Brief Communication

# The Psychosocial Effects of Being Quarantined Following Exposure to SARS: A Qualitative Study of Toronto Health Care Workers

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**Objective:** To examine the psychosocial effects on health care workers of being quarantined because of exposure to severe acute respiratory syndrome (SARS).

**Method:** We used semistructured qualitative interviews.

**Results:** We identified 3 major themes concerning psychosocial effects: loss, duty, and conflict.

**Conclusions:** Quarantined workers experienced stigma, fear, and frustration. We highlight the need for clear and easily accessible information on dealing with infectious diseases. Practical advice on coping and stress management techniques for health care workers are needed in preparation for potential future outbreaks of infectious diseases.

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**Clinical Implications:**

- Clear and consistent information on dealing with infectious diseases must be provided by the government, by experts, and by managers. Good infection control procedures must be enforced to reassure staff.
- Practical advice on coping strategies and stress management must be provided and made accessible for front-line workers.
- Managers need to provide accessible referrals to mental health professionals for staff suffering from acute psychological reactions in addition to providing general support and praise for workers.

**Limitations:**

- We restricted the sample to Toronto health care workers.
- Those willing to discuss their experiences may not be representative of the population.
- These data are preliminary and exploratory and require further replication and investigation.

***Key Words***: *SARS, qualitative, health care workers, psychosocial*

Severe Acute Respiratory Syndrome (SARS) was first identified in Toronto, in March 2003 (1,2). By August, there were 247 probable cases, 128 suspected cases, and 44 deaths, including 3 nurses and 1 family doctor (3). Over one-half of those infected with SARS were health care workers (4) who in some cases passed the infection on to family members, including children (5).

The SARS outbreak placed tremendous pressure on the health care system. Hospital managers were asked to continue providing patient services while maintaining staff morale, although information from international, federal, provincial, and local public health and government officials was frequently changing and often contradictory. At the height of the epidemic, accounts from professionals working within Toronto hospitals and treating patients with SARS rapidly emerged (2,5,6), highlighting important issues regarding the psychosocial effects of SARS on health care workers.

When little was known about the mode of transmission, contracting SARS was a major concern among health care workers (2). The increasing number of workers infected by SARS

led to suspicions of inadequate protective measures (6). Conflicting reports of staff willingness to carry out high-risk assignments (2,6) sparked renewed debate about whether health care professionals have the right to refuse to work in high-risk situations (4). Many staff felt conflicted between their roles as health care providers and parents, feeling professional responsibility but also feeling fear and guilt about potentially exposing their families to infection (2).

Early reports were based on personal experience and were limited to individual institutions, reflecting the rapidity with which SARS spread. These studies also reflected individuals' perceptions at the height of the epidemic, when information about the disease was very limited. This study examines the psychosocial effects on health care workers who were quarantined because of exposure to SARS immediately following the lifting of infection-control restrictions after the outbreak had been contained.

## Methods

We obtained the study sample by placing posters requesting study participation in Toronto hospitals that had treated SARS patients. Eligible participants were health care workers who were quarantined because of exposure to SARS and who were willing to discuss their experiences.

Workers were either restricted to their home for 10 days, continually wearing a mask in the presence of others, or they were required to attend work but had to travel in their own vehicle or by taxi, also while wearing a mask. Stringent infection control procedures were maintained during work hours. The type of quarantine imposed was at the discretion of the hospital infection-control authorities and the public health officials.

We began data collection in July, when infection-control restrictions in Toronto health care facilities were being downgraded. Ethics approval was granted through the institutional research ethics board, and we obtained informed consent from each participant.

We interviewed consecutive volunteers from various professional backgrounds and from different health care facilities in Toronto until we achieved theme saturation. Table 1 presents basic demographic data and the method of exposure to SARS.

*Interviews*

We conducted semistructured interviews lasting approximately 1 hour. Because of continuing SARS precautions and work schedules, we interviewed 8 participants by telephone and conducted 2 interviews in person. We audiotaped these interviews and transcribed them verbatim.

We focused the interviews on 3 main areas, which were selected from rapidly emerging SARS literature and discussion among the researchers (all of whom worked in a hospital affected by SARS). Topics included the quarantine experience and its effect, perceptions of contracting and spreading SARS, and the effect of SARS on participants' work.

## Analysis

We employed grounded theory principles to analyze the data and create an explanatory framework (7,8). Each interview was transcribed and read several times by 2 of the study authors. We coded data into main and subthemes throughout the interview period. We identified similarities and differences within and among emerging categories, providing constant comparative analyses (8).

