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RESEARCH ARTICLE

A CROSS-SECTIONAL STUDY ON STRESS AND BURNOUT AMONG THE AYUSH DOCTORS IN AN EASTERN INDIAN STATE DURING THE COVID PANDEMIC

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ABSTRACT

BACKGROUND:

Health care workers were at the forefront of the COVID-19 battle. They experienced professional burnout due to long working hours in hospitals, being away from their families, the fear of getting infected and transmitting the infection to family members, and social stigma in society.

OBJECTIVE:

The main objective of this study was to assess the stress and burnout experienced by AYUSH doctors during the COVID-19 pandemic in Odisha.

METHODS:

A concurrent mixed-methods cross-sectional study design was adopted for this study. A Google form was used to gather responses from 56 AYUSH doctors using the Copenhagen Burnout Inventory (CBI), preceded by in-depth interviews with 11 participants. Descriptive statistics and two-way ANOVA analyses were applied to the quantitative data, while thematic analysis was conducted for the qualitative data.

RESULTS:

The in-depth interviews with AYUSH doctors revealed that 63.63% of the participants felt physically and mentally exhausted and susceptible to weakness and illness, including fear of infection; 45.45% felt frustrated; and 18.18% of respondents expressed irritation, stating that they could not endure the situation any longer and felt they were giving much while not receiving what they expected in return. Similarly, the online survey indicated that the mean (±SD) scores of personal, work-related, and COVID patient-related burnout were 49.55 (±25.51), 41.45 (±33.15), and 43.22 (±35.72), respectively. Although the average personal burnout was higher than work-related and patient care-related burnout, the difference was not statistically significant at p=0.5 when tested using two-way ANOVA.

CONCLUSION:

The AYUSH doctors experienced stress and burnout during the pandemic; however, most felt that this was part of their job and continued to provide services during the pandemic.

KEYWORDS

Burnout, COVID-19, healthcare workers, Indian systems of medicine, psychological wellbeing, stress.

INTRODUCTION

The COVID-19 pandemic created the strongest ripple throughout the globe, where almost all the countries were affected by this [1]. As reported in the COVID-19 dashboard of WHO, the total number of cases and deaths till 1st Jan 2023 were 27.7m and 32.4k, respectively. With this increased number of cases and deaths throughout the globe, the health systems of different countries got overwhelmed and thereby the healthcare workers battling at the front [2]. The pandemic has put tremendous pressure on healthcare workers throughout the globe, with a greater impact on Low- and Middle-income countries (LMICS) with deficient healthcare systems [3].

In India, healthcare workers faced a war like never before, as there is a shortage of the health workforce in the country [4]. Health care workers were at the forefront of this battle. They experienced professional burnout owing to long working hours in the hospital, staying away from families, fear of getting the infection and sharing the same with family members and social stigma in society [5]. Several studies report the prevalence of stress and burnout among doctors in different geographies. In a multicentric Indian Council of Medical Research study among 967 participants across 10 states in India that included doctors, nurses, ambulance drivers, emergency response teams, lab personnel, and others who were directly involved in COVID-19 patient care, 52.9% of the participants reported psychological distress and 9.7% showed the signs of burnout [6]. In a hospital-based short-term follow-up study among 105 resident doctors, 18.1% and 32.4% of them reported stress and burnout [7]. In a meta-review of systematic reviews, which included 40 systematic reviews and 1,828 primary studies among 3,245,768 healthcare professionals, the reported pooled prevalence of stress/post-traumatic stress disorder was 18.6-56.5% [8]. Outbreaks, epidemics, and pandemics have always impacted on the mental health and well-being of the healthcare workers as reported by earlier studies on SARS [9-10] and MERS-Cov outbreak, the A/H1N1 influenza outbreak, Ebola Virus Disease outbreak and A/H7N9 influenza outbreak [11]. Studies during the outbreaks of severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS) revealed that healthcare workers reported higher levels of stress and burnout, resulting in post-traumatic stress disorder (PTSD) [12-13]. Studies reported that healthcare workers considered resignation from jobs, faced stigmatisation resulting in high levels of stress, depression, and anxiety symptoms [14, 15]. During this pandemic, fear of getting infected and spreading the infection to family members was the most common factor of stress among the HCWs owing to a lack of administrative support and personal protective equipment in India and around the globe [16]. During the current pandemic, reports suggest that healthcare professionals are getting infected and even succumbing to the illness [17]. The psychological impact of the pandemic on healthcare workers is increasing, and healthcare workers are also seeking assistance from external sources [18, 19]. Evidence suggests AYUSH doctors actively took part in the COVID-19 response [20]. Given the background, the current study assessed the stress and burnout experienced by the AYUSH doctors while rendering services during the pandemic in the state of Odisha.

OBJECTIVE OF THE STUDY:

The main objective of this study was to assess stress and burnout experienced by the AYUSH doctors during the COVID-19 pandemic in Odisha, India.

MATERIALS AND METHODS

STUDY DESIGN:

The study adopted a concurrent mixed-methods cross-sectional design. This type of design is well-suited for examining different cross-sections by blending both quantitative and qualitative approaches to make inferences about a population of interest at a particular point in time [21].

