



Evidence Search Service

Results of your search request

Psychological support of front-line medical staff during pandemics

ID of request: 22343

Date of request: 18th March, 2020

Date of completion: 18th March, 2020

If you would like to request any articles or any further help, please contact: Liz Wright at Elizabeth.wright@poole.nhs.uk

Please acknowledge this work in any resulting paper or presentation as: Evidence search: Psychological support of front-line medical staff during pandemics. Liz Wright. (18th March, 2020). BOURNEMOUTH, UK: East Dorset Library and Knowledge Service.

Sources searched

CINAHL (3)

EMBASE (8)

Date range used (5 years, 10 years): No Range

Limits used (gender, article/study type, etc.): No Limits

Search terms and notes (full search strategy for database searches below):

I have searched PsycInfo, CINAHL, EMBASE, Medline, Nice and Google Scholar using the terms in the search history below.

For more information about the resources please go to: <https://dorsetnhs.libguides.com>.

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B. Search History

A. Original Research

1. **Middle East Respiratory Syndrome-Corona Virus (MERS-CoV) associated stress among medical students at a university teaching hospital in Saudi Arabia**
Al-Rabiaah A. Journal of Infection and Public Health 2020;:No page numbers.

Background and objectives: Middle East Respiratory Syndrome Corona Virus (MERS-CoV) outbreak in 2014 was associated with high public anxiety in the affected countries. Media speculations may have increased this psychological distress. The healthcare community was the most distressed because they were at the highest risk of infection. This study is the first to explore MERS-CoV epidemic impact on medical students' perception and determinants of their psychological distress during this outbreak.
Method(s): We randomly selected and surveyed 200 students from the College of Medicine at King Saud University, Riyadh, Saudi Arabia. A predesigned questionnaire was answered by participants, and the collected data were statistically analyzed.
Result(s): One hundred and seventy-four (87%) responded. Female students had a significantly higher mean stress level than males ($P \leq 0.001$). Participants had a mean GAD score of 2.7 ± 3.1 and a median of 2. Perceived sufficiency of information score was the highest mean and median (17.4 ± 4.2 and 18 respectively). College and hospital announcements were the most common source of information (25.4%). One hundred and thirty-four (77%) reported minimal anxiety, thirty-two (18.4%) reported mild anxiety, 8 (4.6%) reported moderate anxiety, and none of them reported severe anxiety (score ≥ 14). The stress

level (as reported on 1-10 scale) shows significant correlation with Generalized Anxiety Disorder (GAD-7) score. We found in this study that significant predictors in our model, in terms of more significant to the least, were: an increased self-report on hygienic habits, self-reported social avoidance, the generalized anxiety score and finally being female gender while other variables including numbers of resources access, agreeing with public fear and knowledge score on MERS-CoV all were found to be non-significant. However, the number of accessed resources, as per students, has borderline significant correlation with higher self-reported anxiety from MERS-CoV.
Conclusion(s): Medical students' psychological needs during the MERS-CoV outbreak should be addressed appropriately. Our results highlight the need to establish psychological support programs for medical students during an infectious disease outbreak.
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2. **A systematic, thematic review of social and occupational factors associated with psychological outcomes in healthcare employees during an infectious disease outbreak**

Brooks Samantha Kelly Journal of Occupational and Environmental Medicine 2018;60(3):248-257.

Objective: To conduct a systematic literature review to identify social and occupational factors affecting the psychological wellbeing of healthcare workers involved in the severe acute respiratory syndrome (SARS) crisis. Methods: Four literature databases were searched and data extracted from relevant papers. Results: Eighteen thousand five papers were found and 22 included in the review. The psychological impact of SARS on employees appeared to be associated with occupational role; training/preparedness; high-risk work environments; quarantine; role-related stressors; perceived risk; social support; social rejection/isolation; and impact of SARS on personal or professional life. Conclusions: To minimize the psychological impact of future outbreaks of infectious diseases, healthcare workers should be prepared for the potential psychological impact; employers should encourage a supportive environment in the workplace and ensure that support is in place for those most at risk, for example, those with the most patient contact. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract)

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3. **Global nursing in an Ebola viral haemorrhagic fever outbreak: before, during and after deployment.**

von Strauss Eva Global Health Action 2017;10(1):No page numbers.

