Therapeutic responses of health-care workers to patients with Severe Acute Respiratory Syndrome (SARS) in the acute phase

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Abstract This study aimed to explore the therapeutic verbal and behavioral responses of health-care workers to patients with SARS. Twenty survivors of SARS in Hong Kong discharged from hospital for one month participated in a semi-structured interview. Results of a qualitative analysis reveal that responses, which may alleviate the distress of patients, can be summarized into four thematic therapeutic phrases ("Induction of Hope", "Suggestion", "Care and Concern", and "Normalization") and five thematic therapeutic acts ("Listening and Support", "Diligence and Service", "Physical Proximity", "Professional Competence", and "Social Support"). They appear to be therapeutic because they can buffer the negative effects of SARS and comprise elements of supportive counseling. The findings may give heuristic clinical value in guiding health-care workers to deliver appropriate responses to patients in the acute phase, if SARS or a comparable disease resurges in the future.

INTRODUCTION

Severe Acute Respiratory Syndrome (SARS), which is caused by a novel strain of conoravirus, severely affected 29 countries with a cumulative total of 8422 probable cases and 916 deaths in 2003 (SARS Expert Committee, 2003). Patients with SARS in the acute phase tend to be psychologically strained for several reasons. First, as carriers of this novel highly contagious and lethal disease, patients could have prominent worries such as survival threat, physical damage, and sense of rejection in the acute phase (Cheng *et al.*, 2004a). Second, at the acute phase of presentation, common symptoms include fever, influenza-like chills, myalgia, malaise, dizziness, diarrhoea, soreness of the throat, and loss of appetite (Lee *et al.*, 2003; SARS Expert Committee, 2003). In many cases, rapid and drastic loss of respiratory functioning necessitated the patients be put on a ventilator in the Intensive Care unit. Such a distressing and debilitating experience likely predisposed one to an enormous need for emotional and practical support. Unfortunately as barrier nursing was applied, family social support such as bedside company and visit was lost. Third, massive doses of steroid were frequently applied to combat the cytokine storm and reduce the inflammatory responses in the treatment for SARS (Lee *et al.*, 2003). Steroid related mental disturbances during the acute phase can be excruciating (Sirois, 2003). The above indirect and direct effects of SARS including barrier nursing, somatic distress, and massive steroid use have been reported as probable causes for various psychiatric complications in the patients (Cheng, *et al.*, 2004b).

Under strict infection measures, non-essential personnel including clinical psychologists, psychiatrists and social workers entering into isolation wards are

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strongly discouraged. Health-care workers (HCWs) such as nursing and medical staff in isolation ward may hence stand on a better position to provide immediate face-to-face counseling to these sufferers. However, there is a paucity of knowledge about the specific salutary responses that can mitigate the distress of patients with SARS. For instance, gratitude is one of the most common and beneficial emotional responses after a traumatic experience (Emmons, 2004; Fredrickson, 2003). What are the antecedents and features of the health-care workers (HCWs) associated with this positive emotional response of the SARS sufferers? In addition, under what circumstances, what specific verbal and behavioral responses could soothe the emotion of the sufferers? An attempt to answer these questions may allow HCWs to deliver appropriate responses to the sufferers in the future outbreak. Given the novelty of the disease and the heuristic value of qualitative analysis in new healthcare issues (Fitzpatrick & Boulton, 1994), this preliminary qualitative study was aimed to explore the antecedents and therapeutic responses of HCWs to the sufferers of SARS.

METHOD

Sample

Sixty-four Chinese Hong Kong SARS survivors, who were scorers of high distress identified in a large-scale psychological screening at one-month recovery, were contacted through telephone and invited to attend to a session for individual interview and counseling. Details of the screening and features of these high scorers were reported elsewhere (Cheng *et al.*, 2004a). These high scorers consisted of 16 men and 48 women with an age range from 22 to 65 (Mean = 38.0, SD = 1.8). They had a score of 19 or above in the Chinese version of the Beck Depression Inventory or Beck Anxiety Inventory (Cheng, 2001; Cheng *et al.*, 2002)

Data collection

After the explanation of research purpose and collection of written consent, semi-structured interviews were conducted. The interviews were performed in a clinic by the authors (except CWW and SS), who would offer counseling to the same participants after the interview session. Because SARS was a highly stigmatizing disease and had already caused great social discrimination at the time of interview in the whole society (SARS Expert Committee, 2003), to avoid possible negative sentiments of the participants, we decided not to record the conversation. To standardize the procedure and minimize interviewer's bias, two instructions were stipulated. First, participants' verbatim should be immediately dictated and subsequently transcribed without interviewers' comment. Second, a non-directive approach was adopted to encourage participants to elaborate their own narratives. Each interview was relatively brief and lasted for about 15 to 25 minutes. In the interview, we broadly defined the construct "therapeutic" as any qualities of being capable of decreasing one's emotional distress and/ or increasing one's pleasant feeling. Three key questions were set and listed below.

