Original Article

Work-related stressors and coping strategies during COVID-19 pandemic: A qualitative study on reflections of frontline health care workers from India

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Abstract

Background: Frontline healthcare workers, a vital workforce in developing countries is often out of mainstream vision and their challenges and coping behaviors under stressful conditions remain unclear to stakeholders. This study was undertaken with the objective to explore the challenges faced by community surveillance workers and their coping strategies during COVID-19 pandemic.

Methods: A qualitative descriptive study with constructivism paradigm was undertaken for a period of one year by conducting eight focus group discussions and eight in-depth interviews among the health workers undertaking COVID-19 surveillance selected purposively from eight wards within three Boroughs of a Municipal Corporation using interview guide. Thematic analysis was used to compare and contrast the codes to generate themes inductively under two constructs.

Results: The first construct, factors influencing work related stress was categorized into four themes related to- work environment, community's response towards pandemic surveillance, organizational support and personal factors. Main predisposing factors of work place stress were risk of self-infection, concern for family safety, inadequate training, shortage of manpower and protective equipment etc. While a strong commitment towards work, assistance from local community influencers, administrative appreciation and supportive supervision were protective factors against stress. Second construct on coping strategies was categorized into managing stress by problem-focused strategies like adapting with experience, gathering information and sharing experiences, adopting self-care practices; while emotion-based coping strategies included denial, venting out, or turning to religion etc.

Conclusion: Community surveillance workers faced considerable and variable stress during pandemics due to various underlying work stressors, managed innovatively, using self-coping strategies.

Keywords: Adaptation, Psychological; COVID-19; Public Health Surveillance; Occupational Stress.

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Introduction

The world has recently witnessed one of the worst pandemics, which has taken a huge toll on human lives. The COVID-19 pandemic is a major global health crisis. [1] The pandemic imposed a huge workload on the health care workers,

who were greatly involved in improving the health of the COVID-19 patients or suspects. Increased number of health care workers were deployed from around the world and from different areas of work particularly to control the pandemic. Healthcare professionals are overworked and under immense physical and psychological pressure. [2] While some attention is focused on supporting doctors and nurses who are at highest risk of stress during pandemics, the mental health of frontline healthcare workers engaged in community surveillance, are neglected and their coping behaviors under stressful conditions remain unclear. [3-5] From a systematic review it was found that anxiety, stress, depression and poor quality of life reflected poor wellbeing among health care staff. Poor wellbeing coupled with higher levels of burnout were further associated with self-reported errors.[3] A study on frontline nurses in Wuhan, China during the COVID-19 outbreak revealed that they suffered from depression, high level of fear, anxiety and burnout during the pandemic. However, mental health outcomes were negatively associated with self-efficacy, social support, resilience and frontline work willingness. [4] Another study done among severe acute respiratory syndrome (SARS) affected health care workers revealed that approximately three fourth of those affected had psychiatric morbidities. This was accompanied by the feelings of vulnerability, threat to life and uncertainty among the health workers. [5] It is important to understand the stress perceived by the community surveillance workers (CSWs) during their fight to save the nation from pandemic. At the same time, coping strategies needs to be worked out for improving overall health and wellbeing. To continue delivery of effective health services and ensure their retention in workforce, it is imperative to understand the factors that influence resilience and their motivation to work under stress. The objective of the study was to explore the challenges experienced by the community surveillance workers and understand the resilience strategies used to manage work-related stress during the COVID-19 pandemic

Methods:

Study setting:

A qualitative descriptive approach with constructivism paradigm was undertaken by conducting Focus group discussions (FGD) and in-depth interviews (IDI) among the Community surveillance workers (CSWs) selected purposively from eight wards included within three Boroughs of Kolkata Municipal Corporation (KMC) area in the state of West Bengal, India.

Study duration: The study was conducted for a period of one year.