Study Setting:

The study was conducted in the eastern Indian state of Odisha. The presence of AYUSH doctors in rural parts of the state is substantially higher compared to their allopathic counterparts, and the state has engaged them in rural areas for the management of asymptomatic, mild, and moderate cases.

Study Participants:

AYUSH doctors were selected for this study due to the lack of specific published research. AYUSH doctors are individuals trained in one of the disciplines of Ayurveda, Yoga and Naturopathy, Unani, Siddha, or Homoeopathy. In this study, only AYUSH doctors from the Ayurveda or Homoeopathy streams were included, as practitioners from these fields were the only ones available in the state of Odisha. These doctors were appointed under two different modalities: one through the National Health Mission with a contractual appointment, and the other through the regular Government employee category in the state.

Inclusion Criteria:

(a) AYUSH doctors serving in the state of Odisha recruited either through National Health Mission or through regular category (b) Rendered services during both first and second waves of the COVID pandemic (c) Given consent to participate in the study.

Exclusion Criteria:

(a) Those who were not working in Odisha, (b) Those who did not serve during the COVID-19 pandemic, (c) Those who refused to take part in the study.

Study Instrument:

The Copenhagen Burnout Inventory (CBI) [22] was used in this study, and the data were collected using a Google form. The inventory is an open-access, valid and reliable instrument that measures 19 items under three themes. The inventory consists of three sections: personal burnout, work-related burnout and COVID-19 patient-related burnout and consists of 6, 7, and 6 questions, respectively [22]. In addition, there were questions related to the demographic profile and work profile. The responses to these questions were recorded using five options: Always, Often, Sometimes, Seldom and Never. The average duration to complete the questionnaire by the participants was 12-15 minutes.

In-depth interview:

Before administering the Google form, an in-depth interview was conducted among 11 AYUSH doctors working in different healthcare settings. They were asked questions related to their overall experience during the COVID-19 pandemic and specific questions related to stress and burnout in three areas, such as personal level stress, work-related stress, COVID-19 patient-related stress, administrative support, challenges, and lessons learnt during the pandemic. The interviews lasted between 15-20 minutes and were conducted after obtaining verbal consent. Following this, the CBI was used to collect data from 56 AYUSH doctors in the second phase.

ETHICAL APPROVAL:

The study was conducted as part of the first author's postgraduate dissertation at SP Jain Institute of Management and Research, Mumbai, India, with the research proposal approved by the supervisor on 14th August 2021. The study adhered to the guidelines of the National Ethical Guidelines for Biomedical and Health Research involving Human Participants-2017 set by the Indian Council of Medical Research, Government of India. According to the guidelines, the study was exempt from institutional ethical approval as specified in section 4.8.1, page no. 36. Furthermore, in accordance with the Declaration of Helsinki, the researchers upheld the confidentiality and integrity of the study participants while strictly following survey ethics. Each participant provided informed consent before voluntarily participating in the study, and interviews were recorded using a mobile device with the respondents' permission. Complete confidentiality of the data was ensured during its handling, storage, and analysis.

DATA COLLECTION:

Participants were recruited through the researcher's personal and professional network and were contacted over email. Through snowball sampling, the Google form was shared with 70 eligible participants. Of the 70 participants, all of them have given oral consent to participate; however, 14 did not complete the form, as a result, 56 completed forms were obtained. The responses were automatically received by the author. This data collection was carried out from August to September 2022. Figures. 1 and 2 depict the primary data sources and data collection plan, respectively.

DATA ANALYSIS:

The quantitative data were collected using a Likert Scale through five responses: Always, Often, Sometimes, Seldom and Never. Both descriptive statistics and inferential statistical methods (two-way ANOVA test) were used to analyse the quantitative data. The quantitative data were analysed using R Statistical Software (v4.1.2; R Core Team, 2021). The in-depth interviews with 11 participants were recorded and transcribed verbatim. The transcribed data were read repeatedly to find out thematic areas, and then a thematic analysis was conducted for this qualitative data.

FIGURE 1, PRIMARY DATA SOURCES

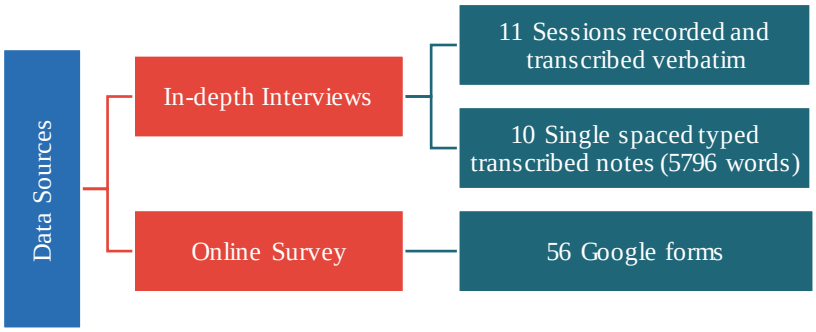
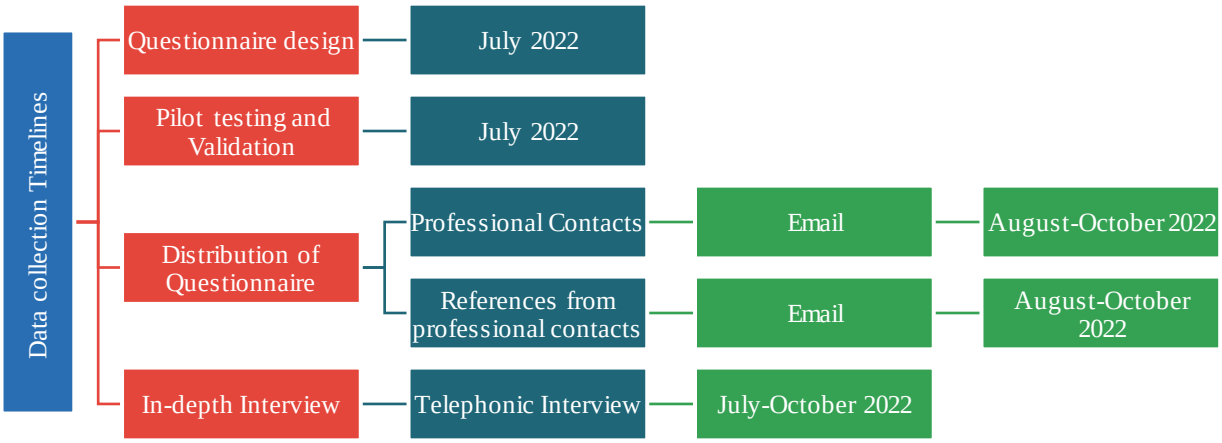


