

# SARS, messages and Finns: A View From A Non-Affected Country

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## Abstract

**Objective:** To describe lay perceptions of SARS among Finns.

**Material and methods:** The data from a population-based household panel (n=308) was collected in 2003 using an open-ended question asking what respondents had heard about SARS. Qualitative, inductive content analysis was carried out.

**Results:** Of the 308 survey respondents 299 responded to the open ended question and mentioned altogether 392 issues involving various aspects of SARS. Sixty seven percent (n=235) of the mentions concerned medical and bio-epidemiological aspects of SARS and 132 involved social, regional, and cultural aspects SARS. Both categories included mentions differentiating SARS as a disease and SARS as an outbreak. While SARS was seen as geographically and culturally remote, participants also mentioned individual SARS victims including a Finnish victim. Most of the mentions were factually correct.

**Conclusion:** Public perceptions contribute to the necessary two-way-risk communication strategies in the control of infectious diseases, and help to correct wrong information.

## INTRODUCTION

In early 2003, the first news of a Severe Acute Respiratory Syndrome (SARS) outbreak came into public knowledge. Between February and July 2003 a total of 8,437 SARS cases in over 20 countries were reported to WHO with a confirmed death toll of 813. [ 1 ] Although there were no confirmed SARS cases in Finland 27 persons were initially treated as suspected cases, two as probable cases, and one was in the end classified as a probable SARS case according to the WHO criteria. [ 1 , 2 ]

Especially one Finnish male, who was admitted to a hospital due to SARS like symptoms, and whose family was ordered to home quarantine, got vivid media attention. He was discharged when his SARS test came back negative. Further, a Finnish male who died from SARS in China during his business trip, got a lot of media attention partly perhaps because he was an acquaintance of the president of Finland. Of Finland's neighboring countries Sweden reported three and Russia one probable case of SARS to WHO . [ 1 ]

Lay perceptions of bio threats like HIV (human

immunodeficiency virus), and BSE (bovine spongiform encephalopathy) are not created in a social vacuum, but develop in social and cultural context. SARS outbreak spotlighted the socio-cultural context of Asia and especially China. For the effective infection disease control, preparedness and risk communication, health care authorities must take into account local circumstances, lay beliefs, awareness, and reactions to the threat in question, and also public's interest to seek information. [e.g. 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 ] In fact WHO has recommended that in controlling communicable diseases and outbreaks, voices of locals should be heard to understand not only their awareness of the disease but also their beliefs, habits and behavior.[ 12 ]

The aim of this study was to explore what Finns have had heard about SARS during the outbreak.

## MATERIAL AND METHODS

A population-based random sample of 500 Finns above 18 years residing in Finland was recruited from the records of a private research institute (Taloustutkimus OY), which conducts national poll studies. Three hundred eight panelists

responded during the six days of the data gathering and filled in an electronic questionnaire in June 2003. At that time it already seemed that the SARS outbreak was waning although few new cases of disease were still emerging in Asia and Canada, and Finland's neighboring countries reported probable SARS cases to WHO [ 1 ]. Of the respondents (n= 308) 54% were females, age range was from 18 to 74 years, and the mean age was 38

years. Twenty nine percent of the sample had university education, and 51% had gone through high school.

As a part of the questionnaire on knowledge, perceptions and behaviors related to SARS [ 13 , 14 ] a specific open-ended question was used and analyzed in this study. The question asked: "Please mention one thing you have heard about SARS (including both official and unofficial information)". Based on the inductive contents analysis of the responses a coding scheme was created. Before coding the data, investigators discussed and reached a consensus on the definition of each category. The quotes were translated from Finnish into English using forward-backward translation procedure.

In this study the word "response" is used to describe answers given by participants. A word mention or issue is used to describe a response or part of the response that is placed into an analytical category, e.g. the next mention included two issues.

## RESULTS

Of the 308 survey respondents 299 responded to the open ended question and mentioned altogether 392 issues involving various aspects of SARS. Two broad categories were identified. One described the medical and bio-epidemiological nature of SARS (e.g. symptoms, diagnosis, transmission mode, infection source), and the other described the social, cultural and regional aspects of SARS (e.g. personal experiences, personal risk assessment, region, explanations related to social or cultural origins of SARS, risk communication).

