Assessment of hospital preparedness for highly contagious viral infections

By

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**Table of content**

Summary 3  
Acknowledgement 4  
Conflict of interest 4  
Ethics Committee Clearance 4  
Abbreviations list 4  
Aim and Objective 4  
Introduction 5  
Literature Review 6  
Research Methodology and Methods 11  
Results 12  
Discussion 15  
Conclusions 17  
Literature 18  
Annex 23
Summary

Aim: To assess opinion of medical personnel on preparedness providing emergency care in Lithuanian hospitals to deal with highly contagious viral infections

Objectives:
1. Evaluate existing protocols availability in case of infection.
2. To evaluate readiness of healthcare personnel to admit and provide care.
3. To assess availability of PPE and preparedness to use it.

Methods: Cross sectional study conducted on physicians in Lithuania, who has done the ACLS training at the Crisis Research Center of LSMU, where we selected the participants belonging to inpatient departments, and sent them an electronic survey to answer. The survey was sent out on November 24th and was remained open until December 8th, with a reminder been sent out after 7 days for non-participants. The respondents were asked to indicate their facility type and the survey included questions regarding patient care, screening protocols, PPE and laboratory testing regarding highly contagious viral infections.

Results: The questionnaire was sent to 350 HCW, to which 50 answered. Of these, an equal amount of respondents was from city and university hospitals (22/50 each), while the republic regional hospitals only had 12 % of the respondents. The majority of respondents was doctors. Only 6% had in the last 6 months been in contacts with a highly contagious viral disease. In screening, the primary contact triggers would have to be both travelling and fever in 85% of the cases, and 4.3 % would need only travelling history. There had been 0 full scale drills with simulated patients.

Conclusions:
1. There is a low availability of protocols in case of highly contagious infections in Lithuanian hospitals.
2. Evaluating the personnel readiness to admit and provide care for patients with suspected highly contagious infection, the numbers showed that there neither was a specialized team nor specific policies of how to deal with patients, but the majority knew that there was a no-contact system with diseased patients.
3. The PPE availability in opinion of respondents was very limited: the unacknowledgement of PPE was by 49% in each subtype of PPE and is a point with potential for improvement.
Acknowledgement
I would like to present my uttermost gratitude to my supervisor, the professor of Disaster Medicine, Dinas Vaitkaitis, without whom I would not have been able to do such a broad and detailed research, and who have pedagogically guided me through this task. And of course to my parents Janan Adabaniyan and Louay Rafiq who have supported me each day. Molly & Sigge too.

Conflict of interest
The author reports no conflict of interest.

Ethics Committee Clearance
Local ethics comittee permission was received to perform this research. See Annex 1

Abbreviations list
HCW – Healthcare worker
HID – Highly infectious disease
SARS – Severe acute respiratory syndrome
PPE – Personal protective equipment
CDC – Center for disease control
HLIU - Highly Infectious Disease Isolation Unit

Aim and Objective
Aim: To assess opinion of medical personell on preparedness providing emergency care in Lithuanian hospitals to deal with highly contagious viral infections

Objectives:
1. Evaluate existing protocols availability in case of infection.
2. To evaluate preparedness of healthcare personell to admit and provide care.
3. To assess availability of PPE and preparedness to use it.
Introduction

There is a formidable problem in controlling the risk of health care workers (HCW) acquiring infections in any facility dealing with healthcare, as infectious diseases don’t present themselves as distinctly in every patient, and the same infection can have a variety of symptoms in different cases. There has been an increased development over the past years in diminishing the spread of the infections, and to increase the safety in dealing with infectious patients, and in isolating them, but still the hospitals and other facilities face a huge problem in being one of the main spreading points for highly infectious diseases (HID), such as Ebola, Severe acute respiratory syndrome (SARS) and influenzas, both the annual and the more severe ones such as Swine and Bird flu. (32-36)

The Center for Disease Control (CDC) classifies these agents as class 3 and 4 according to the 5th edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL) manual (1)

These HIDs usually result in life-threatening conditions, and when they are acquirable person-to-person (PtP), they are an even greater threat to the public. (2)

The transmission of these diseases are mainly four, and they don’t differ in if the patient affects the physician or the other way around.