FIGURE 2, DATA COLLECTION PLAN



RESULTS

In the first phase, the in-depth interviews were conducted among 11 participants, followed by an online survey using Google Forms among 56 participants. Table 1 delineates the demographic and professional background of the participants who participated in the in-depth interview. Table 3 delineates the demographic characteristics of the participants who took part in the online survey. Table 4 delineates the professional background of participants who took part in the online survey.

TABLE 1: DEMOGRAPHIC AND PROFESSIONAL BACKGROUND OF PARTICIPANTS FOR THE IN-DEPTH INTERVIEW

Characteristics		Frequency (n=11)	Percentage (%)
Age (In Years)	31-40 yrs	9	81.8%
	41-50 yrs	2	18.2%
Gender	Male	9	81.8%
	Female	2	18.2%
Type of AYUSH System	Ayurveda	9	81.8%
	Homoeopathy	2	18.2%
	Others	0	
Profile of AYUSH doctors	RBSK Medical Officer	1	9%
	NHM-AYUSH Medical Officer	3	27.3%
	Ayurveda Medical Officer	3	27.3%
	MMU Medical Officer	3	27.3%
	Faculty at Ayurveda College	1	9%
Years of service	<10 years	9	81.8%
	>10 years	2	18.2%
Workplace	High risk areas	11	100%
	Low risk areas	0	

***RBSK-**Rashtriya Bala Swasthya Karyakram, **MMU-**Mobile Medical Unit, **NHM-**National Health Mission

Different sub-themes emerged with the analysis of qualitative in-depth interview data. Table 2 delineates the themes and sub-themes with their definitions and the percentage of participants who reported the sub-themes as a type of stress and burnout while serving during the COVID pandemic.

TABLE 2: MAIN THEMES AND SUBTHEMES AND THEIR DEFINITION

Themes	Sub-themes	Definition	Reported (%) (n=11)
Personal level stress	Physically and mentally exhausted	Individual lacks physical and mental energy, not able to stay awake or alert, not able to sustain in work or complete it, difficulty in concentrating, memorizing, and maintaining emotional stability.	63.63%
	Felt susceptible to weakness and illness including fear of infection	Fear of being self-infected with COVID-19 and becoming ill, being exposed, and becoming ill, or fear of passing virus onto family members.	63.63%
Work related stress	Enough is enough	No more can be tolerated if something is bothering that must stop.	18.18%
	Giving so much	While rendering services one is giving so much but not enough in return.	18.18%
COVID patient related stress	Frustrating	Annoyance and upset.	45.45%
	Irritating	Mild anger and Impatience.	18.18%

PHYSICALLY AND MENTALLY EXHAUSTED:

This theme is related to physical and mental tiredness, where an individual finds it difficult to concentrate and maintain emotional stability. AYUSH doctors expressed their physical and mental exhaustion through the following statements. *"Waiting for the trains at the railway station, to screen the passengers, has been the most exhausting thing that I faced during that period. It could be anytime in the night or any time of the day. I felt like, this is too much."* Participant No-5 *"Yes, I have felt physically and mentally tired. Being a lady, I was also overburdened."* Participant No-11

FELT SUSCEPTIBLE TO WEAKNESS AND ILLNESS, INCLUDING FEAR OF INFECTION:

This sub-theme is related to fear of getting infected and transferring the same to family members and relatives. AYUSH doctors expressed their fear of infection through the following statements:

"I had the fear that I may carry the infection to my family and spread the same to my kids and parents. Initially, taking precautions was also a painful process as everything was new; we used to forget handwashing, sanitizing, etc." Participant No-2

"I felt once that I would get infected when I was handling a case and there was a huge crowd, and incidentally, I developed fever the next day, which persisted for 7-8 days; however, I was found negative. I had the fear that I would transfer the infection to my aged father, who is 78 years old. I never visited any of the family members, relatives during that time and maintained social distance with all." Participant No-3

ENOUGH IS ENOUGH:

This sub-theme is related to a situation where the AYUSH doctors reached a level where they felt tolerating beyond this level is difficult, and hence, enough is enough. One of the AYUSH doctors said.