1. During hospitalization, did you encounter any situation that you feel particularly grateful to the HCWs (for reducing your emotional distress and/ or increasing your pleasant feeling)? If positive, what was that situation?
2. What did she or he say to reduce your emotional distress and/ or increase your pleasant feeling in that situation?
3. What did she or he do to reduce your emotional distress and/ or increase your pleasant feeling in that situation?

Data were analyzed with interpretative phenomenological analysis, which intends to capture the meaning to the participants of the phenomenon under investigation (Smith, 1996). Individual transcripts were repeatedly read and then coded to identify emergent themes (or types) of therapeutic responses. Recurrent themes were identified across transcripts. These themes indicate a shared understanding among the participants of the phenomena under investigation. SKWC performed the principal analysis. Three psychologists (RC, SC, and SS) conducted an independent examination of the emergent and recurrent themes. The final themes were further refined by SKWC. To ensure the trustworthiness of the qualitative research, inter-coder reliability was examined in a rigorous way. The transcripts and list of codes were given to another four psychologists (CW, GC, MW, and QW) for independent coding. The total number of codes assigned to the transcripts was calculated, and the

percentage agreement for coding of the transcripts was satisfactory, (range=68% to 85%; mean=76%, SD=7.2). This approximates the percentage agreement found in previous qualitative research, in which individuals with graduate training coded study transcripts and had 71% agreement (Vig *et al.*, 2002).

RESULTS

Sample Features

Among the 64 survivors invited, only 20 (age mean=39.8, SD=10.9, range 24-65; 14 female) agreed to attend to the clinic and participate in the study. Some common reasons for declining the interview included: (1) being physically exhausted, (2) too busy to participate, (3) unwilling to return to the hospital in the short-term, and (4) perceiving no need for psychological service. Comparison between the attending and non-attending survivors revealed non-significant differences in the major demographic and clinical features such as age (t=0.89, df[62], p>.05), sex (χ^2=0.6, p>.05), presence of chronic illness (χ^2=1.1, p>.05), and history of psychiatric illness (χ^2=0.0, p>.05).

Thematic analysis for therapeutic responses

In the transcripts, we identified two types of situations (the "health-related situation" [HRS] and "other situation" [OS]), in which participants reported the occurrence of therapeutic responses of the HCWs. In addition, thematic analysis revealed the presence of different but meaningful categories of the verbal and behavioral responses. Together with the two types of situations, thematic therapeutic responses are illustrated in the following section with examples.

As the original responses were recorded in Cantonese, the translation of the following English responses was initially conducted by the first author. To ensure the responses being properly translated, two co-authors (SC and GC) cross checked with the translation. These authors are bilingually proficient and have received the post-graduate level of professional training in a local university.

Therapeutic phrases of HCWs

Four thematic verbal responses, which we grouped as therapeutic phrases, were identified and emerged in the analysis. Below are their respective functions and illustrations.

Induction of Hope. This type of therapeutic phrases can give patients' positive anticipation of outcome and sense of security. The primary purpose is to reduce their anxiety and worries.

> When I received physical check-up (HRS), I felt tremendously relieved when the doctor said "Don't worry. You will get over it". Though simple, the words comforted me greatly. (Participant 1)
>
> I remembered that the disease was not yet under control and we were very afraid (HRS). But when the doctor told us "You don't have to worry. We have many treatment methods", I felt much settled and was less afraid. (Participant 2)
>
> The course of illness was fluctuating. Sometimes the fever had gone, but sometimes the fever came back (HRS). But I was relieved when the doctor told me "We would find the best treatment for you. Don' t be worried". (Participant 4)

Suggestion. This type of therapeutic phrases is to offer concrete options to reduce distress or problems of the patients.

> I was anxious about the injection because we had frequent blood taking (HRS). When the nurse gently told me "Be relaxed, and don't be afraid", I felt better. (Participant 9)
>
> I was fainted while walking (HRS). The doctors suggested that I should not wander around if not necessary. I knew he cared for me. (Participant 11)
>
> We were kept in isolation ward and felt bored (OS). The nurse said that " ..... you can look outside when feeling bored".(Participant 13)

Care and Concern. This kind of therapeutic phrase serves to soothe the patients' emotional distress with concern and humor.

> I had diarrhea with feces spreading around (HRS). I felt embarrassed but the nurses said "Don't worry! How do you feel? Any dizziness and discomfort now?". They did not blame me but just cared for me.

