

Rakesh Singh<sup>1,2\*</sup>, Madhusudan Subedi<sup>2</sup>, Chandra Bahadur Sunar<sup>2</sup>, Smriti Pant<sup>2</sup>, Babita Singh<sup>3</sup>, Bigya Shah<sup>4</sup>, Sharika Mahato<sup>5</sup>

## Association of social stigma of COVID-19 with work satisfaction, burnout and fatigue among health care workers in Nepal

<sup>1</sup> Independent mental health researcher, Kathmandu, Nepal.

<sup>2</sup> School of Public Health, Patan Academy of Health Sciences, Lalitpur, Nepal.

<sup>3</sup> Department of Psychiatric Nursing, National Medical College, Tribhuvan University, Birgunj, Nepal.

<sup>4</sup> Department of Psychiatry, Patan Academy of Health Sciences, Lalitpur, Nepal.

<sup>5</sup> Department of Monitoring, Evaluation and Research, TLMN Anandban Hospital, Lalitpur, Nepal.

\*email: rakes4r@gmail.com

Received: \*\*\*; Accepted: \*\*\*

### Abstract

**Objective:** Stigma towards COVID-19 patients has been reported in various media news, including negative behaviour among healthcare workers (HCWs) towards COVID-19 patients, which could affect the professional quality of life for these HCWs.

**AIMS:** We aimed to assess stigma related to COVID-19 patients among HCWs and explore its impact on their professional quality of life during the COVID-19 pandemic in Nepal.

**Methods:** An online cross-sectional study was carried out among 421 HCWs (health assistants 35.6%, nurses 33%, doctors 23.3% and paramedics 8.1% and 52.7% female), working in health facilities in Nepal. The measures included background characteristics, stigma in terms of – discrimination towards COVID-19 patients, acceptance of COVID-19 patients and fear of COVID-19, and professional quality of life in terms of work satisfaction, burnout and fatigue. Descriptive and inferential statistics were utilised to analyse the data in SPSSv20.

**Results:** While around two-thirds of study participants showed a discriminating attitude towards patients with COVID-19, half showed a negative attitude towards acceptance of patients with COVID-19, and a fifth reported fear of COVID-19. Multivariable regression analysis indicated that while the presence of fear of COVID-19 was associated with low satisfaction, low burnout and low fatigue, an attitude of acceptance of COVID-19 patients was also associated with low burnout and low fatigue, and a discriminatory attitude towards COVID-19 patients was associated with only low satisfaction.

**Conclusion:** Strategies directed towards reducing the fear and discrimination towards patients with COVID-19, and enhancing a positive attitude of acceptance of patients among HCWs, in order to enable an environment for reducing their burnout, fatigue and increasing work satisfaction are recommended.

### Keywords

COVID-19 pandemic, burnout, fatigue, healthcare workers, quality of life, social stigma

### INTRODUCTION

Stigmatisation of an individual towards a particular characteristic, whether for having a disease or belonging to a particular group, deeply discredits and reduces a person's acceptance in society (Hing et al., 2016).

Social stigma can be understood from the definition by Herek: “the negative regard, inferior status, and relative powerlessness that society collectively accords to people who possess a particular characteristic or belong to a particular group or category” (Herek, 2009). Social stigma

has been linked to COVID-19 (WHO, 2021), and to a person who is affected by COVID-19 and stigmatised and discriminated against by other people in society.

Social stigma delays prevention and management of the pandemic as patients are encouraged to hide their symptoms, illnesses, and useful information for preventive measures. They have been discouraged to test, seek help and manage their illnesses (WHO, 2021).

Healthcare workers (HCWs) are the backbone of the healthcare system and have a major responsibility in the

management of COVID-19 patients in clinical settings. However, during the COVID-19 pandemic, HCWs are also found to have developed social stigma towards COVID-19 patients (Aacharya & Shah, 2020; Grover et al., 2020). Such stigma can disrupt doctor-patient relationships leading to a poor diagnosis, affecting prevention measures and management of illnesses and therefore could disturb the mental health of the patients (Chopra & Arora, 2020; Nuckchady, 2021).

