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Facing SARS: psychological impacts on SARS team nurses and psychiatric services in a Taiwan general hospital

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Abstract

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.

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1. Introduction

The outbreak of severe acute respiratory syndrome (SARS) in 2003 resulted in 8096 probable cases and 774 deaths worldwide from November 1, 2002, to July 31, 2003 [1]. During the same period, there were 346 reported probable SARS cases in Taiwan, resulting in 37 deaths directly due to SARS and 36 related to SARS [1,2]. Among the 346 cases, 105 were medical staff, including 12 doctors, 56 nurses and 37 allied workers; 7 died of the epidemic. SARS was an unknown and dangerous disease that our country had not previously faced. The epidemic began in northern Taiwan and soon spread to southern areas. An ad hoc committee was

immediately set up by the central government to coordinate and oversee the prevention and control of the disease. In an effort to control the outbreak, two hospitals, two department stores and two hotels were temporarily shut down. Other four hospitals had to partially close their emergency departments or certain floors and one neighborhood in Taipei was placed under quarantine.

Health care workers were on the front lines in the fight to contain this unknown disease. Before the public knew of the SARS epidemic, some nurses had already begun to care for patients having pneumonia-like symptoms without taking self-protective measures. On May 1, 2003, a head nurse from one of the closed hospitals died of SARS in our hospital and became the first nurse who lost her life in caring for SARS patients. This tragedy raised public concern about the safety of health care workers. Intense media coverage of the outbreak and its effects was everywhere. For example, media statements included

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“Hospital masks are in short supply,” “Nurses tried to escape from quarantined hospital,” “Patients committed suicide in quarantined hospital” and “Disciplinary actions upon the hospitals failing to report SARS cases,” among others [3].

Our hospital, a tertiary medical center in northern Taiwan, was one of the hospitals that were designated to provide care for SARS patients during the outbreak. In response to the situation, the hospital immediately established a command center, directed by an executive and several medical heads. The command center’s duty was to organize teamwork, update the infection control procedures and communicate with the Department of Health of Taiwan. In the emergency department, a SARS team of nursing staff was created to care for incoming SARS patients. A psychiatric team including two senior psychiatrists and two psychologists was also organized to provide assistance to all hospital staff and patients. This team offered various psychiatric services including psychoeducation, debriefing groups, a counseling hotline and individual psychotherapy, among others.

The SARS team of nursing staff was under extreme stress and experienced significant psychological conflict between their duties as nurses and their concern for their own safety. They were especially affected by the death of a head nurse who was transferred to our hospital for intensive treatment of her SARS-like symptoms and died thereafter. At the time of her admission to our emergency department, she was in stable condition and confident about her recovery. She encouraged the nurses on duty and even urged them to care for other patients first.

Recognizing this conflict, the leader of the SARS nursing team immediately enlisted psychiatric help from the mental health team. Along with the interventions, a survey was conducted to investigate staff stress and coping strategies used by the SARS team members at the emergency department during the SARS outbreak. The purpose of this study is to understand the needs and experiences of frontline female nurses in order to provide better psychiatric services in future epidemics.

2. Methods

2.1. Subjects

This retrospective study was conducted from May to June 2003 when a SARS team of nursing staff was organized and cared for SARS patients in the emergency department of a medical center in northern Taiwan. Thirty female senior nurses from the emergency department were selected to form the SARS team. Team selection was made by both the director of the nursing department and the head nurse of the emergency department based on the nurses’ clinical performance, physical conditions, adaptability, willingness and their family’s considerations.

A total of 26 female nurses from the SARS team consented to participate in a survey at the end of their

mission. The age range of these 26 respondents was 23 to 37 years, with a mean age of 29.6 years (S.D.=4.34). The lengths of their professional work experience range from 5 to 12 years (mean=6.5, S.D.=1.98). Of the 26 respondents, 10 (38.5%) are married and 13 (50%) have some religious beliefs. Most of the respondents ($n=19$, 73%) reported being assigned to the team, whereas 6 (23%) volunteered for the mission. Compared with the assigned members, volunteers tended to be older in age ($t=-3.43$, $P<.01$) and senior in work experience ($\chi^2=5.26$, $P<.05$). There was no significant difference in marital status and religious beliefs between the volunteers and the assigned members. Table 1 shows the demographic data of this sample.