(Participant 7)
When I was visited by doctor in the daily round (HRS), he asked "How do you feel today?" Just one question of concern, I felt different..... (Participant 8)
Sometimes we chatted with the HCWs in ward (OS). They made joke and said "You should leave the hospital soon and don't stay here for too long". We laughed and felt better. (Participant 16)

Normalization. This category of therapeutic phrases aims to normalize the presence of emotional distress or behavioral outcomes.

When I saw other patients had discharged but the doctor did not allow me to have an earlier discharge (HRS), I felt sad. The nurse comforted me by saying, "In fact, many patients have to stay for a long period of time in this ward. (Participant 12)
We were kept in isolation ward and felt bored (OS). The nurse said that "it's normal feeling bored in ward.....".(Participant 13)

Therapeutic acts of HCWs

Five thematic behavioral responses, which we categorized as therapeutic acts, emerged in our analysis and are summarized as below.

Listening and Support. The HCWs listen to patients' concern and proffer tangible or intangible support to the patients.

I was worried for the prognosis (HRS). The doctor listened to my worries.
(Participant 3)
When the doctor did not allow me an earlier discharge..... (HRS), I felt sad. The nurse comforted me by offering me an ice-cream!
(Participant 12)
When other patients blamed the HCWs (OS), the HCWs were tolerant and remained silent (Participant 19)

Diligence and Service. This kind of acts includes the delivery of professional nursing care and service to satisfy patients' needs.

I needed to go to the toilet but was unable to do so (OS). The nurses assisted me walking with care. (Participant 14)
When I made some daily requests such as making phone call and asking them to fill water into bottle (OS), the staff was responsive and fulfilled my need. I felt grateful and good about these, because we were too weak to do some basic tasks.
(Participant 18)
I was bed-bound, not able to move myself, but needed bowel opening (OS). The HCW gave me the utensil and did the cleansing for me with patience afterwards. (Participant 19)

Physical Proximity. The kind of acts serves to create a sense of acceptance by shortening physical distance with the patients.

I had diarrhea with feces spreading around ...(HRS) They were not afraid of me, and even physically touched me! (Participant 7)
When I was visited by doctor in the daily round (HRS), ...he entered into the isolation cubicle and stood next to me, not behind the door of isolation cubicle. I felt good about it. (Participant 8)
When watching television (OS), they would come and join with us, not avoiding us.
(Participant 20)

Professional Competence. This type of acts allows patient to have a sense of security through the expression of professional knowledge, judgment, and bearing of HCWs.

The disease was not yet under control (HRS). But the doctor could answer my questions and gave me a sense of confidence.
(Participant 2)
The course of illness was fluctuating (HRS), but the doctor explained the best treatment choice to me and I felt relieved.
(Participant 4)
I was worried for the health of my son who also had SARS (OS). The doctor explained to me in detail about my son's condition and gave me a sense of confidence.
(Participant 17)

Social Support. The HCWs attempt to facilitate or generate an atmosphere of social support in ward.

When my fever persisted (OS), the nurse informed my friends to make phone call to

me regularly. (Participant 10)
I was unhappy and low in mood (OS). They would encourage me to contact family and hoped that I could feel better. (Participant 15)
The ward was very quiet (OS). But the nurses initiated conversation with us, and then we talked with each other. The atmosphere in ward was not so poor. (Participant 22)

DISCUSSION

Though we feel this study may make an original contribution in offering psychological support to the sufferers of SARS or comparable diseases in the acute phase, several potentially significant methodological limitations should be noted. One major flaw is the absence of audiotape recording for the interviews, which may be a threat to reliable transcription. However, provided the brief nature of the interviews in term of the content and duration, and the presence of standardized interview procedure including immediate dictation and subsequent transcription, the risk of the transcribed data being significantly distorted seems to be low. Indeed previous investigations using the present method appear to be able to yield reliable and valid phenomenon (Chiesa, *et al.*, 2000). Second, recall bias and memory delay may have confounding effects on the data collected. However, evidence indicated that recollections of psychiatric symptoms during the acute phase by survivors of SARS at one-month recovery were strongly associated with relatives' ratings (Sheng *et al.*, 2004), thus lending support to the use of the method. Third, the relative concise protocol and the absence of the non-helpful responses of the HCWs may be perceived as a lack of in-depth examination and understanding of the phenomenon. However, in view of the vulnerable psychological states of the present sample, an inclusion of the non-helpful or negative responses of HCWs may create enormous adverse emotional reactions and costs of the participants. Excluding the investigation of these negative responses is based on an ethical concern.