It has been reported that some HCWs and some hospitals have denied admission and treatment for COVID-19 patients (Nuckchady, 2021), indicating fear and stigma among HCWs and those working within healthcare facilities towards COVID-19 patients.

Furthermore, during the pandemic work environments have transformed, with an increased workload among HCWs who have had to manage increasing numbers of COVID-19 patients. There has been inadequate personal protective equipment (PPE) for HCW in the hospitals and, because stigma is attached to COVID-19, the HCWs serving COVID-19 patients also get stigmatised. This, in turn, can give rise to an increased level of stress and burnout among HCWs (Ramaci et al., 2016). The increasing work-related stress can take a toll on the mental health of HCWs (Singh et al., 2020) and ultimately can affect their quality of life as a professional (Rubin & Wessely, 2020). As a stigmatising attitude is also linked to the mental well-being of the HCWs and their quality of life at work, its assessment is very important, particularly during a pandemic (Cirrincione et al., 2020).

The implications of working in a stressful clinical setting for HCWs during the COVID-19 pandemic should be recognised by concerned stakeholders of the national healthcare system. There should be exploratory studies targeted towards the assessment of HCW's attitudes towards COVID-19 patients and also their own quality of life at work during the pandemic. This would help to generate baseline evidence towards enabling a positive clinical and social environment at work for HCWs and could enhance their quality of life in the workplace. In turn, this could help to strengthen the healthcare system by creating dedicated HCWs who are fighting against this pandemic and treating patients fairly.

It is essential to explore the stigmatising attitude of HCWs and the impact on their occupational quality of life, encompassing professional satisfaction, burnout and work fatigue. With research related to the social stigma of COVID-19 patients among HCWs in its infancy in Nepal, this study attempted to measure the social stigma towards COVID-19 patients among HCWs and its relationship to their professional

quality of life during the COVID-19 pandemic in Nepal. Additionally, this study aimed to explore the attitude of HCWs and discrimination towards COVID-19 patients, acceptance of COVID-19 patients, and fear of COVID-19. Similarly, the professional quality of life of HCWs was measured in terms of work satisfaction, burnout and fatigue. To provide direction for enhancing the professional quality of life among HCWs, we categorised the outcomes of subscales of professional quality of life (ProQOL) – work satisfaction, burnout and fatigue – as low and average/high, and the outcomes of subscales of social stigma as present or absent for HCW's attitudes of discrimination towards COVID-19 patients, acceptance of COVID-19 patients and fear of COVID-19. We also explored the relationship between low ProQOL and social stigma.

## MATERIALS & METHODS

### *Participants and procedure*

The web-based cross-sectional study was carried out among HCWs including doctors, nurses, health assistants and paramedical healthcare professionals involved in patient care and working either in primary, secondary or a tertiary tier of health units in Nepal. These tiers of health units are categorised based on the available resources and services in the health facility. For example, teaching hospitals are a tertiary level of health units delivering specialised healthcare services, district hospitals are a secondary level of health units and primary healthcare centres, health posts, and community health units are a primary level of healthcare facility. We included a mix of doctors, nurses, health assistants and paramedical healthcare professionals at each level of health units because all these HCWs are equally important in fighting against this pandemic and play a major role in pandemic management. Moreover, these HCWs may exhibit a different level of stigma and professional quality of life, which need to be explored to find out which subgroup of HCWs need to be worked with. HCWs who could not access the internet and staff other than healthcare providers working in health facilities were excluded. The HCWs were contacted via Facebook, Messenger, What's App and Viber. Similarly, the information about the research was circulated on Facebook, Messenger, What's App and Viber. Nepal has seven provinces (Province 1, Province 2, Bagmati, Gandaki, Lumbini, Karnali, and Sudurpaschim). We attempted to include HCWs working in health facilities located at all these seven provinces. Anyone fulfilling the inclusion criteria could participate in the study and complete the questionnaire. Data was obtained via an online survey conducted from 1-28 August 2020. As physical movement was restricted during the lockdown and for following public health measures, convenient sampling was used to reach the HCWs online to avoid the risk of

virus transmission. During the four weeks of the online survey, while 421 HCWs completed the online survey, 20 declined from participating in the study.

