Recommendations

- Health care workers (HCWs) who possess individual characteristics which place them at risk of negative perceptions (i.e., female, married with children, being a nurse, with higher IES scores, whose families and lifestyles are affected, personally knowing someone who was infected, perceiving greater risk of death and stigmatization) should be identified and employers/policy makers should put into place relevant support to these HCWs in order to reduce their risk perceptions and increase their willingness to provide care. **Grade B**

- HCWs should be provided with tools (such as education and training) to increase their perceived level of control in coping with the uncertainties and additional responsibilities that are required of them during potentially stressful pandemic outbreaks. **Grade B**

- Institutions should ensure that protective resources such as personal protective equipment are implemented and provided to safeguard HCWs during pandemic outbreaks. **Grade B**

- Institutions should provide HCWs with organizational incentives after pandemic outbreaks. **Grade B**

- Institutions should provide educational and support strategies to enhance HCWs’ sense of responsibility and professional obligation. **Grade B**

Information Source

This Best Practice Information Sheet has been derived from a systematic review published in 2010 in the JBI Database of Systematic Reviews and Implementation Reports. The systematic review report is available from the Joanna Briggs Institute (www.joannabriggs.org).

Background

Emerging infectious diseases, defined as diseases that have ‘newly appeared in a population or have existed previously but are rapidly increasing in incidence or geographic range’, have always been a threat to nations and are the second leading cause of death worldwide. The World Health Organization (WHO) indicates that emerging acute respiratory infectious diseases (EARIDs) have the highest mortality rate worldwide compared to other emerging infectious diseases. Significant EARIDs which have emerged in the 21st century include – Severe Acute Respiratory Syndrome (SARS) in 2003, the Avian Influenza A/H5N1 virus in early 2004 and the Influenza A/H1N1 virus in 2009. They are all contagious and can spread rapidly within populations worldwide, quickly leading to a global pandemic. Influenza A and the SARS viruses both share the same modes of transmission - respiratory droplets and person-to-person contact. These viruses, especially the SARS and Avian influenza/H5N1 viruses, are highly virulent with high morbidity and mortality rates. They are also predisposed to rapid mutations which may increase their virulence and resistance to current drug regimens.

These features of EARIDs pose a problem for health authorities and especially health care workers (HCWs) as they are in constant close contact with affected patients and their body fluids – primarily respiratory droplets. Health care workers face many risks for example; the infection rates in HCWs during nosocomial influenza outbreaks were estimated to be as high as 60%.

Apart from personal health risks from EARIDs, HCWs are also at risk of social isolation and stigmatization because of the social basis of disease transmission. In addition, they face risks of spreading the diseases to friends and family, resulting in emotional conflict and feelings of guilt. Therefore, there needs to be a greater understanding of: individual HCWs’ risk perceptions; their adopted risk-mitigating strategies; and the factors that influence both.

Grades of Recommendation

These Grades of Recommendation have been based on the JBI-developed 2006 Grades of Effectiveness:

- **Grade A** Strong support that merits application
- **Grade B** Moderate support that warrants consideration of application
- **Grade C** Not supported
Definitions
For the purposes of this information sheet the following definition was used:
Health care workers may be defined as personnel who are involved in providing health services (i.e. doctors, nurses and pharmacists) as well as management and support workers such as hospital cleaners and clerks.

Objectives
The purpose of this Best Practice Information Sheet is to present the best available evidence in relation to the risk perceptions and workplace strategies of HCWs to emerging acute respiratory infectious diseases in acute hospital and community healthcare settings; and to make recommendation for practice that will protect them and their patients/clients.

Types of Intervention
This review considered studies that investigated: HCWs’ risk perceptions; perceived meaning/effectiveness of the individual and workplace strategies implemented; and the factors influencing both.

Quality of the research
Fourteen quantitative studies and two qualitative studies published in the English language were included in the review.. Studies included HCWs practicing in acute and community health care settings. The qualitative component of the review considered any interpretive study that drew on the perceptions of risks of being exposed to EARIDs in HCWs including, but not limited to, designs such as phenomenology, grounded theory, ethnography, action research and feminist research.