Background: Nurses are on the forefront and play a key role in global disaster responses. Nevertheless, they are often not prepared for the challenges they are facing and research is scarce regarding the nursing skills required for first responders during a disaster situation. Objectives: To investigate how returnee nursing staff experienced deployment before, during and after having worked for the Red Cross at an Ebola Treatment Center in Kenema, West Africa, and to supply knowledge on how to better prepare and support staff for viral haemorrhagic fever outbreaks. Methods: A descriptive, cross-sectional approach. Questionnaires were administered to nurses having worked with patients suffering from Ebola in 2014 and 2015. Data collection covered aspects of pre-, during and post-deployment on clinical training, personal health, stress management, leadership styles, socio-cultural exposure and knowledge transfer, as well as attitudes from others. Data was

analysed using both quantitative and qualitative methods. Results: Response-rate was 88%: forty-four nurses from 15 different countries outside West Africa answered the questionnaire. The respondents identified the following needs for improvement: increased mental health and psychosocial support and hands-on coping strategies with focus on pre- and post-deployment; more pre-deployment task-oriented clinical training; and workload reduction, as exhaustion is a risk for safety. Conclusions: This study supplies knowledge on how to better prepare health care staff for future viral haemorrhagic fever outbreaks and other disasters. Participants were satisfied with their pre-deployment physical health preparation, whereas they stressed the importance of mental health support combined with psychosocial support after deployment. Furthermore, additional pre-clinical training was requested.

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4. **Review of Occupational health for humanitarian aid workers in an Ebola outbreak**
Taoka Sachiko Journal of Research in Nursing 2016;21(1):37-38.

Reviews the article, Occupational Health for Humanitarian Aid Workers in an Ebola Outbreak by Hannele Haggman Joyce Kenkre and Carole Wallace (see record 2016-10448-005). This review article briefs the Guidelines and advice around occupational health and safety during an Ebola outbreak including prevention of Ebola in the workplace and responsibilities of staff, volunteers and employers have been developed. However, to date, there is little information to support the value of such guidance from the perspective of those who have worked in an Ebola outbreak. Findings from this paper illustrate the importance of health briefing, informing the delegate's family, standard operating procedures, appropriate training and recruiting a focal point for staff health-related questions. The occupational health needs of national staff and volunteers affiliated with organisations who took part in controlling the Ebola outbreak cannot be overlooked. The findings from this study may be able to provide insight into further support needed for national clinical and non-clinical staff and volunteers and further studies are warranted in this area. The potential exists for further research in an Ebola context into the various types and the benefits of psychological support available for national and international humanitarian aid workers experiencing stress, as well as stigma in-country and for those returning to their respective countries. (PsycINFO Database Record (c) 2016 APA, all rights reserved)

5. **Exposure to war traumatic experiences, post-traumatic stress disorder and post-traumatic growth among nurses in Gaza**
Shamia N. A. Journal of Psychiatric and Mental Health Nursing 2015;22(10):749-755.

Aim: To establish the association between war traumatic experiences, post-traumatic stress disorder (PTSD) symptoms and post-traumatic growth among nurses in the Gaza Strip, 2 years after an incursion on Gaza, and during a period of ongoing trauma exposure. This study builds on existing evidence by considering exposure to personal and work-related traumatic events, and on factors associated with later positive psychological adaptation. Methods: The sample consisted of 274 randomly selected nurses in Gaza who completed the Gaza Traumatic Events Checklist, PTSD Checklist, and Posttraumatic Growth Inventory. Results: Of the nurses, 19.7% reported full PTSD. There was a significant relationship between traumatic events and PTSD scores; as well as between community-

related traumatic events and post-traumatic growth. Participants reported a range of traumatic events, but PTSD and post-traumatic growth scores were more strongly associated with community rather than work-related traumas. Discussion: Nursing professionals experienced high levels of distress 2 years following an acute period of conflict, both as civilians and in their health-care capacity. Implications for Practice: There is need for different levels of support for health-care staff in war-affected areas. Mental health nursing professionals have a central role in training, counselling and support to other health-care colleagues. (PsycINFO Database Record (c) 2017 APA, all rights reserved) (Source: journal abstract)

6. Military nurses' experiences returning from war

Elliott Brenda Journal of Advanced Nursing 2015;71(5):1066-1075.