The data analysis was conducted for 421 study participants.

### ***Instrument***

Data was collected via an online survey using a structured questionnaire in Google form. The questionnaire contained three sections.

The first section assessed background characteristics, including age, sex, type of job by profession, HCW's appointed province to work, type of healthcare facility i.e. primary, secondary or tertiary level, and personal experience of providing health services to COVID-19 patients.

The second section was an adopted scale for measuring social stigma of COVID-19 which was used in a similar study conducted in Italy (Ramaci et al., 2020). It consists of 12 items and is divided into three subscales. These subscales measured: discrimination towards COVID-19 patients by HCWs, acceptance of COVID-19 patients by HCWs and fear of COVID-19 among HCWs, (Ramaci et al., 2020). Each of the subscales contains four items. The items of discrimination subscale were – “I feel it is not worthwhile for me to serve persons who contracted COVID-19 during quarantine”, “I feel it is not worthwhile for me to serve people/patients with travel history of place with burden of COVID-19 cases”, “I feel it is not worthwhile for me to serve someone who became infected while providing healthcare services in the health facility”, and “I feel it is not worthwhile for me to serve migrant workers infected with COVID-19”. The items of acceptance subscale were - “When a person infected with COVID-19 asks me for help, I would take the initiative to care for him/her”, “If a friend or relative of mine were to have frequent contact with a COVID-19 infected person at work, I would advise him/her to change departments or jobs”, “I feel I have the right to refuse to serve people infected with COVID-19 in order to protect myself from being infected, and “If I had the choice, I would not serve persons infected with COVID-19”. The items of fear subscale were - “I think that the best way to prevent COVID-19 infection is to avoid any contact with people who are infected with COVID-19”, “Even if I only had to speak from greater distance to a person infected with COVID-19, I would wear a mask to prevent infection”, “For reasons of general safety, I think I should not go near a person infected with COVID-19”, and “I am not against serving persons infected with COVID-19, but would try my best not to get too close to them”. The 12 items were

individually rated on a four-point rating scale. Negative statements of the scale were reverse-scored; higher scores indicated a more positive professional attitude. As this scale was the only available and used measure to assess COVID-19 related social stigma among HCWs (Ramaci et al., 2020), we utilised the scale in this study translation into the Nepali language, followed by back translation and validation by three experts in social sciences and health research with competency in English and Nepali.

The third section is a standard scale (Stamm, 2005) which assesses ProQOL, and is previously validated and a reliable tool to assess ProQOL in the Nepalese context. It is publicly available in both English and Nepali language (Adhikari, 2020). The ProQOL scale consists of 30 items with three subscales measuring work satisfaction, burnout and fatigue within professional life, each with ten items (Stamm, 2005; Adhikari, 2020). Each of the 30 items of ProQOL scale was rated on five points with scores ranging from 1 to 5 and negative items were reverse-scored. A higher score indicated higher satisfaction, burnout and fatigue in professional life. Further, each of these three subscales of ProQOL was categorised based on its composite score with criteria as 22 or less referred to as low, between 23 and 41 as moderate and 42 or more as high (Stamm, 2005; Adhikari, 2020).

The questionnaire was pretested among 10% of the sample prior to final data collection and its results indicated that both the scales assessing social stigma and ProQOL were reliable. The social stigma scale reported to have acceptable alpha co-efficient in this study with a value of 0.8 (Tavakol & Dennick, 2011). The ProQOL scale was also reported to have a good alpha co-efficient of 0.8 (Tavakol & Dennick, 2011).