## Results and Discussion

*Loss*

Workers who treated SARS patients described the likelihood of contracting SARS as "bad luck" or "fate" and spoke of the risk pragmatically. Knowing someone who had become ill heightened workers' anxiety and fear. Carol reported, "It seemed like fate . . . because the exposure had already happened, or not . . . I was a little bit more alarmed because I knew her." As workers experienced a loss of freedom, they likened quarantine to prison: "Just . . . the ability to go out . . . I'm thinking . . . is this what prisoners feel like?" (Janet).

The need to restrict physical contact, to wear a mask, and to remain at home had far-reaching consequences, including loss of intimacy and social contact, resulting in physical and psychological isolation. Janet recalled, "She [sister] wouldn't hug me."

Parents confronted changes in normal roles and routines, creating stress for the entire family. Most found it difficult to explain the situation to their children without inducing more fear. Carol described her daughter: "She was frightened of getting sick, [if] she saw me . . . without the mask [she] would scream, 'Mommy your mask!' The whole experience . . . put a lot of stress on her." Health care workers felt a duty to protect their children from being taunted or stigmatized by association. Katie, aged 51 years, commented, "I didn't want . . . my son to experience any teasing or ostracism."

Spouses were physically isolated. For example, Joanne described "my husband sleeping in the other room, you know, like the no affection, keep your distance." Spouses were subjected to further pressure as they assumed responsibilities involving the outside world. As Katie said, "He [had] to get my son to school and . . . [go] shopping and other things."

In addition to the physical and social isolation, health care workers experienced stigma as a result of their exposure to SARS. Although most workers rationalized this as a lack of understanding about the illness or the risks involved, all described feeling angry and hurt. In Janet's words, "I found

**Table 1 Participant demographics and method of exposure to severe acute respiratory syndrome (SARS)**

| Participant name[a] | Age (years) | Sex | Occupation | Type of quarantine | Method of exposure to SARS |
|---|---|---|---|---|---|
| Janet | 41 | Female | Hospital executive | Home | Attended meeting at hospital which subsequently had SARS patients. |
| Carol | 46 | Female | Nurse | Home | Coworker exposed to SARS at another hospital. |
| Katie | 51 | Female | Nurse | Work | Worked in hospital with SARS patients. |
| Patricia | 52 | Female | Nurse | Work | Although a nurse, underwent surgery in a hospital which had SARS patients. |
| John | 58 | Male | Dentist | Home | Although a dentist, underwent surgery in a hospital which had SARS patients. |
| Anthony | 34 | Male | Social worker | Home | Directly exposed to SARS and contracted SARS from working with patients who were infected. |
| Joanne | 42 | Female | Occupational therapist | Work | Directly exposed to patients with SARS. |
| Mary | 45 | Female | Nurse | Work | Unprotected exposure to SARS patients. |
| Andrew | 25 | Male | Paramedic | Work | Exposed to potential SARS patients. |
| James | 37 | Male | Physician | Home | Treated patients with confirmed SARS. |

[a]Pseudonyms have been used throughout the paper

that because it is an unknown disease . . . people don't want to come near you." Carol said, "I felt a little awkward with some of my neighbours . . . When they saw me they would run, literally, into their house, and I felt angry."

Even after the outbreak had been contained and individuals' quarantine ended, workers remained acutely aware of others' reactions. To avoid the negative response, Andrew denied being a health care worker from Toronto. He said, "I've not told people that I'm a [health care worker] [or] from Toronto; once I did, and the guy was like . . . 'stay away from me'" Andrew, age 25 years.

In some cases, these reactions came from the workers' closest friends. Anthony, aged 34 years, commented, "Even now it's like, um, they are a little iffy about me being there."

The psychological sequelae of exposure to SARS were expressed in both physical and psychological symptoms. In Carol's words, "I felt a lot more stressed than I normally do, emotionally, like, just not as stable." Other participants complained of problems sleeping and of such physical symptoms as shortness of breath and headaches, which they attributed to continually wearing protective masks.

*Duty*

A predominant theme in the SARS literature is whether health care professionals have a duty to treat high-risk patients (4). Each of the participants in this study accepted that being a health care worker carries an inherent risk and that quarantine was necessary. Quarantine was also seen as a means of protecting others from further infection and was considered a small sacrifice. Mary stated, "When you're working in health care anything . . . everything is out there and you know that when you go into [it]." Joanne said, "If . . . putting me into quarantine [when] maybe I didn't need to be . . . saved it from being spread a little further, then fine."

While none of the participants refused to perform their duties, the trepidation, fear, and anxiety associated with the risk of contracting SARS was paramount. Mary recalled, "When you [went] to a patient, it was like going to a firing squad, cause . . . I'm going to do this, but I don't know . . . if I'm going to catch this thing."