- The first and most important in thinking of is the way of contact, and can be divided into physical contact with the patient or infected area, indirect contact, as in coming to contact with something that have been communicating with the infections, or droplets, as when patients are coughing or sneezing.
- The second way of transmission is the vehicular transmission, which involves food, blood, water or supplies such as intravenous catheters.
- Thirdly, you have agents travelling via airborne transmission, as they disseminate into air, and can travel longer distances than droplets.
- Lastly, there is the vector, in where a animal or insect is involved, as in the avian flu. But this route of transmission is not as dependent on the clinical setting but is more marked by geographical areas.

Other factors are based on the setting on where the patient and physician meet, and the "contagiousness", as in how likely the transmission is to occur. Sometimes the organism isn’t serving any threat in low doses, but when patients present with higher quantities, symptoms may occur. Also, as in the case of Ebola, different species of the same virus may cause different reactions, undependant of the receivers capability to react to the agent, and this is determined as the virulence of the species.

Also, one must not forget that each person has a different state of immunity, which can be dependent on, but not limited to, the age, gender, vaccination history, co-morbidities, previous diseases, surgeries and the innate immuneresponses. (1)

The reason for this research being carried out, is that there isn’t any similar data to be found on whether there are preparations in Lithuania for a possible highly contagious viral threat. We wish to investigate further to find a reference point for possible improvements.

The goal is to evaluate whether there is a sufficient preparedness and resources for this eventuality, and to furthermore quantify the needs for the healthcare in Lithuania.
Literature Review

**Highly Infectious Diseases**

**Ebola**, which was classified as a epidemic by the WHO 2014-2015 (42), is a disease which can rapidly present as a life threat to the organism, humans and non primates, and is caused by the 4 of the 5 species of the genus Ebolavirus. The species are: Ebola virus (Zaire ebolavirus); Sudan virus (Sudan ebolavirus); Taï Forest virus (Taï Forest ebolavirus, formerly Côte d'Ivoire ebolavirus); and Bundibugyo virus (Bundibugyo ebolavirus). The fifth, Reston virus (*Reston ebolavirus*), hasn’t up to this date caused a disease in humans, but in non primates.

It is believed that the virus is animal-borne and that bats are the most likely reservoir. The virus was first discovered in 1976 in what is known today as the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa, until 2014 when it reached its peak in 80 years. (28)

The disease caused by the virus is presented as a sudden onset of fever, myalgia and arthralgia, back pain and headache.

2-3 days after the sudden symptoms, gastrointestinal symptoms occur, including abdominal pain, nausea, vomiting, and diarrhoea. Haemorrhage doesn’t always occur, even though the disease has earlier been referred to as Ebola haemorrhagic fever, and is present in only 20% of the patients.

Cause of death is usually disseminated intravascular coagulation, septic shock, and multiorgan system failure. Depending on the species involved, mortality differs 40%-90%. (29)

The way of transmission is by direct contact with the broken skin or membranes of a person who has been infected by or deceased by the virus, or fluids such as blood and other body fluids of a patient (semen, vomit, urine, saliva) (30)

**H1N1 – Swine flu**, as its name came to be when it was discovered that many of the genes in the species was similar to the genes of influenza that affects swine.

The pandemic spread in the same way that seasonal flu spreads, by PtP, with droplets transmitted via sneezing or coughing, or just speaking to a infected person. It also occurred via direct contact, when a infected person wiped their nose or mouth and later had contact with another person.

The disease presented with fever, cough, sore throat and congested nose, and could later develop to vomiting and diarrhoea. Sometimes the fever was absent and respiratory symptoms were present.