### ***Data analysis***

Statistical analyses were done using SPSS vs20. Frequency, percentage, mean and standard deviation were calculated to describe background characteristics and scores of subscales of social stigma of COVID-19 (discrimination, acceptance and fear) and subscales of ProQOL. Association of social stigma of COVID-19 and ProQOL with background characteristics were measured via an independent t-test and one-way analysis of variance (ANOVA).

The stigmatising attitude towards patients with COVID-19 with regards to discrimination, acceptance and fear were determined based on the proportion of responses that agreed or strongly agreed with the negative statements, and that disagreed or strongly disagreed with the positive statements of scale.

For multivariable logistic regression analysis to determine the relationship of stigma and with low work satisfaction, low burnout and low fatigue, the stigmatising attitude of COVID-19 i.e. discrimination, acceptance and fear were then categorised as present and absent based on the percentage of mean score (>50%=yes and less or equals 50%=no) on the four responses for each subscales. For this, HCWs' ProQOL subscales were also categorised into two groups – low and average/high. Then multivariable logistic regression was performed to assess associations of background variables and subscales of social stigma of COVID-19, with low satisfaction, low burnout and low fatigue by using enter method.

**Ethical approval**

Ethical approval for the research was received from the Institutional Review Committee of an autonomous health sciences academy in Lalitpur (Ref. phs2007311404). Once the ethical approval was obtained, potential study participants were contacted through email and social media and invited to participate in the online survey. The first part of the survey had the information sheet containing details about the aim of the study and voluntary participation. Informed digital consent was obtained from the study participants.

**RESULTS**

**Participants' background characteristics**

Study participants totalled 421 HCWs workers with 52.7% female and 47.3% male between 19-59 years old (mean age = 29.1±6.08). More than a third of the participants

were health assistants (35.6%), followed by nurses (33%), doctors (23.3%) and other paramedics (8.1%). The majority of them (38.7%) were working in Bagmati Province and the least in Sudurpashchim Province (1.4%). Most of them were working at a primary level of health facility (46.8%). More than a half (55.1%) was found to have served COVID-19 patients. Table 1 illustrates the background profile of the study participants.

The findings reveal that 64.8% of the participants had a stigmatising attitude and discriminated against COVID-19 patients; 56.5% had a negative attitude towards the acceptance of COVID-19 patients; and 16.2% had a fear of COVID-19. Similarly, the analysis indicated that the prevalence of low work satisfaction, average work satisfaction and high work satisfaction was 12.1%, 47%, and 40.9% respectively; low burnout, average burnout, and high burnout was 37.8%, 62% and 0.2%; and low fatigue, average fatigue and high fatigue was 30.6%, 64.1%, and 5.2%.

Association of participants' background characteristics with subscales of – social stigma of COVID-19 and ProQOL.

Bivariate analysis (t-test and ANOVA) was performed between independent variables (background characteristics) and outcome variables (subscales of social stigma of COVID-19 – discrimination towards COVID-19 patients, acceptance of COVID-19 patients and fear of COVID-19, and subscales of ProQOL – satisfaction, burnout and fatigue). The findings (Table 2) depict that there were significant differences in discrimination towards COVID-19 patients across sex (p=0.04), type of

**Table 1:** Background characteristics (N=421).

Characteristics	Category	Frequency	Percentage
Sex	Male	199	47.3
	Female	222	52.7
Type of Job	Doctor	98	23.3
	Nurse	139	33.0
	Health assistant	150	35.6
	Paramedics	34	8.1
HCW's appointed province to work (Working province)	Province 1	28	5.7
	Province 2	42	10.0
	Bagmati	163	38.7
	Gandaki	73	17.3
	Lumbini	68	16.2
Level of healthcare facility in which HCW were appointed/working	Karnali	45	10.7
	Sudurpaschim	6	1.4
	Tertiary	151	35.9
	Secondary	73	17.3
Provided services to COVID-19 patients by the HCW	Primary	197	46.8
	Yes	232	55.1
	No	189	44.9

