary, futile, counterproductive, and panicky.

Discussions and conclusions

While anxiety in small doses is considered to be a normal reaction to stress and can actually help a person cope with a difficult situation by prompting one to action and productivity, anxiety in excess can actually harm more than help. When anxiety becomes excessive, people do nothing to make the situation better, they feel as if the situation gets progressively worse and as a result, they spur on a cycle of anxiety. When this state has become

common now more than ever, anxiety management has to been devised to ensure that the negative effects of anxiety are minimized.

Anxieties associated with infection and its effects are comprised of three factors: health threats, concern about economics, and anxiety about unknown risks [4]. Government officials should be prepared for possible worst-case scenarios in order to protect the public. The important information is the emphasis on "vigilance" and "preparation." The best antidote to anxiety is action. The media have to put emphasis on the actions that should be taken, rather than mentioning figures and information about who has died and showing interviews with the relatives. The positive information from media needs to maintain a hopeful outlook. Reducing the time spent watching or listening to sensationalized media coverage would limit worry and agitation.

Credible sources of information should be established to present the real situation. A clear system needs to be established regarding how to prepare and structure the medical information for the journalists so that the society will receive the necessary information in the best way. The evolution of the situation should be presented at regular intervals in order to help distinguishing facts from rumors. This information should be open to all and needs to help people how to deal with the problems concerning the health threats. The threat of outbreak can provoke the implementation of public health

control measures such as rapid quarantine, wearing personal protective equipment, hand hygiene, activities to ensure timely availability of antiviral drugs, vaccines [5,6]. Planning in advance of these measures and presenting them to people can lessen the anxiety.

There are 5 key lessons learnt: (1) Be prepared, but retain flexibility in implementing control measures; (2) Surveillance, good scientific information and operational research can increase a system's ability to manage risk during a public health crisis; (3) Integrated systems-level responses are essential for a coherent public health response; (4) Effective handling of manpower surges requires creative strategies. Communication must be strategic, timely, concise and clear [7,8].

For centuries, people have survived difficult life circumstances and gone on to live fulfilling and productive lives. There is no reason why this situation cannot be similar.

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