2.2. Procedure

On a voluntary basis, the SARS team members were invited to participate in two debriefing groups provided by the psychiatric team during the period of their mission. Ten nurses participated in the first group, which lasted 50 min, during the early phase of their mission and 22 participated in the second, lasting 90 min, during the middle phase.

Topics related to their SARS experiences were discussed in these two groups, such as the psychological conflicts and stresses experienced in this mission, coping strategies and possible preventive or intervening measures for staff. Permissions from all the group respondents were granted to the researchers to use the group notes in formulating several significant issues (i.e., immediate reactions, major stressors, effective measures, coping strategies, motivators to join future missions).

At the closing phase of the mission, 21 (81%) nurses were interviewed in small groups of 4 to 6. The interviews followed a semistructured schedule derived from previously identified issues. Based on the analysis of the interview protocols, the SARS Team Questionnaire was developed. Twenty-six (87%) female nurses who gave informed consent to participate in the survey then completed this questionnaire.

Table 1
Demographic characteristics of the respondents ($N=26$)

Variable	Mean (S.D.)	<i>f</i>	Percentage (%)
Age (years)	29.6 (4.34)		
Sex			
Male		0	0
Female		26	100.0
Work experience (years)	6.5 (1.98)		
Marital status			
Married		10	38.5
Not married		16	61.5
Religion			
Yes		13	50.0
No		13	50.0
SARS team membership			
Assigned duty		19	73.0
Volunteer		6	23.0
Not specified		1	4.0

2.3. Measure

Due to the difficulty of conducting research during a crisis in which clinical responsibilities precluded careful research planning and systematic data collection, the psychiatric team used whatever materials were available at hand to design the SARS Team Questionnaire in an effort to understand the experiences of the SARS team members. Preliminary analysis showed that some scales in this questionnaire have satisfactory internal consistency while further examination of reliability and validity is not available.

The SARS Team Questionnaire consists of 72 items that assess six areas: (a) immediate reactions to the mission; (b) major stressors inherent in caring for SARS patients; (c) effective measures to reduce stress; (d) coping strategies; (e) motivators to join future missions; and (f) evaluation of psychiatric services. The “immediate reactions to the mission” subscale consists of 18 items that measure the cognitive and emotional reactions of the respondents immediately after learning about their mission of taking care of SARS patients — for example, “I felt it was unfair,” “I felt nervous and worried” and “I took it as a call of duty.” All respondents were asked to rate the degree to which they had various psychological reactions toward their duty of caring for SARS patients on a four-point scale (0=*not at all*; 1=*slightly*; 2=*moderately*; 3=*very much*). The internal consistency coefficient was .86 (Cronbach’s α) for the immediate reaction subscale.

The “major stressors inherent in caring for SARS patients” subscale consists of 23 items that assess stresses related to the nurses’ mission. All respondents were asked

first to indicate if they had experienced each of the stressors (*yes/no*) and then to rate the severity of their experienced stress on a four-point scale (0=*not at all*; 1=*slightly*; 2=*moderately*; 3=*very much*). Sample items are listed in Table 2. The internal consistency coefficients were .86 (Kuder-Richardson Formula 20) for the number of stressors and .86 (Cronbach’s α) for the stress severity.

The “effective measures to reduce stress” subscale consists of 15 items enumerating actions/resources that were taken or provided to meet the respondents’ needs during the SARS crisis and their perception of the effectiveness of these measures. All the respondents were asked first to indicate if they had used each of the measures (*yes/no*) and then to rate the effectiveness of the measures on a four-point scale (0=*not effective*; 1=*mildly effective*; 2=*moderately effective*; 3=*very effective*). Sample items are listed in Table 3. The internal consistency coefficients were .47 (Kuder-Richardson Formula 20) for the number of measures and .85 (Cronbach’s α) for the degree of effectiveness.

The “coping strategies” subscale includes 12 behaviors that the respondents might have employed in coping with the stresses related to their mission. All respondents were asked to rate the frequency of various coping strategies used on a four-point scale (0=*almost never*; 1=*sometimes*; 2=*often*; 3=*almost always*). Sample items are listed in Table 4. The internal consistency was .27 (Cronbach’s α) for the rating of coping strategies.