"In the first phase, I worked for more than 5 months continuously without leave, I felt like how long this COVID situation will continue… Many times, I have also felt that I can't take it anymore." Participant No-3

GIVING SO MUCH:

This sub-theme is related to a state of mind among AYUSH doctors where they felt that they are giving so many services, albeit it's a part of their job, however, they are not getting enough as expected from society at large. One of the AYUSH doctors said that.

"While providing so much of service no nobody recognised the efforts that we put in… no admiration from the administration and inadequate financial incentive are some of the factors that made me think that I am doing so much but getting nothing in return. I am not at all satisfied with the support rendered to me by the administration." Participant No-8

FRUSTRATING:

This sub-theme is related to a state of mind where AYUSH doctors felt annoyed and upset while dealing with COVID-19 patients. Some of the AYUSH doctors said that.

"Yes, in this front, it was frustrating as patients were not cooperative. Some people used to say- "there is nothing like COVID-FOVID, it's false news". Some people used to booze even after being COVID patients. Sometimes they used to throw away food in DCCC. Because of their behaviour, it was very frustrating." Participant No-9

IRRITATING:

This sub-theme is related to a state of mind where AYUSH doctors got angry and impatient while dealing with COVID-19 patients. Some of the AYUSH doctors said that.

"What was more irritating with some patients was that throughout the day, they won't complain about anything; however, the moment we were about to leave the TMC, they would start complaining that I am having breathing difficulty, I am having this, I am having that… That makes us very uncomfortable, as I am the accountable person for the matters related to health. Hence, I always pray to God that nothing should happen to anybody in the night. If something goes wrong, I will be held responsible, and my job might be at stake. I have also observed that mostly at night, patients become more panicked, feeling that if something goes wrong, they may die. The ringtones of my mobile used to give me cold sweats with the fear that something wrong must have happened. I used to get sleepless nights because of this." Participant No-8.

TABLE 3, DEMOGRAPHIC CHARACTERISTICS OF THE ONLINE SURVEY PARTICIPANTS:

Characteristics		Frequency (n=56)	Percentage (%)
Age (In Years)	21-30 yrs	8	14.3%
	31-40 yrs	31	55.4%
	41-50 yrs	16	28.6%
	51-60 yrs	1	1.8%
	>60 yrs	0	0%
Gender	Male	36	64.3%
	Female	20	35.7%

TABLE 4, OCCUPATIONAL BACKGROUND OF THE ONLINE SURVEY PARTICIPANTS:

Characteristics		Frequency (n=56)	Percentage (%)
Type of AYUSH System	Ayurveda	39	69.6%
	Homoeopathy	17	30.4%
	Others	0	0
Type of health facility associated	Community Health Centre (CHC) Primary Health Centre (CHC)	24	42.9%
	Govt. Ayurvedic Dispensary (GAD)	24	42.9%
	Govt. Homoeopathic Dispensary (GHD)	8	14.3%
		0	0%
Years of service	<10 years	24	42.9%
	>10 years	32	57.1%
Workplace	High risk areas	39	69.6%
	Low risk areas	17	30.4%

TABLE 5, RESULTS OF BURNOUT RELATED QUESTIONNAIRE; BASED ON COPENHAGEN BURNOUT INVENTORY (CBI):

Sl No	Questions	Responses (n=56)					
		Always	Often	Sometimes	Seldom	Never	Mean ± SD
PERSONAL BURNOUT							
1	How often do you feel tired?	10.7% (6)	19.6% (11)	53.6% (30)	8.9% (5)	7.1% (4)	54.46 ± 24.82
2	How often are you physically exhausted?	7.1% (4)	26.8% (15)	50% (28)	12.5% (7)	3.6% (2)	55.36 ± 22.22
3	How often you are emotionally exhausted?	16.1% (9)	30/4% (17)	33.9% (19)	14.3% (8)	5.4% (3)	59.38 ± 27.2
4	How often do you think:" I can't take it anymore"?	8.9% (5)	19.6% (11)	23.2% (13)	25% (14)	23.2% (13)	41.52 ± 32.08
5	How often do you feel worn out?	1.8% (1)	28.6% (16)	30.4% (17)	30.4% (17)	8.9% (5)	45.98 ± 25.13
6	How often do you feel weak and susceptible to illness?	0% (0)	16.1% (9)	39.3% (22)	35.7% (20)	8.9% (5)	40.63 ± 21.62
	Average						49.55 ± 21.49