SARS is a novel disease that has significant impact on individuals' physical and psychological health and far-reaching influence on health care system as a whole (SARS Expert Committee, 2003). In facing the enormous aversive effects of SARS including isolation treatment, presence of survival threat, social stigma, and debilitating symptoms (Cheng *et al.*, 2004a; Lee *et al.*, 2003), patients would likely be better off if immediate face-to-face counseling could be offered. Due to the highly contagious nature of SARS, HCWs in isolation ward stand on a better position to perform the duty. This study was to explore the therapeutic verbal and behavioral responses of HCWs to patients of SARS in the acute phase. Given the absence of knowledge in this area and the well-recognized value of qualitative approach in healthcare research (Fitzpatrick & Boulton, 1994; Smith, 1996), we conducted the qualitative analysis for the observed responses.

Several salient findings are highlighted. First, these responses could be analyzed and summarized into four thematic therapeutic phrases and another five thematic therapeutic acts. These phrases and acts, which serve specific functions to mitigate emotional distress or increase pleasant feeling of the sufferers, have been shown to have satisfactory inter-coder reliability as assessed by multiple raters. Second, one group of thematic responses contain therapeutic essentials because they can lessen the direct and indirect effects of SARS in the acute phase. For instance, "Induction of Hope" and "Professional Competence" may serve to minimize common worries such as survival threat and physical damage of SARS (Cheng *et al.*, 2004a). Indeed, hope and optimism have been reliably found to associate closely with physical and psychological health of patients with various diseases including heart disease, HIV infection, substance abuse, chronic pain, severe injury, and handicap through initiating and maintaining more health promoting coping and reducing health risk (Carver & Scherer, 2002; Snyder *et al.*, 2002). Thus, this specific group of therapeutic responses may not only facilitate an anticipation of positive outcomes towards the uncertain and lethal nature of SARS, but also engaging one with better coping responses such as staying emotionally calm and better compliant with the treatment regime during the acute phase. Besides, "Physical Proximity" and "Social Support" may reduce the perceived social rejection and repulsion, whereas "Diligence and Service" may alleviate the distress associated with physical debility during the acute phase. Third, another group of thematic responses, that include "Listening and Support", "Care and Concern", "Suggestion", and "Normalization", have curative effects because they are highly comparable with the healing elements in

supportive counseling (Brammer *et al.*, 1989). This finding indicates that generic counseling skills can be salutary in ameliorating emotional distress for this clientele. Fourth, the frequency of the verbal and behavioral responses was roughly the same in the health-related situations, whereas in the other situations, the behavioral responses were more frequently recalled (40% more than the verbal responses). One speculation for this finding is that patients may give equal weighting to the words and works of HCWs on the health-related issues, but the acts of HCWs such as their daily routine services and nursing care have practical significance to the patients and hence were better recalled than the discourse in the non-health related interactions. Finally, consistent with previous findings that gratitude was one of most frequently reported emotions (e.g., gratitude was rated as the second most common emotion out of 20 immediately after September 11th in the States; Fredrickson *et al.*, 2003), we observed all our participants could easily recall specific situations regarded as grateful and appreciative. Given the significant benefits of gratefulness on one's psychological and physical health, and social relationship (Emmons & McCullough, 2004; Fredrickson *et al.*, 2003), clinicians can further play a proactive role in eliciting and nurturing the sense of gratitude among the survivors after their recovery from the traumatic illness.

In short, together with a series of our earlier studies (Cheng *et al.*, 2004a, 2004b, 2004c; Cheng & Wong, 2005; Sheng *et al.*, 2005), this study may enhance one' s understanding of the psychological impact of SARS on the sufferers. Considering the poor short-term adjustment outcomes and the salutary value of emotional support in the acute phase on the outcomes (Cheng *et al.*, 2004a, 2003c), face-to-face counseling offered by HCWs in isolation ward is important. Our present results may give some heuristic guidelines for HCWs to deliver healing phrases or acts to assuage the emotional distress of patients in the acute phase, if SARS or a comparable disease resurges in future.

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医护人员对在急性期的严重急性呼吸系统综合症(SARS)病人的治疗反应

本研究旨在探讨医护人员对严重急性呼吸系统综合症(SARS)病人的治疗口说及行为反应。在香港，20位从医院出院一个月的严重急性呼吸系统综合症病人参予了本半结构性访谈。质性分析结果显示，能纾缓病人不安的反应可归结为四个主题性治疗语词 ("引入希望"、"建议"、"关心与关顾" 及"正常化") 及五个主题性治疗行为 ("聆听与支持"、"勤奋与服务"、"亲近性"、"专业才能"及"社会支持")。他们具备治疗性是因为他们能抵销一些严重急性呼吸系统综合症的负面效应及构成了支持辅导的元素。这些发现可提供启发性临床价值，以指引医护人员能对将来出现的严重急性呼吸系统综合症(SARS)或类似疾病在急性期病人作出恰切反应。

摘要