The “motivators to join future missions” subscale consists of five possible considerations that may enhance respondents’ willingness to join the SARS team in the future. These items are family support, adequate and sufficient protective

Table 2
Major stressors and stress severity while caring for SARS patients ($N=26$)

Item	f^a	Percentage (%)	Severity ^b [mean (S.D.)]
1. Worry about being negligent and endangering coworkers	24	92.3	2.00 (0.91)
2. Frequent modification of infection control procedures	24	92.3	1.88 (0.73)
3. Uncertainty about when the epidemic will be under control	24	92.3	1.76 (0.88)
4. Worry about inflicting SARS on family	23	88.5	2.00 (0.96)
5. Worry about being negligent and endangering patients	23	88.5	1.84 (0.99)
6. Protective gears cause physical discomfort	23	88.5	1.44 (0.82)
7. Worry about nosocomial spread	21	80.8	1.64 (0.95)
8. Documentation and reporting procedures unclear	21	80.8	1.60 (0.82)
9. Worry about lack of proper knowledge and equipment	21	80.8	1.52 (0.96)
10. Being without properly fitted environment	21	80.8	1.46 (0.88)
11. Death of the head nurse	20	76.9	1.56 (1.04)
12. Worry about getting infected	19	73.1	1.48 (1.12)
13. Protective gears being a drag in providing quality care	19	73.1	1.30 (1.02)
14. Patients’ emotional reaction	19	73.1	0.92 (0.70)
15. Equivocal definition of the responsibility between doctors and nurses	18	69.2	1.28 (1.02)
16. Conflict between duty and safety	17	65.4	1.20 (1.04)
17. Patient families’ emotional reaction	17	65.4	0.88 (0.78)
18. Worry about lack of manpower	16	61.5	0.96 (0.84)
19. Coworkers being emotionally unstable	15	57.7	0.84 (0.85)
20. Deterioration of patients’ condition	14	53.8	0.92 (1.00)
21. Blaming from commanding officers	9	34.6	0.54 (0.88)
22. Coworkers displaying SARS-like symptoms	9	34.6	0.40 (0.76)
23. Yourself displaying SARS-like symptoms	7	26.9	0.38 (0.92)

^a Frequency represents the number of subjects who responded *yes* to a specific item on the list of stressors.

^b Severity was rated on a four-point scale (0=*not at all*; 1=*slightly*; 2=*moderately*; 3=*very much*).

Table 3
Effective measures to reduce stress of the SARS team nurses (N=26)

Item	f	Percentage (%)	Effectiveness ^a [mean (S.D.)]
1. Psychiatric services	26	100.0	2.54 (0.71)
2. Encouragement among coworkers	26	100.0	2.54 (0.71)
3. Hospital providing nutriment	26	100.0	1.77 (0.95)
4. Sufficient rest or time off	25	96.2	2.50 (0.76)
5. Appropriate work shift	25	96.2	2.35 (0.85)
6. Hospital enforcing stringent infection control procedure	25	96.2	2.35 (0.80)
7. Sharing jokes and humor among coworkers	25	96.2	2.35 (0.80)
8. Sufficient equipment provided by hospital	24	92.3	2.31 (1.01)
9. Senior staffs sharing their experience	24	92.3	2.31 (0.93)
10. Support from commanding officers	24	92.3	2.15 (0.97)
11. Government offering allowance	23	88.5	2.08 (1.06)
12. Hospital providing regular education program	22	84.6	2.27 (1.00)
13. Clarification of the transmission pathway	22	84.6	2.12 (1.11)
14. Clear guidelines for medical procedures	17	65.4	1.65 (1.32)
15. Improvement in patients' condition	13	50.0	1.38 (1.42)

^a The effectiveness of measures was rated on a four-point scale (0=*not effective*; 1=*mildly effective*; 2=*moderately effective*; 3=*very effective*).

equipment, clear information about the disease, bonus pay for dangerous work and reasonable staffing/shift. Respondents were asked to rank their preference for these considerations.