There are some people which are high risk, just as in the seasonal flu, and may develop complications, these involve geriatric patients, children under 5 years old, pregnant women and people with immunosuppressant diseases. They are also the main group which have been hospitalized and in some cases died. (31)
Severe Acute Respiratory Syndrome
Caused by the coronavirus SARS-CoV, a species which was distinctly different from earlier known coronaviruses, is a RNA virus, residing in the reservoir Chinese horseshoe bat. It first appeared in China in November 2002, and in March 2003 it was recognized as a pandemic, after spreading to 33 countries on 5 continents. After which it was contained, and there has been no reports of the disease after July 2004. During its pandemic, it was spread via droplets just as the earlier mentioned virus, it had a incubation period of 4-6 days and when the symptoms started patients would usually be hospitalized within 2-8 days depending on their individual immune system. It appeared with a sudden onset of high fever over 38.8°C and had symptoms such as headache and myalgias, and with presence of mild respiratory symptoms at the start of the disease. It later developed to a dry cough with lymphopenia and prolonged coagulation profiles. It was mostly lethal to patients with high risk.

Evaluate existing protocols availability in case of infection
As the development of detection and exclusion of cases of HID progresses, there has been a wide advancement in the strategy to early deal with healthcare-associated transmission of HID’s. To have a protocol that identifies and recognizes a infectious disease is the initial step in dealing with any communicable disease, regardless of it being HID or mildly infectious. The responsibility to detect these diseases is mainly dependent on the training and briefing of the HCW, and whether the hospital realizes the importance of having to constantly update their guidelines. As the HCW usually differ in clinical appearance, the physician has to be clever, aware of changes in the patients, and monitor the patient in a timely fashion. The importance of developing a protocol and updating it has recently been highlighted with the emergence and re-emergence of transmissible diseases. (6-10) In earlier research, there has been shown that hospitals usually has a written protocol for managing and testing patients with risk of HID, as a fact, in a cross-sectional research done for Ebola in the United States, it showed that 95% had protocol which included instructions for screening for ebola, and 79% had arrangements to dispose of used items during examination. In the same article, it showed that screening was possible at intake for 94%, but to trigger screening, 34% only needed the travel history to the endemic area to be present, while 57% showed that travel history combined with the symptoms of fever and headache was enough to start the screening (45)

As to respiratory diseases, the CDC has set out guidelines in how to approach and manage patients that has febrile respiratory illnesses, termed ‘respiratory hygiene/cough etiquette’. The waiting areas of healthcare facilities should have signs concerning etiquette, for patients and physicians likewise. When presenting to the healthcare facility, patients should at admission explain the symptoms and separate themselves from other waiting patients. Preferably they should be supplied with disinfectants for the hands and a surgical mask to prevent the droplets from spreading further. The examinations of these patients should be done in a separate single room, and done by a physician wearing a protective mask, gown and gloves. The radiologically examining staff should be protected in the same manner.
When confirmed that it is a infectious respiratory illness, the patient should be transfered by an employee wearing the protective garments, and they should be kept in a isolated single room, until diagnosis is set. (4)

An outbreak is said to have taken place when the number of observed cases is larger than the number of cases expected in a period, and being linked to epidemiological or microbiological features. (11)

Hospital administrators need to keep in mind the necessity to constantly develop surveillance and protocols to early detect cases and clusters of unexplained infections, that might pose a public threat.

When the clinical picture is unusual, the causative agent is rare in the area or setting, the behaviour of the disease is not as expected or agent unknown, the illness is termed unusual and as these occur more and more frequent, it is crucial that there be a system which alerts the responsible authorities of both the public and the facility, to make sure the right measures are being taken, on both a national and local level. (12)

As learned by the SARS pandemic, the delayed notification to the public, and the failing communication between hospitals and within hospitals, caused consequences which lead to the understanding the importance of power of coordinated integration and shared information. (13-14)

The case definition developed by health authorities at the beginning of an alert represents the first tool that a hospital should adopt in order to implement timely and appropriate diagnostic, clinical and infection control measures. (15)

**Preparedness of healthcare personell to admit and provide care**

The capacity of the health-care facility to respond efficiently to epidemic or pandemic threats at any given moment is highly dependent on existing standards of practice. The implementation of additional measures during an outbreak is challenging, and the lack of good baseline standards may hamper efforts to respond to the epidemic or pandemic.