*Conflict*

Although their duty as health care workers was unequivocal, simultaneous roles as both health professionals and family members caused several conflicts (2,4). Participants were especially worried about infecting family and friends whom they considered vulnerable. The decision to take a personal risk as part of one's job was clearly delineated from inadvertently exposing family members to that risk. This conflict caused feelings of guilt, fear, anxiety, and remorse: "[It] constantly crossed my mind . . . that my mother had come to the hospital . . . [when] the ill nurse had been [there]. I worried . . . because she is older and has a heart condition" (Carol).

Conflict was reported between workers, namely, between those who continued working in high-risk situations and the so-called "nonessential staff," who remained at home and were paid. Mary said, "I was kind of resentful because some people didn't have to go to work and were getting paid . . . but I'm going to work facing this."

However, there were positive aspects as a sense of camaraderie prevailed and people obtained much-needed social contact

with others in the same situation. Joanne said, "We commiserated together . . . about the frustrations of being here."

Staff frequently reported feeling angry about the spread of SARS and the lack of, or conflicting, information given by management and public health authorities. Similar concerns were reported elsewhere (6). Some front-line workers felt that the spread of SARS could have been curtailed if management had listened to their concerns and that vigilance regarding safety precautions was minimized. According to Anthony, "They didn't implement screening quickly enough." Mary said, "They didn't catch it earlier . . . just brushed it off and wouldn't listen to the people who work actually with the patients."

Many learned of their quarantine through media coverage, before their managers informed them. Janet stated, "One of the things that I found very frustrating was that . . . I had to hear that I had to be quarantined by the media." Many could not reach public health authorities for information. Others realized that the lack of reliable information was a result of SARS being a new condition and that authorities and management were doing their best to respond to emerging information.

The lack of clear guidelines on how to minimize infection at home and in quarantine added to individuals' fears of contaminating family members and to their uncertainty regarding effective risk control. Maunder and others (2) felt that uncertainty regarding infection-control procedures added to individuals' sense of unease and increased their perception of personal danger. According to these interviews, the lack of clear guidelines appears to have added to frustrations rather than having appeased staff concerns. In Katie's words, "There are lots of steps that were not clear and so everybody kind of developed their own thoughts about what was necessary and what wasn't."

Returning to work following the cessation of the severe infection-control procedures still provoked anxiety for many who doubted whether SARS was really contained. Joanne worried, "Is the same thing going to happen again? How do we know we are really clear?" She said, "There was a lot of apprehension, trepidation, uncertainty, ambivalence about going back."

## Conclusions

Although the quarantined health care workers we interviewed expressed a wide range of emotions including fear, lack of control, anger, and frustration, they were first and foremost dedicated to their profession and to their duty to care for the patients.

Our findings illustrate that communication is vital and that there is a need for coherent, consistent, and easily accessible information from public health authorities, infection-control experts, and health care management. Infection-control policy and procedures need to be clear and vigorously enforced so that staff feel as safe as possible. Front-line workers must be heard, and their concerns must be addressed.

The acute stress of working with highly infectious patients needs to be acknowledged. Easily accessible, practical advice on coping strategies and stress management at work and at home may be useful. Many workers sought advice on how to explain the situation to their children. Some of these resources can be made available through the media, on hospital electronic systems, and in printed format. Issues regarding stigma are understandable and are likely to abate only when public information and role modelling by authorities at all levels are improved.

Mental health professionals must emphasize the need for reliable information and social support for health care workers in dangerous situations. Accessible and timely referral paths should be developed for the small number of health care workers who require mental health services. We should take note of the salient lessons learned from the SARS outbreak to prepare for potential future outbreaks of dangerous infectious diseases.

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**Résumé : Les effets psychosociaux d'être mis en quarantaine après une exposition au SRAS : une étude qualitative des fournisseurs de soins de santé de Toronto**

**Objectif :** Examiner les effets psychosociaux d'être mis en quarantaine en raison d'une exposition au syndrome respiratoire aigu sévère (SRAS) chez les fournisseurs de soins de santé.

**Méthode :** Nous avons utilisé des entrevues qualitatives semi-structurées.

**Résultats :** Nous avons discerné 3 grands thèmes : la perte, le devoir et le conflit.

**Conclusions :** Les fournisseurs de soins de santé mis en quarantaine ont connu les stigmates, la peur et la frustration. Nous soulignons le besoin de renseignements clairs et facilement accessibles pour traiter avec les maladies infectieuses. Il faut des conseils pratiques sur les techniques d'adaptation et de gestion du stress pour préparer les fournisseurs de soins de santé à de futures épidémies éventuelles de maladies infectieuses.