Study participants and sampling: Two groups of participants were approached face-to-face. FGD participants were the community surveillance workers (CSWs) comprising of Honorary Health Workers (HHW), 100 days field workers, Dengue surveillance workers and other volunteers involved in Influenza like illness (ILI) and Severe acute respiratory infection (SARI) surveillance activities selected from eight wards / urban health centers (UPHCs). IDIs were conducted among the second group of participants -Auxiliary Nurse Midwives (ANMs) and Health supervisors (HS) from the same KMC wards. All the participants were female and aged between 21 to 55 years. The final sample size was determined by data saturation attained by thematic redundancy. [6,7] Initially eight participants per FGD were invited, but in some groups 1-2 participants went away after initial few minutes due to some other urgent works. Finally, eight FGD sessions (n=58) were conducted each with duration of around 30-45 minutes and comprising of 6-8 participants. Dropout rate was 90.63% among those invited. IDIs (n=8) were conducted with ANMs/ Health supervisors with duration of around 30-40 minutes. They were included as they were more experienced than CSWs, played a

supervisory role and also participated in surveillance activities themselves. They were trained in Influenza-like illness (ILI)/SARI screening and could provide detailed feedback about their response.

Inclusion criteria:

a. All healthcare workers involved in surveillance activities and had at least one year experience in field activities.
b. All eligible workers who gave their consent.

Exclusion criteria:

a. All eligible workers who were seriously ill.
b. All eligible workers who were quarantined during this period

Data collection

The study was approved by the Institutional Ethics committee (IEC) and necessary permission was obtained from the local authorities of KMC. The purpose of this study including the research question was explained to each participant individually and was given options to participate or not. All were assured that their non-participation, refusal or withdrawal at any stage will not influence their job prospects; assured of sanctity, strict confidentiality of data and anonymity. Prior to the commencement of study, a day was fixed just to build up relationship with the participants, so that they can feel free to express themselves, get acquainted with each other and overcome their hesitancy with researchers and others. After proper counselling, on the day of study, the interviews were audio recorded after obtaining their written informed consent. FGDs and IDIs were conducted by 1st author and assisted by 3rd and 4th authors.

All the authors after having done their MD were working as faculties in the medical institutions and had received numerous theoretical trainings in Qualitative research and had vast experience in different community-based projects. The 1st & 4th authors are female, while 2nd & 3rd authors are male. The researchers had keen interest in exploring the challenges faced and the coping strategies adopted by the already overburdened health workers, during the COVID-19 pandemic.

The researchers established good rapport with the participants and followed techniques like active listening, maintained neutral opinions and offered clarifications when needed. Interviews were audio recorded and field notes were also taken during the sessions to record textual details and non-verbal expressions. IDIs and FGDS were conducted in private, quiet rooms of the health facility at a suitable time without hindering their usual activities. No one else was present during the discussions and interviews besides the participants and the researchers, as that could hinder the free expressions by health workers.

The study utilized a minimalistic semi-structured discussion or interview guide (Fig1) for both FGDs and IDI to allow for comparison of responses. The topic guides were pilot tested on community surveillance workers of another UPHC. The questions and prompts were provided to the participants so that they could be sure of researcher's focus and they could freely express their viewpoints. A broad question was first used: "Please tell us about the different activities that you have to carry out in your job during the COVID-19 times." Open-ended follow-up questions were used for further probing.

How would you describe your job in community surveillance during the COVID times?

Please tell us about your experiences in surveillance of ILI and SARI cases.

How has your work affected you in these times?

Have you ever thought of quitting your job in the current situation?

How do you overcome the challenges of your job?

Fig1. Discussion guide

In this study resilience was described as ability to endure challenges of their job during the COVID-19 crisis and not quit. ILI and SARI case definitions of WHO

were followed. Repeat interviews were not conducted as a part of initial research.