Finally, the "evaluation of psychiatric services" subscale was conducted by asking the respondents to rate their experience of the debriefing groups on a five-point scale (0=*not helpful*; 1=*slightly helpful*; 2=*fairly helpful*; 3=*moderately helpful*; 4=*very helpful*). They were also invited to write down their suggestions for future services to be provided by the psychiatric team.

2.4. Data analysis

Descriptive statistics were employed to organize the data collected from the survey. Correlational analysis was performed to evaluate the internal consistency of the SARS Team Questionnaire.

3. Results

3.1. Immediate reactions to the mission

Upon knowing their assignments to the SARS team, 17 to 18 members (65–69%) held a positive attitude (e.g., "I took

it as call of duty," "I took it for granted," "I took it as challenge."). However, 3 to 8 nurses (12–31%) reported experiencing a mixture of various negative feelings such as anxiety, fear, depression and loss of control. They stated that it was too much to expect of them to risk their own lives and to jeopardize their well-being to be "heroines." In addition, excessive and overly critical media coverage had imposed considerable pressure on them.

3.2. Major stressors inherent in caring for SARS patients

As the epidemic waxed and waned, some situations were additionally stressful. Table 2 shows that a majority of respondents suffered from stresses related to worries about colleagues ($n=24$, 92%), patients ($n=23$, 89%) and family members ($n=23$, 89%). The frequent changes in infection control measures ($n=24$, 92%) and documentation process ($n=21$, 81%) as well as the increase in casualties had caused further stresses of uncertainty ($n=24$, 92%). They were also concerned about their lack of knowledge of the virus ($n=21$, 81%), which was becoming increasingly rampant. Not armored with adequate protective equipment ($n=21$, 81%), they felt that their well-being was threatened. On the other hand, wearing protective equipment hindered their

Table 4
Coping strategies of the SARS team members (N=26)

Item	f	Percentage (%)	Mean (S.D.) ^a
1. Taking protective measures (washing hands, wearing mask, taking own temperature, etc.)	26	100.0	2.62 (0.50)
2. Actively acquiring more knowledge about SARS (symptoms, transmission pathway, etc.)	25	96.2	2.19 (0.80)
3. Engaging in health-promoting behaviors (more rest, exercise, balanced diet, etc.)	23	88.5	1.62 (0.90)
4. Switching thoughts and facing the situation with positive attitude	22	84.6	1.58 (1.06)
5. Engaging in recreational activities (shopping, going to movies, outdoor exercises, internet surfing)	22	84.6	1.38 (0.90)
6. Chatting with family and friends by phone to share concerns and support	21	80.8	1.19 (0.85)
7. Limiting self from watching too much news about SARS	16	61.5	0.81 (0.85)
8. Distracting oneself from thinking about SARS issues by suppression or keeping busy	13	50.0	0.73 (0.83)
9. Acquiring mental health knowledge and information	10	38.4	0.62 (0.82)
10. Practicing relaxation methods (meditation, yoga, tai chi, etc.)	10	38.4	0.50 (0.71)
11. Venting emotions by crying, screaming, smashing things, and so on	7	26.9	0.31 (0.55)
12. Using alcohol or drugs	3	11.5	0.15 (0.46)

^a Frequency of use of various coping strategies was rated on a four-point scale (0=*almost never*; 1=*sometimes*; 2=*often*; 3=*almost always*).

work, causing discomfort ($n=23$, 89%) and impairing the quality of care ($n=19$, 73%).

Furthermore, the potential threat of the nosocomial spread of SARS ($n=21$, 81%) added an extra burden to the SARS team members. Twenty respondents (77%) reported the tragic death of the head nurse as a major stressor for them. The conflict between their duty and their own safety in the workplace ($n=17$, 65%) made them reconsider the expectations of their profession (i.e., putting their patients' well-being first). One of the SARS team members, who had cared for the deceased nurse, reported that caring for a colleague as a patient was emotionally difficult. However, none of the SARS team members had actually left the profession of nursing due to the stress of the SARS epidemic.

Eighteen (69%) respondents reported conflicts with doctors over "who should be accountable for explaining patients' physical condition to the concerned parties" or "who should handle the hassles with the patients and their families regarding the limited availability of negative-pressure rooms and isolation beds," among others. Some respondents complained that some doctors interacted with SARS patients and their families in a negative manner that caused tension between the patients and the medical staff, adding an extra burden to the team members, hurting the cooperative relationship between doctors and nurses and leading the latter to sometimes feel powerless and helpless.