Sixty seven percent (n=261) of the mentions concerned medical and bio-epidemiological aspects of SARS, and of these mentions 235 described SARS as a disease and 26 described SARS as an outbreak. Altogether 132 mentions concerned psychosocial, cultural, and contextual aspects of SARS; of these 33 described SARS as a disease and 94 as an outbreak; the remaining five mentions could not be placed into any category. Although the mentions were not

categorized as factually correct or false, most mentions were factually correct and there were no signs of systematic misinformation, and participants also reported a variety of issues about SARS instead of covering only one aspect of SARS.

## MEDICAL AND BIO-EPIDEMIOLOGICAL ASPECTS OF SARS

The respondents identified SARS with a medical diagnosis, e.g. "pneumonia" (n=11), "respiratory infection" (n=3), and "virus-disease" (n=9). One respondent used the exact medical diagnosis of SARS. Only few respondents mentioned symptoms of SARS, such as fever (n=4), and respiratory symptoms (n=3), while one mentioned long-term problems in visceral system or in brains. Another respondent said that SARS could cause long term problems in the eyes.

Altogether 34 respondents commented that SARS could cause death while eight mentioned that those who have contracted SARS can get well or they don't necessarily die. Only six participants gave an actual percentage estimation about SARS mortality instead of more general "high", "low" or "lower" mortality (e.g. than in typical pneumonia). According to four participants mortality of SARS would be between 7 15% while one gave a lower estimation and one referred to the news at the beginning of the outbreak telling about 50 % mortality.

As a disease SARS was anchored to common cold and pneumonia in terms of treatment, dangerousness and symptoms. SARS was compared to other diseases while eight respondents said that there are more serious public health problems, e.g. malaria, HIV and pneumonia, and even Ebola than SARS in terms of e.g. morbidity, mortality and dangerousness.

Altogether 45 respondents gave 55 mentions involving issues that made the SARS outbreak possible. According to 15 respondents SARS would spread easily. Four respondents said that the cause of the disease – or the outbreak - had not yet been discovered. Most issues mentioned implied that emergence of SARS was natural. Only two respondents said that the SARS outbreak could be a result of bioterrorism, while one described SARS as "God's punishment to the humanity".

Respondents mentioned different modes of transmission such as "airborne", "by ingestion", "by skin to skin", "by contact with feces of patients" as well as "occupational exposure in health care settings". Further, one in ten

respondents mentioned animals, most often cat (“civet cats”, “wild cats”, “cats”) as a reservoir of SARS. Besides of the cats a few respondents mentioned poultry, rats, cockroaches and dogs. Poor hygiene was mentioned by three respondents.

About 10% of the respondents who answered to the open ended question mentioned something involving the idea that controlling SARS needs active actions from the health care workers and officials and/or of individuals. Drug or vaccine development was mentioned by 12 respondents, isolation by seven and quarantine by two. Other issues mentioned were health care preparedness, cleanliness, good communications and openness about the diseases threat. However, no one mentioned hand washing as a protective measure. One participant said that salty liquorices – sort of candy – would help to prevent SARS, while another mentioned a Chinese herb as “preventive measure”. A few respondents mentioned that a bed rest and isolation were the only treatments available. According to three respondents, time played a critical role both in controlling SARS and offering treatment for SARS patients.

Three persons mentioned face mask as a personal precaution, whereas one participant did not believe that normal masks would have “protective value whatsoever”, and still, one participant said that the sale of “design face masks” has been booming”.

Besides commenting possible dangerousness of SARS, the respondents also described the sudden and even surprising nature of SARS. A few of the mentions described “a lurking nature” of the SARS outbreak: the argument was that although SARS had surfaced only some time ago, it had been there already earlier, and it would be just a matter of time that it – or another similar disease - would emerge somewhere.

Altogether 18 respondents mentioned a risk group of either getting SARS or dying from it. Most commonly mentioned were senior citizens, persons with immune deficiency and children. None of the respondents directly expressed themselves belonging to any high or low risk group.