Data analysis and Validation

Thematic analysis approach was used for data analysis. The audio recordings were transcribed verbatim and reviewed for accuracy in the local language Bengali in a day or two. All quotations were translated into English and back translated in Bengali by language experts. The transcripts were returned to the participants for member checking and their feedback was taken to ensure the transcripts had participant's own feelings rather than biased expressions due to researchers own hypothesis. For handling and managing the robust qualitative data, free edition of QDA miner lite software for windows, version 2.0.9 (Provalis Research) was used. Further, the transcripts were independently reviewed by 3 researchers (1, 3rd and 4th authors) through reading and rereading and initial codes were identified. The themes were derived from the data using a bottom-up approach. The codes were assembled into probable themes that were continually revised. An ongoing analysis was performed throughout to review the themes with respect to the codes extracted to further improve each theme. Conflict of opinions was resolved by discussion and meetings held with experts. Data collection was stopped when theoretical saturation was reached and no original themes emerged even with consecutive three transcripts. Finally, categorization into appropriate concept names of themes was decided by consensus of all researchers and applied to all data. To ensure validity of the data help of two researchers experienced in qualitative research was sought and member checking with health workers was done as a triangulation method. COREQ guidelines for reporting qualitative studies were followed. The study was approved by Institutional review Board of Nil Ratan Sircar Medical College and Hospital, Kolkata, West Bengal, India with an approval code No/NMC/6675 dated 10.12.2019. The study was conducted after obtaining written informed consent from the study participants. The procedures adhered to the ethical guidelines of the Declaration of Helsinki.

Results

All CSWs were females aged between 21-55 years with a mean age of 31± 6.2 years. Their work experience ranged between 2-18 years with a mean of 6.8 ± 5.5 years.

Inductive approach was used to identify codes, then comparing and contrasting the codes, themes were generated under two constructs namely 'Factors influencing work related stress' and 'coping strategies used by CSWs'. First construct was divided into four themes, related to work environment, community's response, organizational support and personal factors; each theme had some predisposing and protective factors which increased or decreased work-related stress respectively. Second construct was divided into problem-focused and emotion-based coping strategies. (Fig2)

Factors influencing work related stress

Theme 1: Work environment: dilemma between health risk and work commitment in a demanding job

Risk of infection

Undertaking surveillance activities in the community was reported as stressful by CSWs due to fear of infection self and family. "*Fever cases are rampant and I might catch an infection from them. My family members are also at risk because of me.*" "*I avoid social activities and have stopped visiting my relatives*." (CSW 3, Honorary health worker, Age 37)

High workload influencing colleague interactions

CSWs were stressed due to rise in positive cases and increased workload; house visits often exceeded the recommended 75-80/day. Supervisor behavior was sometimes challenging: "*I had to bear the*