3.3. *Effective measures to reduce stress*

During the outbreak, our hospital responded rapidly to help the team in many ways. Table 3 lists all the effective actions/resources mentioned by the respondents. Although psychiatric services were not included in the very early stage of the hospital's action, the nurses all agreed that the psychiatric services ($n=26$, 100%) were significantly effective in helping them manage their stress. Encouragement among peers ($n=26$, 100%), enough rest and time off ($n=25$, 96%) and appropriate work shifts ($n=25$, 96%) were all helpful in reducing their stress and restoring their energy.

Enforcement of stringent infection control procedures ($n=25$, 96%), supplies of adequate protective equipment ($n=24$, 92%) and the regular education program ($n=22$, 85%) were taken as strong, committed support from the hospital administration and therefore beneficial to morale, as was the senior nurses' mentoring of the junior nurses ($n=24$, 92%).

3.4. *Coping strategies*

The SARS team members also reported strategies for relieving tension during the epidemic (see Table 4). For examples, they adopted more active personal protective measures ($n=26$, 100%; e.g., taking their own temperature, wearing masks, washing their hands), learned more about the disease ($n=25$, 96%; e.g., symptoms, mode of transmission) and engaged in health-promoting behaviors (e.g., more rest, exercise, balanced diet).

Instead of feeling frustrated, some changed their attitudes and started facing their work more positively ($n=22$, 85%). Team members frequently met after work for a debriefing session, keeping themselves posted on problems that they were faced with at the time and exchanging information with the head nurse. These informal small group gatherings made them feel confident rather than confused.

Some ($n=22$, 85%) engaged in recreational activities such as telling jokes, shopping, going to movies, internet surfing and participating in outdoors activities to reduce stress. Twenty-one (81%) nurses reported feeling comforted in chatting with their families and friends over the phone. In particular, photos showing nurses in protective gear sent by video cell phones to family members were a great source of reassurance.

Sixteen (62%) respondents avoided watching much news about SARS on TV, which had been disturbing and unfair, imposing unnecessary pressure on them. In general, they seemed to cope well with this extremely stressful situation.

3.5. *Motivators to join future missions*

Among motivating factors that could make the nurses more willing to join the team in the future, the most crucial was having adequate and sufficient protective equipment, followed by clear information about the disease, bonus pay for dangerous work, reasonable staffing/shift and family support.

3.6. *Evaluation of psychiatric services*

Respondents' feedback about the psychiatric services provided was solicited to help improve the delivery of psychiatric services in the future. This is especially helpful and important since interdisciplinary cooperation is required in such a situation. Twenty-three (89%) respondents agreed that the psychiatric services were a great form of support, with the debriefing group being the most commended.

3.7. *Suggestions for psychiatric services*

In general, the SARS team nurses suggested that (a) the psychiatric services be more flexible, informal and relaxing since they found it difficult to match their work schedule with the group time; (b) more individual counseling be provided on some personal issues (e.g., anger) that are difficult to mention publicly; (c) debriefing groups be downsized to fewer than nine members and the duration shortened to 50 min or less as they felt appropriate; and (d) continuous psychiatric services be provided because the secondary traumatization still haunted some.

4. Discussion

The SARS epidemic of 2002–2003 was one of the most virulent that ever threatened health care workers in Taiwan.

Searching through the epidemiological literature on disease outbreaks, we found a paucity of studies regarding psychiatric services in similar situations [4]. In exploring the unknown, this study represents a needed effort to set up a task force to address the needs of health care workers on the front line.

This study showed that the leader of the SARS team played an important role in coordinating services [5]. Being in the leader's position, she had to bridge the gap between the hospital command center and the nurses. As a consequence, she sustained much stress. She had to be sensitive to members' emotional status and respond accordingly to maintain high morale. Prior to this event, the team leader (H.-L.L.) and the psychiatrist (S.-H.L.) had worked collaboratively on another occasion. Because of this past partnership, the team leader was able to call for psychiatric help immediately when she noticed the increased irritability, inattention and withdrawal of some team members. On the other hand, the psychiatric team's anxiety about volunteering to provide face-to-face services to the SARS team members was greatly reduced with the help of the SARS team leader. She arranged an independent, safe and quiet meeting place for the debriefing groups and took proper protective measures to make all the participants, including the psychiatrists and psychologists, feel secure and relaxed. This experience is consistent with the observation of Maunder et al. [6] that a preexisting relationship is essential in establishing a collaborative partnership that works efficiently and responsively during a crisis.