The emergency settings are usually the first-contact facility to react to a pandemic event, as they must be prepared for the increased influx of patients, and to be updated with their protocol and fast prepare a isolation unit for HID patients, a Highly Infectious Disease Isolation Unit (HLIU). (5)

A HLIU is a unit created to provide high quality safe and secure care, with the best prevention and containment of infected patients, where there are controlled procedures being performed on a single or small number of patients who have, or who may have, a highly infectious disease (2)

Also, there is a great importance in the availability of microbiological laboratories on the facility, to early detect the agent and diagnose the patient with precision.

The HCW needs to understand on how to properly collect the specimen, store and transport it, and when it reaches the lab there has to be strict protocols on how to process and care for the specimen, to rapidly identify the agent.

There can be combinations in diagnostic technologies as to furthermore improve the diagnosis of agents. (16-18)

Research have shown that, in general, the larger the hospital, the higher the level of reported preparedness.

There have been results that show that the need of a HLIU during a endemic or pandemic is where the patients should be sent to, but when needed, there is a ability to screen, diagnose and manage the patients locally. (17)
In the research as to if HCW were prepared to care for the Ebola patients themselves, they showed a unwillingness to treat the patient, mainly due to fear of being exposed to the virus themselves (45)

**Personal Protective Equipment (PPE)**

In any healthcare facility, there are always the standard ways to maintain a minimal risk of getting diseases transmitted to HCW, which include hand hygiene, respiratory hygiene, prevention of injuries from sharp instruments, proper waste management and cleaning & disinfecting surface and equipment. (39)

In organizing the preventive measures, the healthcare facility authorities must first make sure all employees and patients avoid unnecessary contact, secondly that the contact is of minimal contamination risk, and thirdly to write strict protocols on how and when to use PPE. (19)

PPE stands for personal protective equipment, and is, as the names states, to protect the individual. It forms a barrier between the HCW and the hazard, may it be biological, chemical, radiological or physical, just as a shield does.

It was highlighted during SARS that the need for PPE is greater than earlier expected, where 20% of HCW were infected. (37) And that the possibility of getting infected remained after leaving a patient, and during the doffing, which is the process of taking of the PPE, the risk of transmission was still high. (21)

And during the Ebola outbreak studies showed that even after visiting a patient, and the clothes had been taken of correctly, the virus could stay on for weeks, and pose a potential hazard for HCW when donning the PPE again, donning being the process where a HCW takes on the PPE. (39)

Standars have been developed that assure that PPE is of sufficient quality to protect against biohazards (19). And the PPE have all undergone tests against all kinds of hazards, to ensure their safety and proper use. (21)

But standards are different in the US and Europe, and the PPE should have labels which strictly indicate the standards against which it has been tested and proved useful to. The PPE have all undergone tests against all kinds of hazards, to ensure their safety and proper use. (21)

In Europe, there is standard EN 14126 for clothing, which classifies the clothings into six different classes, type 1-6, which are based on their airtightness and degree of protection, class one being the least protective but easiest to work in, and class six being most protective but also provides the least breathing material. (19)

Historically, PPE use and guidance have been poor, mainly due to the downstatement by HCW themselves of the importance of its use. Studies showed that when there has been a need to use respiratory protection, the compliance have been as low as 50%. (25)

And the same goes for hand hygiene, which has in some studies been shown to be as low as 30%, end this is especially in doctors, as the nurses are the HCW which usually have more contact with patients and understand the necessity a bit more. (26)

In tropical countries these numbers drop even more, as PPE is not known for its breathable material, which results in HCW not only refusing to use it at times, but when they do, there is a high number of heatstrokes and exhaustion reported. And at some times, due to the
excessive sweating, HCW have een known to instinctively wipe their face with contaminated gloves, which results in an even increased risk. A problem which is trying to be prevented by HCW being trained in the correct use, donning & doffing, and to have a system where you don’t have to be in the PPE for a longer time. (27)

So with these infections that have a higher virality and vitality, or other issues with the actual material of the PPE, there is an increase risk for being exposed indirectly, be it with donning or doffing, or just because the PPE is harder to remove. These issues has resulted in systematic protocols being developed to safely and with as little risk as possible, put on and remove the PPE. Buddy systems are also implemented, as to before you enter a contaminated room, you have a person with you that makes sure that your PPE is intact and put on correctly. And moreso, there must at all situations when contamination is a possibility, be a clear mark on where there is so called "high risk” and "low risk” areas, to further decrease the risk of PPE and ensure that it is used in the right situations. All of these protocols have to be optimized and taught out by qualified personell in the facility, to ascertain the maximum possible safety for HCW. (41,21,40)