job of HCWs ( $p<0.001$ ), working province ( $p<0.001$ ) and level of working health facility ( $p<0.001$ ). Moreover, there were significant differences in acceptance of COVID-19 across different provinces where the participants worked ( $p<0.001$ ) and history of providing services for COVID-19 patients ( $p=0.001$ ). There were significant differences in the fear of COVID-19 across HCWs by type of job ( $p=0.01$ ), working province ( $p=0.007$ ) and history of providing services for COVID-19 patients ( $p=0.02$ ). Additionally, there were significant differences across working province and history of serving COVID-19 patients with regards to satisfaction and burnout. However, there was no significant difference in fatigue

across different background characteristics ( $p>0.05$ ).

**Association of participants’ background characteristics with subscales of – social stigma of COVID-19 and ProQOL**

**Association of low ProQOL with background characteristics and subscales of social stigma of COVID-19.**

For better conceptualisation of the association of low ProQOL (low satisfaction, low burnout, and low fatigue) with background variables and subscales of social

**Table 2:** Association of background variables with subscales of social stigma and ProQOL (N=421).

Variable	Category	Frequency	Social stigma			Quality of professional life		
			Discrimination	Acceptance	Fear	Satisfaction	Burnout	Fatigue
			M (SD)			M (SD)		
Sex <sup>a</sup>	Male	199	11.56 [3.65]*	11.46 [2.57]	8.25 (3.03)	36.62 (11.02)	24.34 (5.89)	26.53 (8.46)
	Female	222	12.25 [3.29]*	11.56 [2.33]	8.50 (2.87)	37.53 [9.39]	24.49 (5.97)	27.23 (7.94)
Type of job <sup>b</sup>	Doctor	98	13.51 [2.92]***	11.63 [2.24]	7.66 (2.67)*	37.78 [8.41]	24.89 (5.23)	26.65 (6.87)
	Nurse	139	12.04 [3.37]***	11.73 [2.32]	8.32 (2.63)*	38.06 [8.87]	24.09 (5.78)	27.44 (7.51)
	Health Assistant	150	10.76 [3.62]***	11.35 [2.67]	8.74 (3.22)*	35.93 (11.89)	24.69 (6.22)	27.09 (9.29)
	Paramedics	34	11.97 [2.98]***	10.97 [2.46]	9.12 (3.31)*	36.32 (11.62)	23.18 (6.97)	24.53 (9.10)
Province <sup>b</sup>	Province 1	24	13.33 [2.95]***	11.92 (2.56)***	7.54 (2.67)**	41.17 (8.37)***	23.79 (6.19)***	31.29 (7.99)
	Province 2	42	12.02 [2.95]***	10.95 (2.08)***	8.29 (2.84)**	37.52 (9.39)***	23.90 (6.59)***	27.79 (8.68)
	Bagmati Province	163	12.45 [3.30]***	11.87 (2.40)***	8.10 (2.67)**	37.66 (9.30)***	24.11 (5.84)***	26.30 (7.07)
	Gandaki Province	73	12.11 [3.38]***	12.03 (2.04)***	8.77 (2.65)**	38.96 (9.92)***	23.07 (5.41)***	26.64 (7.71)
	Province 5	68	11.25 [3.85]***	11.44 (2.86)***	8.21 (3.05)**	38.62 (8.52)***	23.59 (5.69)***	27.04 (8.35)
Health facility level <sup>b</sup>	Sudurpaschim Province	6	11.67 [0.81]***	11.00 (1.54)***	12.17 (2.63)**	25.00 (9.94)***	27.83 (3.37)***	21.00 (6.38)
	Tertiary	151	12.87 [2.71]***	11.70 [2.36]	8.45 (2.97)	37.17 [8.49]	24.76 (5.41)	26.80 (6.88)
	Secondary	73	12.01 [3.95]***	11.52 [2.48]	8.11 (3.10)	36.96 (10.51)	25.21 (5.80)	27.18 (9.04)
Served COVID-19 patient <sup>a</sup>	Primary	197	11.16 [3.65]***	11.37 [2.49]	8.43 (2.88)	37.10 (11.27)	23.86 (6.31)	26.87 (8.80)
	Yes	232	11.75 [3.55]	11.16 [2.46]**	8.69 (3.07)*	35.71 (10.73)**	25.44 (5.78)***	27.26 (9.22)
	No	189	12.14 [3.40]	11.94 [2.36]**	8.00 (2.74)*	38.80 (9.23)**	23.16 (5.88)***	26.46 (6.71)