Aim: This paper is a report of a study conducted to describe the military nurses' post-deployment experiences and their meaning. Background: Today, similar to past conflicts, military nurses are faced with many different stressors, moral dilemmas and loss in a compressed amount of time while deployed. These exposures place both military nurses and their families at risk for difficulty adjusting when deployment ends. This study addresses military nurses' experiences returning to personal and professional roles post-deployment. Design Qualitative, narrative inquiry. Method: Thematic analysis of data collected in 2012 from in-depth semi-structured interviews with ten military nurses. Findings: Description of the experience had five themes: 'learning to manage changes in the environment'; 'facing the reality of multiple losses'; 'feeling like it's all so trivial now'; 'figuring out where I 'fit' in all the chaos'; and 'working through the guilt to move forward'. Description of the meaning of the experience had two themes: 'serving a greater purpose' and 'looking at life through a new lens'. Conclusion: It is critical for military nurses and leaders, healthcare providers, nursing administration/educators, as well as nurses who work alongside military nurses, both in the USA and in other countries, to have a better understanding of the meaning of the deployment experience so they may provide support to these nurses during the post-deployment phase. Lessons learned may benefit future military nurses and may also be transferable to nurses who support humanitarian and disaster missions. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

7. Voices of HIV&AIDS-affected educators: how they are psychosocially affected and how REds enabled their resilience.

Delport Rina AIDS Care 2011;23(1):121-126.

The aim of this article is to hear the voices of HIV- and AIDS-affected educators regarding their experiences of the psychosocial effect that the HIV and AIDS pandemic has on them as well as to voice their experiences of how Resilient Educators (REds), a support programme to enable educators affected by HIV and AIDS towards resilience, enabled them. A qualitative study was undertaken with 100 affected educators from different provinces in South Africa. Open-ended questionnaires were used to collect data prior to and after exposure to REds. The results suggested that the pandemic had a devastating effect not only at a professional level, but also at all the personal levels of educators' well-being, namely, at an emotional, spiritual, physical and social level. However, the results also indicated that REds empowered them to cope more resiliently with the overwhelming personal and professional impacts of living and teaching in an HIV- and AIDS-altered milieu. It thus seems as if REds, as an empowering programme, has the potential to become a valuable protective resource in an educational context that is HIV-lacerated.

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8. **Psychosocial impacts of quarantine during disease outbreaks and interventions that may help to relieve strain**

Johal S.S. New Zealand Medical Journal 2009;122(1296):47-52.

The threat of outbreak of infectious disease such as non-seasonal influenza A (H1N1), commonly referred to as Swine Flu, can provoke the implementation of public health control measures such as quarantine. This paper summarises the psychosocial consequences that may follow for patients and health care and other front-line workers when using quarantine controls. Those affected by quarantine are likely to report distress due to fear and risk perceptions. This distress can be amplified in the face of unclear information and communication that is common in the initial period of disease outbreaks. This paper outlines recommendations for care of those in quarantine and those working with them, such as helping to identify stressors and normalising their impact as much as possible. This should take place at all levels of response, from public information and communication messages to individual face-to-face advice and support. © NZMA.

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9. **Surviving a life-threatening crisis: Taiwan s nurse leaders reflections and difficulties fighting the sars epidemic**

Shih Fu-Jin Journal of Clinical Nursing 2009;18(24):3391-3400.

Aim: This study explored Taiwan's nurse leaders reflections and experiences of the difficulties they encountered and survival strategies they employed fighting the severe acute respiratory syndrome epidemic and the background context framing these phenomena. Background: On several continents in 2002 2003, the highly infectious severe acute respiratory syndrome overwhelmed health care systems and health professionals who had to provide care in situations involving high personal risk and stress, some becoming infected and dying. Nurse leaders in Taiwan had to develop new strategies and support systems for nursing care. Design: A two-step within-method qualitative triangulation research design. Methods: Focus group in-depth interviews held with 70 nurse leaders from four Northern Taiwan hospitals involved in the severe acute respiratory syndrome epidemic. Participants then completed an open ended questionnaire. Content analysis was undertaken with data and stages and themes generated. Data were then analysed using Hobfall's concepts of conservation of resources to further discuss participants reactions and actions in the severe acute respiratory syndrome crisis. Results: Participants worked under incredible stress to lead the profession through a period of crisis. Five stages arose in the participants involvement against severe acute respiratory syndrome over 12 weeks: facing shock and chaos; searching for reliable sources to clarify myths; developing and adjusting nursing care; supporting nurses and their clients; and rewarding nurses. Conclusion: Nurse leaders become important executors of intervention in this health disaster, requiring emotional intelligence to manage their internal conflicts and interpersonal relationships effectively. They developed sociopolitical and analytical abilities and crucial requirements for planning and implementing strategies in areas where none previously existed. Building support systems was an important resource for managing conflicts between familial and professional roles. Relevance to clinical practice: Findings will assist nurse leaders to prepare themselves and the profession to better deal with disaster management in similar infectious outbreaks in the future. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

10. Applying the lessons of SARS to pandemic influenza: an evidence-based approach to mitigating the stress experienced by healthcare workers.