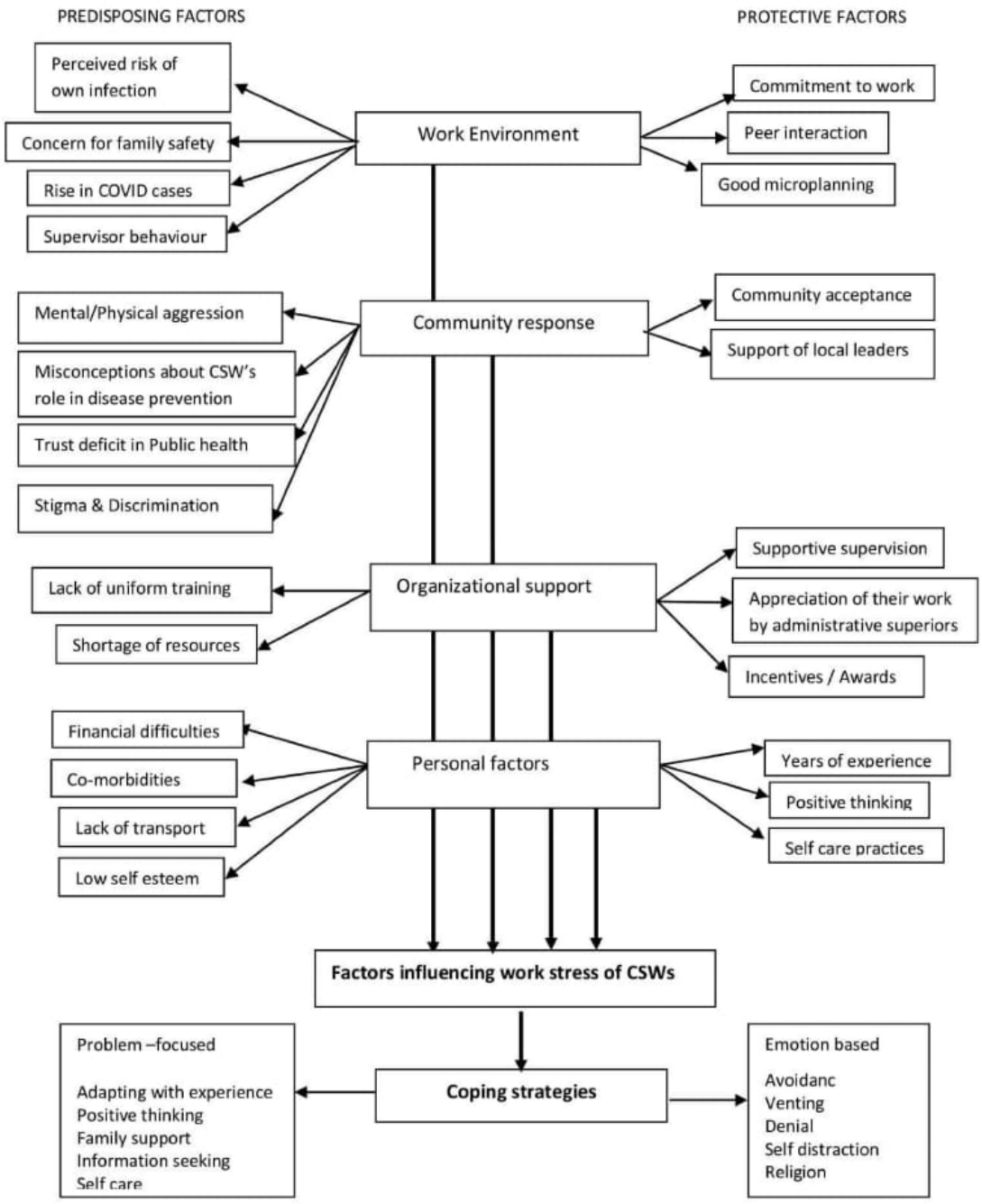

Fig 2. How factors at four levels influence work related stress experienced by CSWs addressed using various coping strategies

brunt of supervisor for failing to cover almost 300 households along with filling forms." (CSW 6, Volunteer ILI/SARI, Age 40)

Co-operation from supervisors lessened stress: "*In our ward, supervisor is experienced and supportive. Surveillance activities are conducted as per micro-plan and we complete our work on schedule*." (CSW 7, Volunteer ILI/SARI, Age 45). Peer interaction played protective role to overcome stress. "*We share our experiences of field activities and discuss what to do in difficult situations*." (CSW 10, Hundred days field worker, Age 50). "*We*

work as team to distribute work overload to meet deadlines." (CSW 18, Honorary health worker, Age 48)

Commitment to work

In general, CSWs rated their overall attitude as positive and expressed no desires to quit their job. Pride of being a part of healthcare system and income generation were important motivating factors. Majority felt obliged to do their duty and valued their contribution in disease control despite the stress: "*As a healthcare service provider, this is my job.*" "*I am a corona warrior too*." "*If cases are detected and isolated early it will spread less in the community*." (CSW 16, Surveillance worker, Age 35)

Theme 2: Community's attitude towards pandemic surveillance activities

Trust deficit in public health system

Community members refused to reveal symptoms due to stigma and fear of isolation. "*In one case, the patient and his family contacts were not found at home and his neighbors could not provide any information."* (HW1, ANM, Age 30) Lack of faith in healthcare at hospitals led to queries: "*Are there enough beds, provision of food and toilet facilities in government hospitals*?" (HW 5, HS, Age 48) Underreporting of cases was common: "*We were not allowed entry inside residential complexes. Security guards at the gate are unable to provide us any useful information*." (HW 8, HS, Age 45)

Aggression and ostracization

Fear of verbal abuse and physical aggression prevented CSWs to carry out effective role: "*During field visits we find people gathered in groups without masks or wearing it incorrectly. We advise but when they refuse, we feel scared to urge them further*." (CSW 19, Honorary health worker, Age 50) "*I was attacked for failing to arrange transportation of a SARI patient."* (CSW 23, Surveillance worker, Age 25) Misconceptions about their work involving infectious diseases were reported. "*Your dress is carrying infection and you will spread it to us*." (CSW 25, Volunteer ILI/SARI, Age 43) "*Local residents complained against us to the Councilor."* (CSW 36, Honorary health worker, Age 42)