For the readers acknowledgement, there has been very little researches and studies done on the first 2 aims in the topic overall, which are to Evaluate existing protocols availability in case of infection and to evaluate preparedness of healthcare personell to admit and provide care. There had, however, been an intense amount of studies done on the matter of PPE. This shows first that it's a current issue in the healthcare, and that there is a relevance for doing a local research in Lithuania which should be evaluated and highlighted.
Research Methodology and Methods

Research approach
Cross sectional study conducted on physicians in Lithuania, who has done the ACLS training at the Crisis Research Center between the years 2009 and 2012, where we selected the participants belonging to inpatient departments, and sent them an electronic survey to answer. The population chosen was those who provide emergency care. This population offered a broad sample that represented all the hospitals in Lithuania, as they were participants of the training project in which medical personnel providing urgent care from all over the country took part.

The survey was sent out on November 24th and was remained open until December 8th, with a reminder been sent out after 7 days for non participant. The respondents were asked to indicate their facility type and the survey included questions regarding patient care, screening protocols, PPE and laboratory testing regarding highly contagious viral infections.

Participant selection
The population we selected was all participants of the ACLS training at the Crisis Research Center, those participants that belonged to an inpatient department.

Questionnaire
The questionnaire was prepared on basis of the Infectious disease society of America’s questionnaire, used for evaluation of preparedness for Infectious Disease Physician Assessment of Hospital Preparedness for Ebola Virus Disease, (Polgreen PM, Santibanez S, Koonin LM, Rupp ME, Beekmann SE, del Rio C. Infectious Disease Physician Assessment of Hospital Preparedness for Ebola Virus Disease. Open Forum Infectious Diseases. 2015;2(3):ofv087. doi:10.1093/ofid/ofv087.)
We used the same tool with slight adjustments to generalize the questionnaire not only to Ebola but to highly contagious viral diseases, still including the main issues such as patient care, protocols, personell, PPE and laboratory testing. See annex 2 for our questionnaire.

Data collection and analyzing method
The survey was inserted to the website www.manoapklausa.lt, where the responce to the survey was collected and finalized into Microsoft excel.

The data was analyzed in excel and described in charts, where it was presented as absolute numbers and percentages. Nonparametrical statistical test were used for evaluation of possible relationship between variables. For hypothesis testing Chi square test was used, statistically significant difference p<0.05. IBM SPSS Statistics software v.23 was used for data analysis.
Results

350 persons were invited to fill the questionnaire. Respondance was 50 persons. As to the response rate, there was an equal amount of respondents from city and university hospitals (22/50 each), while the republic regional hospitals only had 12% of the respondents. The gender diversity in respondents showed a severe majority in females responding, 42/50. All the numbers of respondents are presented in figure 1.

Fig. 1. Description of study respondents

Out of the total of 50 respondents, only 6% had in the last 6 months been in contacts with a highly contagious viral disease. Dealing with HID is presented in figure 2. 22% of respondents from bigger hospitals (Republican and University hospitals) declared availability of specific tests for HID in their hospitals, 50% of smaller hospitals respondents made a statement these tests are not available. Due to small respondence rate this was the only statistical significant difference between the hospitals (chi square test 8.56 df2, p<0.05).

Fig. 2. Description of dealing with HID
81.6% of the total respondents would send the patient to a specialized infection clinic, while 18.4% would treat them at site.

And in this screening, the primary contact triggers would have to be both traveling and fever in 85% of the cases, and 4.3% would need only traveling history, as opposed to the same study in the United States which would need only the traveling history in 37% of the cases. Presented in figure 4.

Fig. 3. OF 13/50 who had a protocol for screening, they further had to answer details about their protocols.