Maunder RG Canadian Journal of Public Health 2008;99(6):486-488.

We describe an evidence-based approach to enhancing the resilience of healthcare workers in preparation for an influenza pandemic, based on evidence about the stress associated with working in healthcare during the SARS outbreak. SARS was associated with significant long-term stress in healthcare workers, but not with increased mental illness. Reducing pandemic-related stress may best be accomplished through interventions designed to enhance resilience in psychologically healthy people. Applicable models to improve adaptation in individuals include Folkman and Greer's framework for stress appraisal and coping along with psychological first aid. Resilience is supported at an organizational level by effective training and support, development of material and relational reserves, effective leadership, the effects of the characteristics of "magnet hospitals," and a culture of organizational justice. Evidence supports the goal of developing and maintaining an organizational culture of resilience in order to reduce the expected stress of an influenza pandemic on healthcare workers. This recommendation goes well beyond the provision of adequate training and counseling. Although the severity of a pandemic is unpredictable, this effort is not likely to be wasted because it will also support the health of both patients and staff in normal times.

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11. Prevalence of psychiatric disorders among Toronto hospital workers one to two years after the SARS outbreak

Lancee William J. Psychiatric Services 2008;59(1):91-95.

Objective: This study aimed to determine the incidence of psychiatric disorders among health care workers in Toronto in the one- to two-year period after the 2003 outbreak of severe acute respiratory syndrome (SARS) and to test predicted risk factors. **Methods:** New-onset episodes of psychiatric disorders were assessed among 139 health care workers by using the Structured Clinical Interview for DSM-IV and the Clinician-Administered PTSD Scale. Past history of psychiatric illness, years of health care experience, and the perception of adequate training and support were tested as predictors of the incidence of new-onset episodes of psychiatric disorders after the SARS outbreak. **Results:** The lifetime prevalence of any depressive, anxiety, or substance use diagnosis was 30%. Only one health care worker who identified the SARS experience as a traumatic event was diagnosed as having PTSD. New episodes of psychiatric disorders occurred among seven health care workers (5%). New episodes of psychiatric disorders were directly associated with a history of having a psychiatric disorder before the SARS outbreak ($p = .02$) and inversely associated with years of health care experience ($p = .03$) and the perceived adequacy of training and support ($p = .03$). **Conclusions:** Incidence of new episodes of psychiatric disorders after the SARS outbreak were similar to or lower than community incidence rates, which may indicate the resilience of health care workers who continued to work in hospitals one to two years after the SARS outbreak. In preparation for future events, such as pandemic influenza, training and support may bolster the resilience of health care workers who are at higher risk by virtue of their psychiatric history and fewer years of health care experience. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

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12. Prevalence of psychiatric morbidity and psychological adaptation of the nurses in a structured SARS caring unit during outbreak: A prospective and periodic assessment study in Taiwan

Su Tung-Ping Journal of Psychiatric Research 2007;41(1-2):119-130.

To assess the rapidly changing psychological status of nurses during the acute phase of the 2003 SARS outbreak, we conducted a prospective and periodic evaluation of psychiatric morbidity and psychological adaptation among nurses in SARS units and non-SARS units. Nurse participants were from two SARS units (regular SARS [N = 44] and SARS ICU [N = 26]) and two non-SARS units (Neurology [N = 15] and CCU [N = 17]). Participants periodically self-evaluated their depression, anxiety, post-traumatic stress symptoms, sleep disturbance, attitude towards SARS and family support. Results showed that depression (38.5% vs. 3.1%) and insomnia (37% vs. 9.7%) were, respectively, greater in the SARS unit nurses than the non-SARS unit nurses. No difference between these two groups was found in the prevalence of post-traumatic stress symptoms (33% vs. 18.7%), yet, three unit subjects (SARS ICU, SARS regular and Neurology) had significantly higher rate than those in CCU (29.7% vs. 11.8%, respectively) ($p < 0.05$). For the SARS unit nurses, significant reduction in mood ratings, insomnia rate and perceived negative feelings as well as increasing knowledge and understanding of SARS at the end of the study (all $p < 0.001$) indicated that a gradual psychological adaptation had occurred. The adjustment of nurses in the more structured SARS ICU environment, where nurses care for even more severely ill patients, may have been as good or better than that of nurses in the regular SARS unit. Occurrence of psychiatric symptoms was linked to direct exposure to SARS patient care, previous mood disorder history, younger age and perceived negative feelings. Positive coping attitude and strong social and family support may have protected against acute stress. In conclusion, the psychological impact on the caring staffs facing future bio-disaster will be minimized with lowered risk factors and a safer and more structured work environment. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