WORK RELATED BURNOUT							
1	Is your work emotionally exhausting?	10.7% (6)	23.2% (13)	32.1% (18)	12.5% (7)	21.4% (12)	47.32 ± 32.22
2	Do you feel burnt out because of your work?	7.1% (4)	14.3% (8)	26.8% (15)	25% (14)	26.8% (15)	37.5 ± 30.9
3	Does your work frustrate you?	14.3% (8)	12.5% (7)	21.4% (12)	5.4% (3)	46.4% (26)	35.71 ± 38.1
4	Do you feel worn out at the end of the working day?	12.5% (7)	16.1% (9)	26.8% (15)	21.4% (12)	23.2% (13)	43.3 ± 33.2
5	Are you exhausted in the morning at the thought of another day at work?	8.9% (5)	19.6% (11)	16.1% (9)	16.1% (9)	39.3% (22)	35.71 ± 35.31
6	Do you feel that every working hour is tiring for you?	1.8% (1)	17.9% (10)	7.1% (4)	19.6% (11)	53.6% (30)	23.66 ± 30.68
7	Do you have enough energy for family and friends during leisure time?	35.7% (20)	21.4% (12)	25% (14)	10.7% (6)	7.1% (4)	66.96 ± 31.66
	Average						41.45 ± 23.04
COVID PATIENT RELATED BURNOUT							
1	Do you find it hard to work with COVID cases/suspects?	14.3% (8)	19.6% (11)	19.6% (11)	12.5% (7)	13.9% (19)	41.96 ± 36.96
2	Do you find it frustrating to work with COVID cases/suspects?	7.1% (4)	10.7% (6)	12.5% (7)	12.5% (7)	57.1% (32)	24.55 ± 33.54
3	Does it drain your energy to work with COVID cases/suspects?	10.7% (6)	12.5% (7)	17.9% (10)	12.5% (7)	46.4% (26)	32.14 ± 35.9
4	Do you feel that you give more than you get back when you work with COVID cases/suspects?	35.7% (20)	23.2% (13)	17.9% (10)	5.4% (3)	17.9% (10)	63.39 ± 36.92
5	Are you tired of working with COVID cases/suspects?	8.9% (5)	12.5% (7)	25% (14)	8.9% (5)	44.6% (25)	33.04 ± 34.74
6	Do you sometimes wonder how long you will be able to continue working with COVID cases/suspects?	37.5% (21)	21.4% (12)	16.1% (9)	10.7% (6)	14.3% (8)	64.29 ± 36.26
	Average						43.22 ± 26.95

TABLE 6, TWO-WAY ANOVA TEST RESULT AS OBTAINED FROM (R.4.1.2)

	Df	Sum sq	Mean Sq	F value	P Value
Variable	2	2030	1015	1.771	0.173
Residual	165	94557	573.1		

A total of 56 AYUSH doctors participated in the online survey. Of the total participants, 64% of the participants were male and 36% of the participants were female. Of the five age groups 55% of the participants were in the age group of 31-40

years of age, 28% were in the age range of 41-50, 14% were in the age range of 21-30 and there was only one participant from the age group of 51-60 and nobody was found beyond 60 years of age [Table No-3]. In the occupational background it was found that 70% of the doctors were from the stream of Ayurveda and the rest were from the stream of Homoeopathy, 43% of them work in CHCs including equal number of doctors working in PHCs under NHM and remaining 14% of the participants work in GAD under the department of AYUSH [Table No-4]. The mean (±SD) scores of the personal, work-related, and COVID-19 patient-related burnout were 49.55 (±25.51), 41.45 (±33.15), and 43.22 (±35.72), respectively [Table No-5]. Though the average perceived personal burnout is higher than work-related and patient care-related burnout, the difference is not statistically significant at p=0.5 when tested using two-way ANOVA [Table No-6].

It was further found that 16.1% of the participants always felt emotionally exhausted, 35.7% of the participants always felt that they were not having enough energy to spend time with family and friends, 35.7% of the participants always felt that they gave more while serving the COVID-19 patients than getting back and 37.5% of the participants always wondered that how long were they going to work with COVID-19 patients. Similarly, 28.6% of the respondents often felt that they were worn out, 23.2% often felt emotionally exhausted, and 19.6% of the respondents often felt that it was hard to work for COVID patients [Table No-5].

DISCUSSION

Most of the AYUSH doctors primarily worked with patients in the outpatient departments with less involvement in emergency care and mostly have less patient load compared to their allopathic counterparts [23]. However, with their mainstreaming under NHM, they are now involved with similar kinds of activities at least at the level of a PHC, akin to their allopathic counterparts [24]. Moreover, with this pandemic and with the scarcity of HRH, AYUSH doctors rendered the services as frontline healthcare providers in different parts of the country, including in the state of Odisha.

With the pandemic, the health systems of many countries were overwhelmed and incapacitated owing to several factors such as infrastructure, HRH, medical supplies, surveillance system and information. Of all these factors, HRH plays a very pivotal role in the delivery of health services. This was realised during this pandemic, and all the available HRH were utilised to mitigate the menace of this pandemic. In a country like India, where a pluralistic healthcare system is being followed, the role of the AYUSH system becomes immensely important in mitigating the pandemic [25]. AYUSH doctors serving under the NHM at peripheral health institutions, especially at the level of PHC and CHC, contributed immensely toward care and control during this pandemic. With the joint efforts of the Ministry of AYUSH and the Ministry of Health and Family Welfare, 33,000 AYUSH doctors have been trained to offer COVID-19 care. Furthermore, through the cascade model 66,000 more AYUSH doctors got trained through government platforms [26]. However, all cadres/types of healthcare providers, including AYUSH doctors, witnessed several grades of stress and burnout because of long working hours in the hospital, staying away from families, fear of getting the infection and sharing the same with family members and social stigma in society.