### **SOCIAL, CULTURAL AND CONTEXTUAL ASPECTS OF SARS**

One third (33%) of the mentions fell into the category of social, cultural and contextual aspects of SARS. Only a few respondents mentioned anything about their own personal experience or personal notion about the threat of SARS. No one mentioned personal worry, while a few mentioned that

there was no reason to worry about SARS in Finland. Further, a few respondents mentioned how the image of SARS was more dangerous than the disease itself and that the mortality of SARS was lower than “it had been implied”.

Altogether 40 respondents stated at least one SARS-affected region, and of those two speculated that there was no risk of getting SARS in Finland. On the other hand, the city of Turku in Finland was mentioned by five respondents as a place where one probable SARS case was treated. All these statements were neutral and calm. Europe was mentioned five times, UK twice, Russia twice and Sweden once as countries having SARS cases. The most often mentioned countries were China (n=25), Canada (n=10), and Far-East or Asia in general (n=10). According to one participant SARS was “...Far East's own problem”. On the other hand, one respondent wondered why whole Asia was perceived as a SARS-affected area in the public eye. Three respondents said that one should avoid traveling to Canada and China and one of those had also cancelled a trip to Asia. In addition to geographical places some participants mention also hospital, airplane, airport as well as more unspecific “far away” as the contexts of getting SARS.

In relation to Asia, and especially to China, respondents mentioned poor hygiene as well as interaction between animals and humans as causes of SARS. One respondent placed SARS in slums, few in kitchens, while 10 placed it in the countryside conditions. According to some quite critical mentions, poor and different hygiene practices from those in Finland were to blame for the emergence and spread of SARS. One respondent blamed Chinese for “asking for trouble” by having kitchens where” vegetables and rats are cheek by jaw.”

As mentioned earlier SARS was related to animals and eating (certain) animals, especially cats. Four of the respondents expressed differences in eating habits between the Finns and Asians. Three respondents used expressions like “gourmet” or “feast”, and one described it “odd” when sketching out the situation where someone had eaten cat – or other animal.

The Finnish male who died from SARS in China was mentioned by 15 respondents, while five mentioned the case of the Finnish male who was admitted to hospital in Finland as a probable SARS case. Further, four respondents mentioned the Chinese physician from Guangdong who became sadly known as the person who died from SARS after he had infected at least 12 persons during his stay in a

Hong Kong hotel.

Seven respondents knew someone who was living or who had come from a SARS affected region, e.g. one respondent told about his new Chinese co-worker and his family who had monitored fever long after their arrival in Finland to ensure health of their children. One participant speculated about a possibility of having guests from Toronto and that he would just need to get information before the guests arrived. In addition to those two participants told something that one could consider as a rumor. One of those mentions involved the origin of the SARS and other involved a plan for treatment strategies of SARS cases in a UK hospital.

Altogether 13 respondents considered public communication as a tool for fighting against infectious diseases and outbreaks. On the other hand, nine respondents expressed irritation about the amount of the attention SARS had received, and some were critical about “the fussing” SARS had received in relation to its dangerousness compared e.g. to malaria and HIV. One respondent stated that communication and openness was “from soup to nuts”. A few respondents used word “fussing” to express how they felt about the SARS related communication or management. Six respondents mentioned that China had whitewashed SARS at the beginning of the outbreak. Four respondents also said that China was to blame for the spread of SARS and one blamed the underdeveloped health care system in China for the SARS death of a Finnish male. Further, one respondent expressed a concern about SARS management and communication in Russia

### **DISCUSSION**

Regardless of the fact that SARS did not reach Finland it served to spotlight how public responded to this new infection threat. This is the first study exploring lay understanding on SARS during the outbreak in the non-affected area by using qualitative material from a population-based panel data. Although the data are limited to the responses to one open-ended survey question, they reveal the spectrum of lay perceptions and verbal expressions of SARS more widely than pre-structured questions often do.

Out 308 Finns who responded to the open-ended research question, 299 gave altogether 392 mentions. The mentions covered many aspects of SARS. Two thirds of the mentions concerned medical and bio-epidemiological aspects of SARS and one third concerned social, cultural and contextual aspects SARS. Both categories included mentions about SARS as a disease and as an outbreak. This lay

differentiation of these two aspects of an infectious disease with an epidemic potential is interesting and has not been reported before in the literature.