<sup>a</sup>Independent t-test, <sup>b</sup>ANOVA, \* $p<0.05$ , \*\* $p<0.01$ , \*\*\* $p<0.001$ .



stigma of COVID-19, a multivariable logistic regression analysis was conducted (Table 3, Table 4, Table 5). For multivariable logistic regression analysis, low satisfaction, low burnout and low fatigue were treated as dependent variables, and background characteristics and subscales of social stigma of COVID-19 (discrimination, acceptance and fear) were treated as independent variables. The results of multivariable logistic regression analysis showed that three factors were found to be associated with low satisfaction – a history of providing health services to COVID-19 patients, a discriminatory attitude towards COVID-19 patient and fear of COVID-19 (Table 3).

History of serving COVID-19 patients, acceptance of COVID-19 patient and fear of COVID-19 were also

associated with low burnout (Table 4). Similarly, two subscales of social stigma of COVID-19 (acceptance and fear) were associated with low fatigue (Table 5).

**DISCUSSION**

The overall findings depict that HCWs, especially males, those working with COVID-19 patients and in primary care settings reported a more stigmatising attitude towards COVID-19 patients during the pandemic. Around half of the participants had a stigmatising attitude towards COVID-19 patients. Two-thirds of the participants had a negative attitude of discrimination towards COVID-19 patients and a fifth of them had a fear of COVID-19. Social stigma was found to be an important predictor of

**Table 3:** Multivariate analysis of social stigma of COVID-19 and background factors associated with low satisfaction (N=421).

Variables	Low satisfaction N		Adjusted odds ratio (95% CI)	P-value
	Yes	No		
Sex				
Female	20	202	1.0 (ref)	
Male	31	168	1.81 [0.92, 3.55]	0.085
Served COVID-19 patient				
No	14	175	1.0 (ref)	
Yes	37	195	2.15 [1.05, 4.39]	0.037
Discrimination				
No	20	128	1.0 (ref)	
Yes	31	242	0.47 [0.22, 0.99]	0.048
Acceptance				
No	23	215	1.0 (ref)	
Yes	28	155	1.09 [0.53, 2.28]	0.812
Fear				
No	22	331	1.0 (ref)	
Yes	29	39	13.57 [6.41, 28.74]	<0.001

**Table 4:** Multivariate analysis of social stigma of COVID-19 and background factors associated with low burnout (N=421).

Variables	Low burnout n (%)		Adjusted odds ratio (95% CI)	P-value
	Yes	No		
Sex				
Female	84	138	1.0 (ref)	
Male	75	124	1.09 [0.72, 1.66]	0.667
Served COVID-19 patient				
No	89	100	1.0 (ref)	
Yes	70	162	0.54 [0.35, 0.82]	0.004
Discrimination				
No	53	95	1.0 (ref)	
Yes	106	167	0.97 [0.61, 1.52]	0.971
Acceptance				
No	72	166	1.0 (ref)	
Yes	87	96	2.35 [1.51, 3.65]	<0.001
Fear				
No	142	211	1.0 (ref)	
Yes	17	51	0.39 [0.21, 0.73]	0.003

Note: "ref" means reference category.