This study found that AYUSH doctors were instrumental in providing care at the Temporary Medical Centers (TMC), contact tracing, primary care of the mild and asymptomatic cases, timely referral, capacity building of ASHA and AWWs, IEC activities at the community level, mobilising the PRI members and the community to follow COVID-19 appropriate behaviour and vaccination. The study identified six sub-themes under three broad themes of personal, work-related and COVID patient-related stress among the 11 AYUSH doctors through the in-depth interview. Some of these sub-themes have been reported by other studies and media reports in India and elsewhere, among different cadres of healthcare providers [27-29]. It is noteworthy to mention that the subtheme of fear was linked to both fear of infection and the fear that emerged from the death of patients and colleagues. In addition to the fear of getting the infection, AYUSH doctors also felt stress owing to the restrictions imposed due to the pandemic and unavailability of leave for a protracted period. AYUSH doctors felt additional stress after prolonged duty hours in dedicated COVID-19 care centres (DCCC) and witnessing the death of patients, and keeping themselves isolated from their loved ones and family members. A US-based study reports similar findings among nurses during the pandemic [29]. AYUSH doctors reported that they were further

stressed because of the closure of eateries, travel restrictions in the town where they served during the pandemic. A similar study among Australian nurses revealed that lockdowns acted as an extra-stressor to work-related stress as they were deprived of the much-needed sources of social support [30].

A study in a tertiary hospital in India reported about insomnia, stress-related anxiety, stress-related irritability, and stress-related hopelessness among different cadres of healthcare workers and found that doctors faced the highest level of anxiety. The doctors and nurses perceived a greater level of irritability. However, the nurses and other cadres of healthcare workers experienced a greater level of insomnia. The study also revealed that being a part of a family, being female and having comorbidity contributed to perceived hopelessness [31]. Another study in several continents including India, Asia, North America, Central/South America, Europe, and other parts among 733 dermatologists revealed that 73.9% of the respondents experienced stress, 33.7% irritation, 30% insomnia, 27.6% depression and 78.6% of the participants were overwhelmed with the information they received on COVID pandemic [32]. Another study among 1253 Dentists of Chhattisgarh revealed that no family time owing to long working hours (90%), concerns of getting infected (83.3%), and financial implications were the factors of stress and burnout [33]. A multi-national study covering China, India, Israel, Italy, and the UK among 1302 dentists reported that fear of being infected by patients, fear of infecting the family and lack of enough information about COVID-19 were the factors of stress and burnout [34]. A cross-sectional study in Eastern India among 384 frontline doctors revealed higher levels of stress among females and unmarried individuals of both groups. Risk of infecting self, colleagues and family members and lack of protective gear in healthcare settings were the main factors of stress [35].

Stress and burnout among healthcare workers, especially among doctors, have led to increased clinical errors [36-38]. Furthermore, stress and burnout among doctors can lead to decreased patient satisfaction, resulting in litigation in healthcare settings. Stress and burnout can affect badly in personal life, sometimes leading to substance abuse and deterioration in interpersonal relationships. Many times, it happens that medical professionals retire early owing to stress and burnout in healthcare settings, adding to the already scarce HRH problem. Stress and burnout in healthcare settings are multifactorial, and previous pandemics have been shown to cause detrimental effects on healthcare workers [39]. Some of the studies used CBI during the pre-COVID-19 times and found significantly less burnout owing to client/patient-related burnout as compared to studies during COVID-19 times [40]. A study among paediatricians during the pre-COVID times showed only a 22% overall incidence, of which 8% had client/patient related burnout, 22% and 14% personal and work-related burnout, respectively [41]. A similar study in a public hospital in Mumbai among 300 residents during the pre-COVID-19 times using CBI found that there was the highest level of stress in personal (66.67%) and work-related (57.14%) domains compared to client/patient related domains (16.67%) [42]. One of the recent systematic reviews that assessed stress and burnout among healthcare workers during the pre-COVID-19 period, where three studies used CBI as a means of assessment, found that the client/patient-related burnout is lower compared to personal and work-related burnout [43]. This clearly shows that the dynamics have changed concerning client/patient-related burnout, where the COVID-19 pandemic has a direct impact on increased patient-related burnout compared to pre-pandemic times; hence, utmost care should be exercised by all the concerned stakeholders to maintain the equilibrium.

The study was conducted among the AYUSH doctors who have certain limitations in rendering the clinical services compared to their allopathic counterparts hence, the findings cannot be generalised across the healthcare workers. Secondly, while conducting the study, it was not ruled out whether any of the participants had any history of mental health problems. Lastly, self-reporting bias, based on the interest and mindset of the respondents, cannot be ruled out. Follow-up studies with a large sample size are needed to assess any long-term impact of the pandemic on their stress and burnout levels.

CONCLUSION

Stress and burnout for any employee negatively affects their performance. In healthcare settings, healthcare professionals must remain free from all forms of stress and burnout to effectively deliver patient care services. Stress and burnout among

AYUSH doctors can lead to poor treatment outcomes and diminished patient satisfaction. Hence, the study recommends the following for better stress management in healthcare environments.

Building confidence and morale among AYUSH doctors: The administration should work to create environments that boost AYUSH doctors' confidence and morale, helping to alleviate existing mental health issues.

Enhanced communication and training: The administration should lead in providing adequate information, instructions, training, and technical updates on COVID-19 through regular communication.

Administrative and financial support: AYUSH doctors should receive adequate comfort, compensation, incentives, and necessary administrative support to enable them to provide effective healthcare services to those in need.