The results of this study also echo, for SARS, the finding of Mitchell et al. [7] that the nursing staff sustained severe stress while fighting an outbreak of vancomycin-resistant enterococci (VRE). Therefore, it is recommended that the possibility that such psychological reactions to extreme stress may be common among nurses caring for victims during a highly infectious epidemic be considered.

In agreement with the prior findings of others, this study identified several major stressors in the work environment. These stressors include worrying about infecting family members [8], feelings of uncertainty, inadequate staffing level [9], the virulence of the disease and inappropriate equipment [10], nosocomial spread [11] and personal danger [12]. This highlights the importance of providing timely, clear and updated information to nursing staff with regard to new handling procedures, patient numbers, and the like. In addition, tension between doctors and nurses interfered with teamwork. To address this, meetings of doctors and nurses should be held frequently so that their shared tasks can be identified, conflicts reduced and teamwork strengthened. Psychiatric consultation may be, as it was here, an effective measure to reduce stress and enhance teamwork. For this reason, from the beginning, the integration of consultation psychiatrists into a task force for a crisis is strongly recommended.

It is encouraging to find that nurses cope well with challenging situations [7]. Most of the SARS team staff became more confident and optimistic while the epidemic was developing. Contrarily, some team members found it difficult to resume their normal lives even long afterward. They suffered from secondary traumatization in response to the stress of their work as nurses, with the patients suffering the primary trauma. Raphael et al. [13] and Chang et al. [14] documented that rescue workers often suffer from psychiatric and posttraumatic distress. The situation in this disease outbreak, however, is different from other rescue work. Therefore, it is extremely important to note that, as learned from this study, these secondarily traumatized team members should be further observed, educated and properly treated.

Will another SARS epidemic ever occur in the future? It is essential to prepare for the possibility of another epidemic. We recommend that the Department of Health and the Center for Disease Control in Taiwan should, while emphasizing hygiene, temperature monitoring and fever management, also include psychiatric preparedness and stress monitoring for health care teams in their planning to fight another epidemic. That is, the psychiatry department should be included in the hospital command structure at the preparation stage for the next epidemic. Based on the SARS team's recommendations, psychiatric services optimally should be more flexible, active and continuous. This means that more psychiatric staff are required if mental health services are to be able to meet the need for services during a highly stressful epidemic.

This study is limited by the small number of respondents and the self-selection of the sample, which reduce the generalizability and validity of the findings, especially the 100% approval rating for the psychiatric services. However, there were additional anecdotal evidence to support both the issues raised and the positive evaluation of the psychiatric services. For example, one of the authors (S.-H.L.) was later invited by the nursing staff at the emergency department to teach the nursing staff psychological methods to enhance their ability to cope with occupational and psychological challenges. A request for more debriefing groups was also received.

In addition, although it might be interesting to examine potential differences in the nurses' responses to the rating scales between the volunteers and those assigned or between those who were married and lived with their families and those who did not, the smaller number of the subgroups limits our ability to make such comparisons.

5. Conclusions

This study reports successful interventions over time, in response to the SARS epidemic, by a psychiatric team that helped health care workers, particularly frontline female nurses, provide better nursing care during this health care crisis. The results, based on the nurses' own reports, support the importance and benefits of psychiatric consultation

services for the emergency department nursing staff in order to reduce their secondary traumatization. Additional findings include the need for more trained psychiatric staff to provide more flexible and continuous services, the importance of meetings to improve teamwork and reduce conflict between doctors and nurses and the interesting discovery that video cell phones provided needed reassurance from afar to the worried families of the nurses. These findings enhance our knowledge on the needs of frontline nurses and health care workers and support the planning of better psychiatric services in future epidemics, which should, in turn, improve patient care.

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