Support of local leaders and community members

Support from local influencers reduced stress although they expressed their need for more support. Health workers familiar to community during earlier activities linked to Polio and Dengue, reported better co-operation. "*I know most of the families in my community. I have been working here for long and people follow precaution measures.*" (CSW 32, Dengue surveillance worker, Age 45) Local youth were helpful in facilitating surveillance: "*Initially our services were not accepted. Then we approached the youth clubs who made our job easier*." (CSW 11, Surveillance worker ILI/SARI, Age 39)

Theme 3: Organizational support

Training, supportive supervision, administrative appreciation

Lack of formal training aggravated stress. "*I got confused between ILI and SARI cases as I wasn't trained. I think I have reported few SARI cases as ILI*." (CSW 1, Hundred-day field worker, Age 30) Health care workers felt encouraged when appreciated by their supervisor and medical officers. They also expected additional pandemic allowance.

Resource allocation – availability and adequacy

Stress aggravated due to inadequate supply of protective equipment experienced at the beginning of surveillance activities. "*We are using same PPE kit since the beginning; washing it weekly and reusing it, some of our gowns have torn in parts*." (CSW 22, Surveillance worker ILI/SARI, Age 39) There was a clear need for appropriate directions on use, reuse and

disposal. "*Are we supposed to wash them? We don't know how to dispose PPE. We dump them in municipal vat*." (CSW 5 Honorary health worker, Age 50) Wearing gowns during summer was physically uncomfortable. "*One day I felt dizzy and fainted during house-to-house visits."* (CSW 8, Surveillance worker ILI/SARI, Age 40) Shortage of manpower made surveillance activities difficult. "*The population in my ward is huge as it is mostly slum area and it is very difficult to cover all the households by our team.*" (HW 6, HS, Age 46) Workers sometimes failed to turn up due to lack of transport during lockdown.

Theme 4: Personal factors

Low self esteem

Lack of recognition from community members led to low morale and feeling undervalued: "*We risk ourselves by going to hotspots, if people do not realize or co-operate with us then we feel let down*." (HW 3, ANM, Age 35)

Financial difficulties

Financial difficulties were another reason for increased stress, as many households had lost their main source of income.

Having co-morbidities

Prior co-morbidities aggravated stress: "*I am a patient of heart disease and high blood sugar. I am worried about what will happen to me if I get this infection*" (HW 7, HS, Age 51)

Years of experience

Older CSWs with more years of experience in the field work had more positive attitude to their work; however, those with co-morbidities were more concerned about risk of infection.

Coping strategies

Theme 1. Managing stress by problem-focused strategies

Adapting with experience

Stress levels reduced over time as majority of CSWs gained confidence with experience. "*I felt very nervous at the beginning. But doing the same work every day and learning during the process has made me lot more confident.*" (CSW 12, Surveillance worker ILI/SARI, Age 39)

Positive thinking

Interestingly CSWs were hopeful of future and viewed this phase as temporary. "*I get to spend more time with my family so at least that's one good outcome*." (CSW 48, Honorary health worker, Age 36)

Family support

Family played a crucial role for emotional support. *"My family was apprehensive at first but eventually supported me as I took all necessary precautions."* (CSW 50, Hundred-day field worker, Age 45)

Gathering up to date information & experience sharing

CSWs tried to relieve their stress by discussing among themselves and with their supervisors. "*All of us are not trained but we enquire from Medical Officer and learn from day-to-day practices and sharing experiences with others.*" (CSW 51, surveillance worker ILI/SARI, Age 38)

Self-care practices

Healthy behavior viz. sleep, yoga, food, frequent hand washing, wearing face masks and increased attention to personal hygiene were indicated to relieve stress indirectly.