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13. The relevance of psychosocial variables and working conditions in predicting nurses' coping strategies during the SARS crisis: An online questionnaire survey

Marjanovic Zdravko International Journal of Nursing Studies 2007;44(6):991-998.

Objectives: The purpose of this investigation was to examine the relationship between psychosocial variables and working conditions, and nurses' coping methods and distress in response to the severe acute respiratory syndrome (SARS) crisis in Canada. **Participants and procedure:** The sample consisted of 333 nurses (315 women, 18 men) who completed an Internet-mediated questionnaire that was posted on the Registered Nurses' Association of Ontario (RNAO) website between March and May 2004. The questionnaire was restricted to respondents who had to authenticate their RNAO membership with a valid username and password before accessing the questionnaire. This served a dual purpose: to ensure that only RNAO nurses completed the questionnaire and thereby safeguarding the generalizability of the findings; and second, to prevent any one nurse from contributing more than once to the overall sample. **Results:** Correlational analysis yielded several significant relationships between psychosocial variables and working conditions, and the traditional correlates of burnout and stress. Three multiple regression analysis revealed that the model we evolved—including higher levels of vigor, organizational support, and trust in equipment/infection control initiative; and lower levels of contact with SARS patients, and

time spent in quarantine--predicted to lower levels of avoidance behavior, emotional exhaustion, and state anger. Conclusions: By employing models of stress and burnout that combine psychosocial variables and working conditions, researchers can account for significant amounts of variance in outcomes related to burnout. These findings highlight the importance of vigor and perceived organizational support in predicting nurses' symptoms of burnout. For healthcare administrators, this means that a likely strategy for assuaging the negative outcomes of stress should address nurses' psychosocial concerns and the working conditions that they face during novel times of crisis. (PsycINFO Database Record (c) 2017 APA, all rights reserved) (Source: journal abstract)

14. Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak

Maunder R.G. *Emerging Infectious Diseases* 2006;12(12):1924-1932.

Healthcare workers (HCWs) found the 2003 outbreak of severe acute respiratory syndrome (SARS) to be stressful, but the long-term impact is not known. From 13 to 26 months after the SARS outbreak, 769 HCWs at 9 Toronto hospitals that treated SARS patients and 4 Hamilton hospitals that did not treat SARS patients completed a survey of several adverse outcomes. Toronto HCWs reported significantly higher levels of burnout ($p = 0.019$), psychological distress ($p < 0.001$), and posttraumatic stress ($p < 0.001$). Toronto workers were more likely to have reduced patient contact and work hours and to report behavioral consequences of stress. Variance in adverse outcomes was explained by a protective effect of the perceived adequacy of training and support and by a provocative effect of maladaptive coping style and other individual factors. The results reinforce the value of effective staff support and training in preparation for future outbreaks.

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15. Facing SARS: Psychological impacts on SARS team nurses and psychiatric services in a Taiwan general hospital

Lee Shwu-Hua *General Hospital Psychiatry* 2005;27(5):352-358.

Objective: The outbreak of severe acute respiratory syndrome (SARS) in 2003 resulted in 346 probable SARS cases and 37 deaths in Taiwan. This descriptive study, which was conducted from May to June 2003, intended to identify staff stress and coping strategies among a SARS team of nursing staff during the outbreak. Method: Twenty-six female nurses of the SARS team completed a questionnaire about their experiences serving in the SARS team. Results: SARS had both positive and negative psychological impacts on the nurses. While worrying about infecting their families and colleagues, nurses were able to cope with the situation through various means. Additional findings include the need for more psychiatric staff to provide flexible and continuous service, the importance of meetings to improve teamwork and reduce conflict between doctors and nurses and the useful discovery that video cell phones provided needed reassurance from afar to the worried families of the nurses. Conclusion: This study reinforces the importance and benefits of psychiatric services for SARS team members in reducing their secondary traumatization. It is hoped that the results will enhance our knowledge on the needs of frontline health care workers and support the planning of better psychiatric services in future epidemics. (PsycINFO Database Record (c) 2018 APA, all rights reserved) (Source: journal abstract)

16. The impact of severe acute respiratory syndrome on medical house staff: A qualitative study

Rambaldini G. Journal of General Internal Medicine 2005;20(5):381-385.