Responses fell into the categories of illness attributions created by Howard Leventhal, including dimensions of Identity, cause – etiology, consequences, timeline and controllability “ [ 15, 16 ]”. Identity was reflected e.g. by the disease label of pneumonia and Asia as the context; cause by description e.g. of the transmission modes and human behavior while consequence was reflected mostly by dangerousness (morbidity and mortality) and perhaps a bit surprisingly not that much by its social aspects. Timeline was reflected e.g. by mentions about rapid spread and also about lurking development, treatment of the patients and comments about communication during the outbreak.

Mentions involving eating with special emphasis on exotic eating and hygienic or cultural practices in Asia are in line of Concepts of Pollution and Taboo by Mary Douglas [ 17 ].

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With regards of controllability it was Society or community level SARS control measures that were mentioned more often than individual level measures. Interestingly, personal precautionary measure of hand washing was not mentioned at all, and wearing face mask was referred to rather skeptically. Especially lack of hand washing mentions is interesting, since practically every flu season- and definitely during the SARS epidemic - the public in Finland has been advised to increase and improve their hand-washing. It is hard to say if respondents felt hand washing as so axiom that they did not bother to mention it, or if they felt that the outbreak spreading outside of Finland was more a threat to others and did not pose such a threat that hand washing would have been worth of mentioning.

The fact that SARS was a new unknown communicable disease spreading from person to person, contrary to typical life style diseases or other health threats, which are seen more controllable

It is hard to say whether participants knowingly differentiated SARS as a disease from SARS as an outbreak

but the finding itself is interesting and it also reflects at least public image of the SARS – as a disease which is not only individual's or community's own problem, but also a health threat that can spread over the borders. Typically for an unknown, new disease, heuristic thinking, e.g. earlier personal experiences single cases [ 18 , 19 ] colored some of the mentions.

A few respondents mentioned individual SARS cases that had been by media in Finland. It is probable that these cases made SARS salient. The death of the Finn undoubtedly also added to the poor reputation of the SARS treatment in China in the early phases of the outbreak. The fact that some participants mentioned news about SARS victims and even remembered Finnish victims by name, invoked the questions whether risk communication about sudden outbreaks could benefit from personalized approach.

According to the respondents the SARS outbreak was something “out there”, far away, and also in a way a problem of the people out there, rather than a threat lurking around the corner and even less an imminent personal health threat. Another way of downplaying the proximity of the threat was to mention that too much noise was created due to the SARS epidemic compared to other, common epidemics such as malaria and HIV. Those mentions however, should not be considered only downplaying but also as possible signs of the media fatigue [ 20 , 21 ].

Most of the statements in our data were factually correct and there were no systematic misinformation. Responses covered many aspects of SARS and they seemed to reflect official information that respondents might have received from media or from the web site of the Finnish National Public Health Institute. The Institute was responsible of delivering official SARS information for the public, for the media and for health care professionals. Further according to the World Association of Newspapers [ 22 ] in 2005 Finns were the third of world's greatest newspaper buyers with 522 sales per thousand persons each day, and 73 per cent of Finns were using internet in the spring of 2005, according to the Statistics Finland [ 23 ]

We have earlier published that the Finns had high confidence in the health official in the control of the potential SARS outbreak [ 14 ]. Finns have, also in general high confidence in the public authorities, especially in police and legal system [ 24 ], but also in the health care authorities and professionals [ 25 , 26 ] as well as in the authorities responsible for food safety issues [ 27 ]. This confidence may

help the people to adopt factual information given during time of possible threat.

## CONCLUSIONS

It is only a matter of time when a new sudden pandemic emerges. In order to ensure a good two way -risk communication during a fast spreading outbreak, it is crucial to listen to the public and analyze lay needs - awareness, perceptions and worries, and to find out if there is a need to correct, explore or emphasize certain information

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Social and cultural aspects of infection threats have only recently been studied in the infection control arena. The present manuscript explores lay perceptions of SARS and SARS epidemic and hence, provides information for effective infection disease control, preparedness and risk communication.

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