Theme 2. Managing stress using emotion-based strategies

Denial

"*Everywhere people are talking about Corona. I sometimes shut off myself and stop thinking about the disease altogether*." (HW 2, ANM, Age 37)

Venting out emotions

"*I feel distressed quite often these days; as a result, I had a few altercations with my family*." (HW 7, HS, Age 51)

Turning to religion

Faith in God was generally indicated as an important coping strategy. (CSW 55, honorary health worker, Age 48)

Self-distraction

"*I read books, watch soaps on TV or listen to music during spare time to relieve stress. I don't watch news too often as it only talks about Corona disease*." (CSW 48, Honorary health worker, Age 36)

Discussion

Work related stressors were identified as major challenges to resilience in consistent with reports from other studies. [8,9] HCWs lacked adequate knowledge of the disease, experienced low self-esteem and feared being reprimanded by their superiors. They were concerned about their own vulnerability to COVID-19 infection and passing it to family members, similar to other authors. [10] This was possibly due to lack of training and shortage of logistics. The quality of COVID-19 surveillance is dependent on the ability to detect ILI and SARI cases hidden in the community. Training is vital to improve knowledge, communication skills and conduct screening as per desired standards. Training programs should be designed so as to improve HCWs confidence in their ability to cope with work stress during a pandemic. [11]

Supply chain disruption of logistics is common during pandemics necessitating better investments and optimum use. [12] The choice of PPE is based on the risk of exposure and modes of transmission. CSWs working at the community level could be provided with triple layer mask, face-covers/shields and gloves instead of gowns to maintain rational use of PPE, avoiding wastage and discomfort. [13,14] Deployment of sufficient manpower, protective equipment with training on its proper use and safe disposal is necessary.

Trust deficit in public health system and lack of acceptance of services provided can be key issues hampering community involvement. Community engagement and sensitization to address knowledge gaps related to disease outbreak is necessary.[15] Effective community linkages supported by strong leadership can address misinformation and counter stigma. [16] The findings of this study suggested that familiarity of the community members with the CSWs fostered trust and led to better co-operation, ensuring their safety and providing favorable environment for service delivery. Engagement with local youths can increase outreach and mobilize wider community for better acceptance of surveillance activities. [17,18]

Planning for surveillance activities during pandemics must ensure a health promoting work environment providing empathy and support to subordinate level workers. [19] Interpersonal interaction within trusted peer groups, transparency in communication with supervisors and sharing of information can act as buffers to cope better with stress. [20] Provisions for transport, pandemic allowances and awards can boost motivation, address financial troubles and allay stress.

CSWs demonstrated considerable resilience despite adversity by adopting several coping strategies ranging from problem-focused to less adaptive emotion-based strategies. Adaptive coping strategies target towards resolving a stressful situation; emotion focused strategies may diminish the psychological impact of a stressor. [21] While problem-focused strategies reduced symptoms of stress and are positively associated with greater self-efficacy, job satisfaction and resilience the use of emotion-focused strategies was associated with poor mental health. [22-24]

Participants were not assessed for any pre-existing mental health problems and stress levels were not measured. It is possible that levels of stress experienced by CSWs might have been more severe due to unfamiliarity of the disease in the initial lockdown period. Longitudinal studies are needed to

assess the long-term impact of pandemics on mental health and resilience.

This study suggests a variety of predisposing and protective factors at the level of workplace, community, personal and organization, influence stress during pandemics. Measures such as providing adequate protective equipment, training, incentives and improving relation with supervisors can alleviate stress. Recognition of their work and building strong community linkages can improve their social status and acceptance. The findings suggest the need for health planners to focus on stress risk factors and address remedial measures to support this marginalized workforce.

Authors contribution:

Research idea and study design: PM, RP, SH, MS; data analysis and interpretation: PM, RP, SH, MS; statistical analysis: PM and MS; supervision or mentorship: PM and RP. Each author contributed important intellectual content during manuscript drafting, revision and final approval of the version and accepts accountability for the overall work by ensuring that questions pertaining to the accuracy or integrity of any portion of the work are appropriately investigated and resolved. PM and MS take responsibility that this study has been reported honestly, accurately, and transparently; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

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Ethical considerations

The study was approved by Institutional review Board of Nil Ratan Sircar Medical College and Hospital, Kolkata, West Bengal, India. The study was conducted after obtaining written informed consent from the study participants. The procedures adhered to the ethical guidelines of the Declaration of Helsinki. Anonymity and confidentiality were maintained.

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