OBJECTIVE: To explore the impact of severe acute respiratory syndrome (SARS) on a medical training program and to develop principles for professional training programs to consider in dealing with future, similar crises. **DESIGN:** Qualitative interviews analyzed using grounded theory methodology. **SETTING:** University-affiliated hospitals in Toronto, Canada during the SARS outbreak in 2003. **PARTICIPANTS:** Medical house staff who were allocated to a general internal medicine clinical teaching unit, infectious diseases consultation service, or intensive care unit. **RESULT(S):** Seventeen medical residents participated in this study. Participants described their experiences during the outbreak and highlighted several themes including concerns about their personal safety and about the negative impact of the outbreak on patient care, house staff education, and their emotional well-being. **CONCLUSION(S):** The ability of residents to cope with the stress of the SARS outbreak was enhanced by the communication of relevant information and by the leadership of their supervisors and infection control officers. It is hoped that training programs for health care professionals will be able to implement these tenets of crisis management as they develop strategies for dealing with future health threats.

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17. Psychological impact of the 2003 severe acute respiratory syndrome outbreak on health care workers in a medium size regional general hospital in Singapore

Chan A.O.M. Occupational Medicine 2004;54(3):190-196.

Aims. To describe the psychological impact of severe acute respiratory syndrome (SARS) on health care workers in a regional general hospital 2 months post-outbreak.
Method(s): Doctors and nurses were encouraged to participate. The survey consisted of self-report measures: demographics, the General Health Questionnaire (GHQ) 28 and Impact of Events Scale (IES). A questionnaire enquiring about changes in life's priorities due to SARS and circumstances that helped with coping was used. Participation was strictly voluntary and responses anonymous.
Result(s): In total 177 out of 661 (27%) participants [40 out of 113 (35%) doctors and 137 out of 544 (25%) nurses] had a GHQ 28 score ≥ 5 . Doctors [$P = 0.026$, odds ratio (OR) = 1.6 and 95% confidence interval (CI) = 1.1-2.5] and single health care workers were at higher risk ($P = 0.048$, OR = 1.4 and 95% CI = 1.02-2.0) compared to nurses and those who were married. Approximately 20% of the participants had IES scores ≥ 30 , indicating the presence of post-traumatic stress disorder (PTSD). Four areas were classified as more important using factor analysis: health and relationship with the family, relationship with friends/colleagues, work and spiritual. The areas for coping strategies were clear directives/precautionary measures, ability to give feedback to/obtain support from management, support from supervisors/colleagues, support from the family, ability to talk to someone and religious convictions. Support from supervisors/colleagues was a significant negative predictor for psychiatric symptoms and PTSD. Work and clear communication of directives/precautionary measures also helped reduce psychiatric symptoms.
Conclusion(s): Many health care workers were emotionally affected and traumatized during the SARS outbreak. Hence, it is important for

health care institutions to provide psychosocial support and intervention for their health care workers. © Society of Occupational Medicine 2004; all rights reserved.

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18. **Psychological responses to the SARS outbreak in healthcare students in Hong Kong**
Wong J.G.W.S. Medical Teacher 2004;26(7):657-659.

This paper reports a cross-sectional questionnaire study that investigated perceived stress and psychological responses to the SARS outbreak in healthcare students at the height of the outbreak in Hong Kong in 2003. Non-healthcare university students served as controls. All the groups reported high levels of perceived stress. Despite being similarly confident in infection control procedures, nursing students were significantly more stressed than medical students, possibly reflecting a perceived higher risk of infection due to more prolonged contact with patients. Non-healthcare students also had high stress levels due to the perceived risks of dying from SARS, reflecting a fear of the unknown. Suitable psychological and occupational support services should be made available in case of future outbreaks. © 2004 Taylor & Francis Ltd.

19. **Psychosocial effects of SARS on hospital staff: Survey of a large tertiary care institution**
Nickell Leslie A. Canadian Medical Association Journal 2004;170(5):793-798.