Personal readiness and help-seeking: AYUSH doctors, on a personal level, should prioritise self-care by developing resilience plans, seeking counselling support, and participating in workshop-based self-care training. They must strive to maintain their mental fitness by utilising various computer-assisted training packages for psychological well-being. In times of distress, they should engage with colleagues and seniors to seek expert advice. Pandemics are always unprecedented; therefore, all stakeholders must play their roles appropriately to maintain a healthy life.

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References:

1. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. Acta Bio Medica: Atenei Parmensis. 2020;91(1):157.
2. Chen CL, Lai CC, Luh DL, Chuang SY, Yang KC, Yeh YP, et al. Review of epidemic, containment strategies, clinical management, and economic evaluation of COVID-19 pandemic. Journal of the Formosan Medical Association. 2021 May 27.
3. Rathnayake D, Clarke M, Jayasinghe VI. Health system performance and health system preparedness for the post-pandemic impact of COVID-19: A review. International Journal of Healthcare Management. 2021;14(1):250-4.
4. Chong MY, Wang WC, Hsieh WC, Lee CY, Chiu NM, Yeh WC, et al. Psychological impact of severe acute respiratory syndrome on health workers in a tertiary hospital. The British journal of psychiatry. 2004;185(2):127-33.
5. Wilson W, Raj JP, Rao S, Ghiya M, Nedungalaparambil NM, Mundra H, et al. Prevalence and predictors of stress, anxiety, and depression among healthcare workers managing COVID-19 pandemic in India: a nationwide observational study. Indian Journal of Psychological Medicine. 2020;42(4):353-8.
6. Menon GR, Yadav J, Aggarwal S, Singh R, Kaur S, Chakma T, Periyasamy M, Venkateswaran C, Singh PK, Balachandar R, Kulkarni R. Psychological distress and burnout among healthcare worker during COVID-19 pandemic in India—A cross-sectional study. PLoS One. 2022;17(3): e0264956.
7. Prakash AJ, Agarwal V, Kar SK, Dalal PK. The psychological impact of COVID-19 duty among resident doctors working in a COVID-hospital: A short-term follow-up study. Indian Journal of Psychiatry. 2023;65(1):107-12.
8. Chutiyami M, Cheong AM, Salihu D, Bello UM, Ndwiga D, Maharaj R, Naidoo K, Kolo MA, Jacob P, Chhina N, Ku TK. COVID-19 pandemic and overall mental health of healthcare professionals globally: a meta-review of systematic reviews. Frontiers in Psychiatry. 2022; 12:804525.
9. Bai Y, Lin CC, Lin CY, Chen JY, Chue CM, Chou P. Survey of stress reactions among health care workers involved with the SARS outbreak. Psychiatric Services. 2004;55(9):1055-7.
10. Maunder R. The experience of the 2003 SARS outbreak as a traumatic stress among frontline healthcare workers in Toronto: lessons learned. Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences. 2004;359(1447):1117-25.