Fig. 4. Description of screening
Fig. 5. Description of Health Care Worker Personnel attitude towards HID

Fig. 6. Description of implemented simulations (could choose several options)
Discussion

As a lot of our numbers are being correlated to a study which used a similar questionnaire in the US, it is important to note out that this questionnaire was sent out when the Ebola crisis had its peak, and there is to argue that the numbers then was elevated due to the raised awareness of the threat being present. There hasn’t been a single report of Ebola in Lithuania, the closest case being in Poland. (44)

Even though, 26.5% knowing there is a protocol, is a low number, as, if there was a viral disease to be spread, there would potentially be a high mortality rate before the right education was provided to all HCW.

As for the screening, 26.5% had acknowledged a protocol for dealing with patients sick with a viral disease, while 53.1% didn’t know if there was one or not. And this could be correlated to the recent study done on Ebola screening in the United States, where 89% had a knowledge of there being a protocol.

As to Personal Protective Equipment, correlating with the study where they had used the same questionnaire for PPE, in the United States, the results are presented below in comparing graphs.

There was a wide unanimous unawareness in our study, as to if there was any PPE, reading 49% in all 3 categories, and the ones which were informed showed that there was mainly disposable aprons to disposal. One comment read, there are only polyetenaprons, medical hats and plastmasks with eye cover for face protection.

**Fig. 7. Knowledge of PPE in our study**

**Fig. 8. Knowledge of PPE in the US* study**

Astonishingly, 0 of the participants had ever done a safety simulation, or training whatsoever, in the hypothetical case of a highly infectious viral disease breaking out. And when there are correspondents from university hospitals, this gives great room for improvement in the post graduating HCW continued learning, as there always must be updates within the role of a HCW, as new threats are emerging every year.

There was also a major incertainty in how to deal with patients which are diagnosed with an infectious disease, as 45 % didn’t know if there was a certain regime for contagious patients or if they should be treated by limited personell, and 50% didn’t know if there was a sustainable way of communicating without having to enter their facilities.

Once again, this is a number to work with, as a safety simulation clearly marks the correct ways to deal with a contagious patient, and lets the HCW train and do mistakes before having the be in the situation with a live contagious disease.

There were correlations done, to see if there is a difference between the different types of hospitals, where it was shown that only the university hospitals had the specific tools to test for viral diseases, and the city and regional hospitals didn’t report any tools.

Out of those in the university hospitals which did a screening of viral diseases, none of them did so by a specific protocol.

Interestingly, looking at the perspective of PPE, the regional hospital had the highest percentage of aprons (50%), but with only 6 respondents, this might not be a reliable answer.

All in all, the numbers show a major unawareness of screening protocols, regimes to follow, and PPE knowledge.

In situations like these, you can always find the silver lining, which is that HCW in Lithuania have now a possibility to increase their knowledge and training of potential risks which might develope in the future.

This study has major limitation due to low number of respondents, however it shows significant gap in preparedness for possible threats in health care institutions.

This research was done to highlight and hopefully motivate the future training of HCW so that in the case of a highly contagious viral disease, the implications and consequences would be not as severe as seen in other parts of the world, as the resources needed for training and informing HCW is very little.

**Limitations**

This research used a tool that had been used in a study of much greater quantity earlier. Even though tested, it was still only one tool, which makes the results a bit monotonic. This study could have benefited from using further tools which would assess the preparedness, as interviews and more in depth analysis of the hospitals, to find out even more.

The respondance rate was also low, 50/350.

The upside of the study is that the anonymity in the questionnaire made the participants honest, and gave them us the benefit of more straight answers, where they were open with the flaws of their hospital, and in which areas they can improve.
Conclusions

Looking at the first aim we can conclude that there is a low availability of protocols in case of infection.
Out of the 50 who answered, only 13 had the knowledge of a protocol being available, and out of these, there was a majority who didn’t have the essential parts of waste disposal, or screening.
In the screening, 40/50 answered that they would have to have both triggers to raise suspicion for a viral disease, and this being out of the 27/50 who actually knew when to start the screening.

The second aim, whether the personell was ready to admit and provide care, the numbers showed that there neither was a specialized team or specific policies o how to deal with patients, but the majority knew that there was a no-contact system with diseased patients.