Background: The outbreak of SARS in 2003 had a dramatic effect on the health care system in Toronto. The main objective of this study was to investigate the psychosocial effects associated with working in a hospital environment during this outbreak. Methods: Questionnaires were distributed to all willing employees of Sunnybrook and Women's College Health Sciences Centre between Apr. 10 and 22, 2003. The survey included questions regarding concern about SARS, precautionary measures, personal well-being and sociodemographic characteristics; a subsample also received the 12-item version of the General Health Questionnaire (GHQ-12). Results: Of the 4283 questionnaires distributed, 2001 (47%) were returned, representing 27% of the total hospital employee population of 7474. The proportions of respondents who were allied health care professionals, nurses and doctors and who worked in areas other than patient care were representative of the hospital staff population as a whole. Of the 2001 questionnaires, 510 contained the GHQ-12. Two-thirds of the respondents reported SARS-related concern for their own or their family's health. A total of 148 respondents (29%) scored above the threshold point on the GHQ-12, indicating probable emotional distress; the rate among nurses was 45%. Masks were reported to be the most bothersome infection control precaution. Logistic regression analysis identified 4 factors as being significantly associated with increased levels of concern for personal or family health: perception of a greater risk of death from SARS (adjusted odds ratio [OR] 5.0, 95% confidence interval [CI] 2.6-9.6), living with children (adjusted OR 1.8, 95% CI 1.5-2.3), personal or family lifestyle affected by SARS outbreak (adjusted OR 3.3, 95% CI 2.5-4.3) and being treated differently by people because of working in a hospital (adjusted OR 1.6, 95% CI 1.2-2.1). Four factors were identified as being significantly associated with the presence of emotional distress: being a nurse (adjusted OR 2.8, 95% CI 1.5-5.5), part-time employment status (adjusted OR 2.6, 95% CI 1.2-5.4), lifestyle affected by SARS outbreak (adjusted OR 2.2, 95% CI 1.4-3.5) and ability to do one's job affected by the precautionary measures (adjusted OR 2.9, 95% CI 1.9-4.6). Interpretation: Our findings indicate that the SARS outbreak had significant psychosocial effects on hospital staff. These effects differed with respect to occupation and

risk perception. The effect on families and lifestyle was also substantial. These findings highlight the need for interventions to address psychosocial distress and concern and to provide support for employees during such crises. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

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20. **Severe acute respiratory syndrome (SARS) in Hong Kong in 2003: Stress and psychological impact among frontline healthcare workers**

Tam Cindy W. C. Psychological Medicine 2004;34(7):1197-1204.

Background: The outbreak of severe acute respiratory syndrome (SARS) posed an unprecedented threat and a great challenge to health professionals in Hong Kong. The study reported here aimed at investigating the origin of stress and psychological morbidity among frontline healthcare workers in response to this catastrophe. Method: Self-administered questionnaires were sent to frontline healthcare workers in three hospitals. The General Health Questionnaire was used to identify psychological distress. Socio-demographic and stress variables were entered into a logistic regression analysis to find out the variables associated with psychological morbidity. Results. The response rate was 40%. Sixty-eight per cent of participants reported a high level of stress. About 57% were found to have experienced psychological distress. The healthcare workers' psychological morbidity was best understood by the perceptions of personal vulnerability, stress and support in the workplace. Conclusion: These findings shed light on the need for hospital administrators to be aware of the extent and sources of stress and psychological distress among frontline healthcare workers during disease outbreak. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

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21. **Severe acute respiratory syndrome: "Unmasking our emotional vulnerability as healthcare providers"**

Ruppert-Garcia E. Critical Care and Shock 2004;7(2):61.

22. **The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital**

Maunder R. CMAJ 2003;168(10):1245-1251.