11. Preti E, Di Mattei V, Perego G, Ferrari F, Mazzetti M, Taranto P, et al. The psychological impact of epidemic and pandemic outbreaks on healthcare workers: rapid review of the evidence. Current psychiatry reports. 2020;22(8):1-22.
12. Tam CW, Pang EP, Lam LC, Chiu HF. Severe acute respiratory syndrome (SARS) in Hong Kong in 2003: stress and psychological impact among frontline healthcare workers. Psychological medicine. 2004;34(7):1197-204.
13. Lee SM, Kang WS, Cho AR, Kim T, Park JK. Psychological impact of the 2015 MERS outbreak on hospital workers and quarantined hemodialysis patients. Comprehensive psychiatry. 2018; 87:123-7.
14. Maunder R, Hunter J, Vincent L, Bennett J, Peladeau N, Leszcz M, et al. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. Cmaj. 2003;168(10):1245-51.
15. Lee AM, Wong JG, McAlonan GM, Cheung V, Cheung C, Sham PC, et al. Stress and psychological distress among SARS survivors 1 year after the outbreak. The Canadian Journal of Psychiatry. 2007;52(4):233-40.
16. Cai H, Tu B, Ma J, Chen L, Fu L, Jiang Y, et al. Psychological impact and coping strategies of frontline medical staff in Hunan between January and March 2020 during the outbreak of coronavirus disease 2019 (COVID-19) in Hubei, China. Medical science monitor: international medical journal of experimental and clinical research. 2020;26: e924171-1.
17. Wu P, Fang Y, Guan Z, Fan B, Kong J, Yao Z, et al. The psychological impact of the SARS epidemic on hospital employees in China: exposure, risk perception, and altruistic acceptance of risk. The Canadian Journal of Psychiatry. 2009;54(5):302-11.
18. Tomlin J, Dalgleish-Warburton B, Lamph G. Psychosocial support for healthcare workers during the COVID-19 pandemic. Frontiers in Psychology. 2020; 11:1960.
19. Fukuti P, Uchôa CL, Mazzoco MF, Corchs F, Kamitsuji CS, Rossi LD, et al. How institutions can protect the mental health and psychosocial well-being of their healthcare workers in the current COVID-19 pandemic. Clinics. 2020;75.
20. Samal J, Dehury RK. A Critical Appraisal on the State of the Health Workforce During the COVID Pandemic in India. Journal of Datta Meghe Institute of Medical Sciences University. 2022;17(Suppl 1): S151-6.
21. Zheng M. Conceptualization of cross-sectional mixed methods studies in health science: a methodological review. International Journal of Quantitative and Qualitative Research Methods. 2015;3(2):66-87.
22. Kristensen TS, Borritz M, Villadsen E, Christensen KB. The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. Work & stress. 2005;19(3):192-207.
23. Hasan S, Parmar SS, Saeed S. Depression, Anxiety, and Stress among Private Health Care Practitioners in Delhi NCR Region During Covid-19 Pandemic: A Cross-Sectional Study. Indian Journal of Forensic Medicine & Toxicology. 2021;15(3).
24. Samal J. Role of AYUSH workforce, therapeutics, and principles in health care delivery with special reference to National Rural Health Mission. Ayu. 2015;36(1):5.
25. Rao KD, Kaur J, Peters MA, Kumar N, Nanda P. Pandemic response in pluralistic health systems: a cross-sectional study of COVID-19 knowledge and practices among informal and formal primary care providers in Bihar, India. BMJ open. 2021;11(4): e047334.
26. Patwardhan B, Sarwal R. Significance of AYUSH: India's first line of defence against COVID-19. Journal of Ayurveda and Integrative Medicine. 2021;12(2):227.
27. Samal J. COVID-19-related social stigmas in India and the approaches to mitigate them. Indian Journal of Social Psychiatry. 2021;37(1):24.
28. Jackson D, Bradbury-Jones C, Baptiste D, Gelling L, Morin K, Neville S, et al. Life in the pandemic: Some reflections on nursing in the context of COVID-19. Journal of clinical nursing. 2020;29(13-14):2041.
29. Arnetz JE, Goetz CM, Arnetz BB, Arble E. Nurse reports of stressful situations during the Covid-19 pandemic: qualitative analysis of survey responses. International journal of environmental research and public health. 2020;17(21):8126.
30. Halcomb E, Williams A, Ashley C, McInnes S, Stephen C, Calma K, et al. The support needs of Australian primary health care nurses during the COVID-19 pandemic. Journal of nursing management. 2020;28(7):1553-60.
31. Chatterjee SS, Bhattacharyya R, Bhattacharyya S, Gupta S, Das S, Banerjee BB. Attitude, practice, behavior, and mental health impact of COVID-19 on doctors. Indian Journal of Psychiatry. 2020;62(3):257.
32. Bhargava S, Sarkar R, Kroumpouzos G. Mental distress in dermatologists during COVID-19 pandemic: Assessment and risk factors in a global, cross- sectional study. Dermatol Ther. 2020;33(6): e14161.

33. Mishra S, Singh S, Tiwari V, Vanza B, Khare N, Bharadwaj P. Assessment of Level of Perceived Stress and Sources of Stress Among Dental Professionals Before and During the COVID -19 Outbreak. J Int Soc Prev Community Dent. 2020;10(6):794-802.
34. Mijiritsky E, Hamama-Raz Y, Liu F, Datarkar AN, Mangani L, Caplan J, et al. Subjective Overload and Psychological Distress among Dentists during COVID-19. Int J Environ Res Public Health. 2020;17(14):5074.
35. Podder I, Agarwal K, Datta S. Comparative analysis of perceived stress in dermatologists and other physicians during national lock-down and COVID-19 pandemic with exploration of possible risk factors: A web-based cross-sectional study from Eastern India. Dermatol Ther. 2020;33(4): e13788.
36. Shanafelt TD, Balch CM, Bechamps G, Russell T, Dyrbye L, Satele D, et al. Burnout and medical errors among American surgeons. Ann Surg 2010;251(6):995–1000.
37. Fahrenkopf AM, Sectish TC, Barger LK, Sharek PJ, Lewin D, Chiang VW, et al. Rates of medication errors among depressed and burnt-out residents: prospective cohort study. BMJ 2008;336(7642):488–491.
38. Gergen Barnett KA. In pursuit of the fourth aim in health care: The joy of practice. Med Clin North Am 2017;101(5):1031–1040.
39. Khasne RW, Dhakulkar BS, Mahajan HC, Kulkarni AP. Burnout among healthcare workers during COVID-19 pandemic in India: results of a questionnaire-based survey. Indian Journal of Critical Care Medicine: Peer-reviewed, Official Publication of Indian Society of Critical Care Medicine. 2020;24(8):664.
40. Maunder R, Lancee W, Balderson K, Bennett J, Borgundvaag B, Evans S, et al. Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak. Emerg Infect Dis 2006;12(12):1924–1932.
41. Wright JG, Khetani N, Stephens D. Burnout among faculty physicians in an academic health science centre. Paediatr Child Health 2011;16(7):409–413.
42. Dhusia AH, Dhaimade PA, Jain AA, Shemna SS, Dubey PN. Prevalence of occupational burnout among resident doctors working in public sector hospitals in Mumbai. Indian J Community Med 2019;44(4):352– 356.
43. Reardon M, Abrahams R, Thyer L, Simpson P. Review article: prevalence of burnout in paramedics: a systematic review of prevalence studies. Emerg Med Australas 2020;32(2):182–189.