The PPE was compared to a US study where they had used the same questionnaire regarding Ebola, and where the numbers in Lithuania were minor by a wide marginal. The unacknowledgement of PPE was by 49% in each subtype of PPE and is a point with potential for improvement.

Practical recommendations
As this research is the first of its kind to be conducted in Lithuania, it can be used as a template for future planning of researches of bigger magnitude. It can also be used as a reference for a starting point to initiate training of HCW in the knowledge of how to think and work with HID’s.
Logically would be that the department of Infections would hold this type of education or workshops, where the HCW could try to work with simulations, how to use PPE, and what triggers to think about when consulting with a patient.
Literature


32. Center for Disease Control. 2009 H1N1 Flu ("Swine Flu") and You.


Annex

Annex 1 - Bioethics clearance

LIETUVOS SVEIKATOS MOKSLŲ UNIVERSITETAS
BIOETIKOS CENTRAS

Medicinos akademijos (MA) vienpusių studijų programa – MEDICINA
VI k. stud. Hani Rafiq

2017-12-06 Nr. BEC - MIF - 1AS

DĖL PRITARIMO TYRIMUI

LSMU Bioetikos centras, įvertinys (MA) vienpusių studijų programos – MEDICINA

Bioetikos centro vadovas

[Signature]

dr. Eimantas Patkulis
Annex 2 - Our questionnaire

1. Jūs dirbate:
   a) Stacionarinėje ASPĮ
   b) Nestacionarinėje ASPĮ

2. Jūsų pareigos darbovietėje:
   a) Gydytoja/as
   b) Slaugytoja/as
   c) Kita

3. Lovų skaičius mano pagrindinėje ligoninėje yra:
   a) <200
   b) 200-350
   c) 351-450
   d) 450-600
   e) >600

4. Kokio tipo ligoninėjė Jūs dirbate?
   a) Miesto/Rajono
   b) Respublikinėje
   c) Universitetinėje

5. Jeigu kiltų įtarimas, kad pacientas, užsikrėtęs ypač pavojinga virusine infekcija yra atvykęs į įstaigą, kurioje Jūs šiuo metu dirbate, kokiai logistikos taktikai teiktumėte pirmenybę?
   a) Tęsite apžiūrą Jūsų įstaigoje ir stacionarizuosite
   b) Perkelsite į infekcinę ligoninę

7. Ar per pastaruosius 6 mėnesius į Jūsų įstaigą kreipėsi pacientai dėl įtariamos pavojingos virusinės ligos?
   a) Taip
   b) Ne
c) Nesu užtikrintas

9. Ar yra Jūsų ligoninėje specifinių testų įtariamai pavojingai infekcijai nustatyti?
   a) Taip
   b) Ne
   c) Nežinau

11. Ar jūsų įstaigoje šiuo metu yra rašytinis protokolas, kuriuo galėtų naudotis sveikatos priežiūros darbuotojai, pacientų gydymui ir priežiūrai ypač pavojingų virusinių ligų atveju?
   a) Taip
   b) Ne
   c) Nežinau

12. Jeigu į 11 klausimą atsakėte taip, ar protokole yra visų pacientų patikrinimo instrukcija?
   a) Taip
   b) Ne

13. Jeigu į 11 klausimą atsakėte taip, ar protokole yra priemonės, kuriomis galima pašalinti galimai užterštus daiktus?
   a) Taip
   b) Ne

14. Jeigu į 11 klausimą atsakėte taip, ar protokole yra Išankstinis atliekų apdorojimas prieš išleidžiant į kanalizacijos sistemą?
   a) Taip
   b) Ne

15. Kada atliekamas visų pacientų patikrinimas jūsų įstaigoje, įtariant pavojinga infekcija?
   a) Priėmimo metu
   b) Tyrimų / pacientų priežiūros paslaugų teikimo metu
   c) Nežinau

16. Kada nuspręsite, kad pacientui reikalingas tolimesnis ištyrimas dėl įtariamos ypač pavojingos virusinės infekcijos (Pirmasis klausimas sukėlia tolesnį dėmesį)
a) Kelionės istorija
b) Ženklai / simptomai (pvz., karščiau)
c) Turi būti abu užtikrinti veiksmiai, kad būtų galima įtarti užsikrėtimą