Background: The outbreak of severe acute respiratory syndrome (SARS) in Toronto, which began on Mar. 7, 2003, resulted in extraordinary public health and infection control measures. We aimed to describe the psychological and occupational impact of this event within a large hospital in the first 4 weeks of the outbreak and the subsequent administrative and mental health response.
Method(s): Two principal authors met with core team members and mental health care providers at Mount Sinai Hospital, Toronto, to compile retrospectively descriptions of the experiences of staff and patients based on informal observation. All authors reviewed and analyzed the descriptions in an iterative process between Apr. 3 and Apr. 13, 2003.
Result(s): In a 4-week period, 19

individuals developed SARS, including 11 health care workers. The hospital's response included establishing a leadership command team and a SARS isolation unit, implementing mental health support interventions for patients and staff, overcoming problems with logistics and communication, and overcoming resistance to directives. Patients with SARS reported fear, loneliness, boredom and anger, and they worried about the effects of quarantine and contagion on family members and friends. They experienced anxiety about fever and the effects of insomnia. Staff were adversely affected by fear of contagion and of infecting family, friends and colleagues. Caring for health care workers as patients and colleagues was emotionally difficult. Uncertainty and stigmatization were prominent themes for both staff and patients.
Interpretation(s): The hospital's response required clear communication, sensitivity to individual responses to stress, collaboration between disciplines, authoritative leadership and provision of relevant support. The emotional and behavioural reactions of patients and staff are understood to be a normal, adaptive response to stress in the face of an overwhelming event.

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B. Search History

Source	Criteria
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Results

Source	Criteria	Results
1.	PsycINFO exp "MEDICAL PERSONNEL"/ OR "HEALTH PERSONNEL"/	99042
2.	PsycINFO (Support).ti,ab	462461
3.	PsycINFO (1 AND 2)	14481
4.	PsycINFO (SARS).ti,ab	454
5.	PsycINFO PANDEMICS/	506
6.	PsycINFO (Ebola).ti,ab	398
7.	PsycINFO (War).ti,ab	31598
9.	PsycINFO (Coronavirus).ti,ab	57
10.	PsycINFO (4 OR 5 OR 6 OR 7 OR 9)	32941
11.	PsycINFO (3 AND 10)	105
12.	Medline "MEDICAL STAFF"/ OR "HEALTH PERSONNEL"/	42908
13.	Medline "PSYCHOSOCIAL SUPPORT SYSTEMS"/	409
14.	Medline (support).ti,ab	954712
15.	Medline (13 OR 14)	954873
16.	Medline "SARS VIRUS"/	2869
17.	Medline CORONAVIRUS/	1821
18.	Medline EBOLAVIRUS/	3131
19.	Medline PANDEMICS/	4840
20.	Medline (16 OR 17 OR 18 OR 19)	12454
21.	Medline (12 AND 15 AND 20)	12
22.	Medline ("well being").ti,ab	71812
23.	Medline (12 AND 20 AND 22)	0
24.	Medline (debriefing).ti,ab	3301
25.	Medline (12 AND 20 AND 24)	0
26.	CINAHL "HEALTH PERSONNEL"/ OR exp "MEDICAL STAFF"/	47917
27.	CINAHL "SARS VIRUS"/ OR CORONAVIRUS/ OR "MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS"/	724
28.	CINAHL "EBOLA VIRUS"/	1246
29.	CINAHL "DISEASE OUTBREAKS"/ OR "INFLUENZA, PANDEMIC (H1N1) 2009"/ OR "INFLUENZA, SWINE"/ OR "INFLUENZA, AVIAN"/	30062
30.	CINAHL (Pandemic*).ti,ab	7512
31.	CINAHL (27 OR 28 OR 29 OR 30)	34445
32.	CINAHL (26 AND 31)	1102
33.	CINAHL (Support).ti,ab	371786
34.	CINAHL "PSYCHOLOGICAL WELL-BEING"/	25745
35.	CINAHL (33 OR 34)	392388
36.	CINAHL (32 AND 35)	66
37.	EMBASE exp "MEDICAL PERSONNEL"/ OR "HOSPITAL PERSONNEL"/ OR "HEALTH CARE PERSONNEL"/ OR "NURSING STAFF"/	1122279
38.	EMBASE "EBOLA VIRUS"/	3849
39.	EMBASE "SEVERE ACUTE RESPIRATORY SYNDROME"/ OR "CORONAVIRUS INFECTION"/ OR "AVIAN INFECTIOUS BRONCHITIS"/ OR "MIDDLE EAST RESPIRATORY	10519

Source	Criteria	Results
	SYNDROME"/	
40. EMBASE	(38 OR 39)	14221
41. EMBASE	(37 AND 40)	1584
42. EMBASE	(Support).ti,ab	1239048
43. EMBASE	("Psychological support").ti,ab	6254
44. EMBASE	WELLBEING/ OR "PSYCHOLOGICAL WELL-BEING"/	78472
45. EMBASE	(42 OR 43 OR 44)	1303538
46. EMBASE	(41 AND 45)	120

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