The quantitative component of the review considered any meta-analyses and randomised controlled trial (RCTs). In the absence of meta-analyses or RCTs, other research designs of a quantitative nature, such as non-randomised controlled trials, before and after studies, cohort studies, case control studies, descriptive studies, case series/reports were considered for inclusion in a narrative summary to enable the identification of current best evidence regarding HCWs exposure to emerging acute respiratory infectious diseases in acute hospital and community healthcare settings.

Findings
Health care workers’ risk perceptions were found to be composed of the following constructs: risks to health and social risks (i.e. stigmatization and health risks to family and self, as well as risk acceptance). Health Care workers’ perceptions of risks to their health were not unexpected, as pandemic outbreaks were often associated with high morbidity and mortality rates. Perceptions of social risks, such as stigmatization, and fear of transmission to family members, were also found to be key concerns for HCWs. These findings were also not unexpected as such diseases were transmitted via social contact within populations. As such, HCW risk perceptions entailed a social dimension. Despite these risks, the majority of HCWs in the evaluated studies were found to accept these risks as part of their job roles. This suggests that HCWs’ perceived professional responsibility was capable of overriding their perceptions of risk to themselves.

Organisational factors (i.e. nature of work and organisational safeguards) were also crucial in influencing HCWs’ risk perceptions as they were predictive of the extent to which HCWs were exposed to infected patients. For example, HCWs who were exposed to SARS patients on a daily basis such as those working in SARS-affected hospitals and/or as nurses or physicians were more likely to perceive increased risks to themselves. In contrast, those who perceived that organisational safeguards (i.e. protective equipment and other implemented institutional measures) were available and effective in protecting them were found to have lower risk perceptions. These findings suggest that organizations should ensure that their HCWs, especially those who are frequently exposed to infected patients, are sufficiently protected with institutional measures and protective equipment.
Apart from demographic and organizational factors, other factors were also found to be important in increasing HCWs’ willingness to work and these were HCWs

• perceived importance of their job role within the organization

• perceived social and organisational norms, that is, HCWs’ perceived obligation as a HCW and their perceived necessity to comply with expectations of others (i.e. superiors)

• perceived availability of organisational incentives (i.e. compensation payments, special vacations, and not having to be quarantined after caring for infected patients); and

• personal practice of coping measures such as engaging in religious activities.

These findings indicate that there were many variables which influenced an individual HCW’s behavioral intentions or behavior besides their risk perceptions. The review revealed how HCWs perceived their exposure to EARIDs such as SARS and potential pandemic influenza. It further illustrated the relationship between their perceptions of risks, the individual and organizational strategies which were implemented in response to their exposure, and the influencing factors that governed both. General observations can be made which may form the basis for new practices within health care organizations and grounds for new research.

**Implications for practice**

Institutions need to empower health care workers through education and training; protect them with organizational safeguards; and offer incentives to encourage willingness to work, especially for those with high risk perceptions.

Several implications for practice may be derived from the quantitative findings:

- HCWs who possess individual characteristics which place them at risk of negative perceptions (i.e. female, married with children, being a nurse, with higher IES scores, whose families and lifestyles are affected, personally knowing someone who was infected, perceiving greater risk of death and stigmatization) should be identified and employers/policy makers should put into place relevant support for these HCWs in order to reduce their risk perceptions and increase their willingness to provide care.

- HCWs within their work places should be provided with tools (such as education and training) to increase their perceived level of control in coping with the uncertainties and additional responsibilities that are required of them during potentially stressful pandemic outbreaks. This will thereby reduce their perceived risks and increase their willingness to provide care.

- Institutions should ensure that appropriate and adequate institutional measures and protective resources such as personal protective equipment are implemented and provided to safeguard HCWs during pandemic outbreaks

- Institutions should provide HCWs with organizational incentives such as compensation payments and special vacations to increase HCW willingness to provide care.

Implications for practice may also be derived from the qualitative findings. They are:

- Institutions and the government should provide educational and support strategies at the institutional and national level to enhance physicians’ and other HCWs’ sense of responsibility and professional obligation, as well as to address and minimize their fear of social and health risks. This will help to ensure that they will continue to care for their patients in the face of personal health and social risks in future pandemics.

- Institutions and the government should also provide education or incentives to instill the importance of adherence to precautionary measures against EARIDs regardless of the negative impact these measures had on their daily practices.
Healthcare workers’ perceptions of risk from exposure to emerging acute respiratory infectious diseases

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