17. Ar yra nustatyta išskirtinė komanda, kurie rūpintu pavojuingais pacientais?
   a) Taip
   b) Ne
   c) Nesu užtikrintas

18. Ar yra nuostata, pagal kurią apribojamas personalo, galinčio tiesiogiai bendrauti su pavojoingais pacientais, skaičius?
   a) Taip
   b) Ne
   c) Nežinau

19. Ar yra nuostata dėl dalyvavimo tiesioginėje įtariamo ar patvirtinto pavojoingo paciento priežiūroje praktikantams (rezidentams ar studentams)?
   a) Taip
   b) Ne
   c) Nesu užtikrintas
   d) Praktikantai neprileidžiami

20. Ar manote, kad gali būti rūpesčių norint rasti pakankamai savanorių, kurie sutiktų teikti pagalbą ypač pavojoinga virusine infekcija užsikrėtusiems pacientams?
   a) Taip
   b) Ne
   c) Nežinau

21. Ar yra konsultacinės priežiūros teikimo mechanizmas be tiesioginio kontaktu su pacientu? (T. y. neužeinant į paciento patalpą)
   a) Taip
   b) Ne
c) Nesu užtikrintas

22. Koks yra darbuotojų, kurie rūpinosi žinomai pavojingais pacientais, sveikatos priežiūros planas? [Pasirinkite visus atsakymus, kurie yra taikomi]
   a) Sveikatos priežiūros darbuotojai turi savarankiškai stebėti savo sveikatą ir pranešti apie bet kokius simptomus
   b) Kasdienė darbuotojo sveikatos kontrolė pagal įstaigos tvarką
   c) Kita

23. Ar Jūsų įstaiga turi pakankamą kiekį šių individualios apsaugos priemonių: Gaubtai, kurie dengia galvą ir kaklą
   a) Taip
   b) Ne
   c) Nesu užtikrintas

24. Ar Jūsų įstaiga turi pakankamą kiekį šių individualios apsaugos priemonių: Viso kūno kostiumas (apsauginiai kostiumai)
   a) Taip
   b) Ne
   c) Nesu užtikrintas

25. Ar Jūsų įstaiga turi pakankamą kiekį šių individualios apsaugos priemonių: Vienkartinės skysčiui atsparios arba nepralaidžios prijuostės
   a) Taip
   b) Ne
   c) Nesu užtikrintas

27. Ar Jūsų įstaiga įgyvendino šiuos veiksmus: [pasirinkite visus, kurie yra tinkami]
   a) Esate asmeniškai apmokyti ir praktikavotės apsirengti/nusirengti individualias apsaugos priemones
   b) Treniruotės metu Jūsų kolega padėjo Jums nusirengti individualias apsaugos priemones
   c) Nusirengėte individualias apsaugos priemones kvalifikuoto stebėtojo ar vadovo priežiūroje
d) Dalyvavote pilno mąsto pratybose su imituotais pacientais

28. Kaip Jūsų įstaiga pasirengusi atlikti laboratorinius tyrimus įtariant ar patvirtinus ypač pavojingomis virusinėmis ligonis užsikrėtusį pacientą? [Pasirinkite visus, kurie tinkami]
   a) Yra laboratorinių tyrimų paėmimo prie paciento lovos tvarka
   b) Tyrimų atlikimas specialiai gaubte ar specialioje laboratorijoje
   c) Tyrimai atliekami pagrindinėje laboratorijoje imantis papildomų apsaugos priemonių
   d) Laboratoriniai tyrimai siunčiami į kitas įstaigas, nustatyta tranzito / pristatymo tvarka
   e) Nežinau

29. Ar jūsų objekte yra paskirtas asmuo (asmenys), atsakingas (-i) už ryšius su visuomenės sveikatos pareigūnais?
   a) Taip
   b) Ne
   c) Nežinau

30. Jeigu į 29 klausimą atsakėte taip, ar žinote, kas yra šis asmuo (šie asmenys)?
   a) Taip
   b) Ne