**Table 5:** Multivariate analysis of social stigma of COVID-19 and background factors associated with low fatigue (N=421).

Variables	Low fatigue n (%)		Adjusted odds ratio (95% CI)	P-value
	Yes	No		
Sex				
Female	61	161	1.0 (ref)	
Male	68	131	1.44 (0.91, 2.27)	0.116
Served COVID-19 patient				
No	52	137	1.0 (ref)	
Yes	77	155	1.31 (0.83, 2.07)	0.245
Discrimination				
No	35	113	1.0 (ref)	
Yes	94	179	1.25 (0.76, 2.07)	0.369
Acceptance				
No	49	189	1.0 (ref)	
Yes	80	103	2.41 (1.51, 3.86)	<0.001
Fear				
No	86	267	1.0 (ref)	
Yes	43	25	4.07 (2.29, 7.25)	<0.001

Note: "ref" means reference category.

ProQOL, affecting satisfaction, burnout and fatigue.

### Stigma among HCWs

Around half of the HCWs had a stigmatising attitude towards COVID-19 patients. The results are comparable to other studies done in Nepalese (Basnet et al., 2020; Limbu et al., 2020; Tamang et al., 2020) and in the Ethiopian population (Farah et al., 2021), where more than half of the HCWs had a negative attitude towards COVID-19 patients. Such stigma and negative attitude among HCWs towards COVID-19 patients could be due to multiple factors. The possible factors could be: inadequate PPE and testing, feelings of helplessness and uncertainty to treat the illness, fear and a threat of acquiring infection and spreading it to family and friends, misinformation, understaffing, overload of work, and their own struggle with mental health disturbances and illnesses (Nuckchady, 2021; Ramaci et al., 2020).

More than half of the participants feared working with COVID-19 patients or those with respiratory illnesses and fever (Basnet et al., 2020; Farah et al., 2021). But in this study, two-thirds of the participants had a negative attitude of discrimination towards COVID-19 patients and only one-fifth of them had fear of COVID-19. The differences could be because this study used scale for social stigma unlike the other studies which used questionnaires to assess attitude (Basnet et al., 2020; Farah et al., 2021). Similarly, there were significant differences in the professional attitude among various professionals. This study reported that doctors discriminated against COVID-19 patients less and paramedical health

professionals feared COVID patients less than other health professionals. Doctors are more aware about the illness, involved in direct COVID-19 patients' care, exposed more to the patients and have a better attitude than paramedical health professionals (Tamang et al., 2020; Nepal et al., 2020). Therefore, these reasons must have led to such results. Similarly, discrimination against COVID-19 patients was found to be low among HCWs at a tertiary level of health facilities than others. It may be due to availability of more facilities including PPE and specialised health professionals at tertiary level compared to primary level. Also, hospitals could be overburdened to manage COVID-19 patients with high morbidity and mortality. Hence, HCWs working in hospitals must have had more fear towards COVID-19 patients as shown in other studies (Basnet et al., 2020; Farah et al., 2021). Further, it has been found in Nepal that HCWs in tertiary centres had better knowledge than those in secondary and primary healthcare centres and doctors were more informed than nurses and health assistants about COVID-19 (Basnet et al., 2020; Nepal et al., 2020). Better knowledge is associated with a better attitude (Limbu et al., 2020). Therefore, there was more discrimination towards COVID-19 patients in this study as it comprised mostly of health assistants working in primary healthcare settings.

### Overcoming the stigma

The finding highlights the need to design timely and appropriate training for all HCWs with a focus to reduce their social stigma towards COVID-19 patients. Correct and timely knowledge improves the confidence to defeat

the illness (Zhang et al., 2020). With greater confidence comes a more positive and optimistic attitude (Basnet et al., 2020). Therefore, correct and updated information about mode of transmission, types of contacts and tests should be provided even to those not yet involved with the direct treatment of COVID-19 patients so that no one remains misguided and misinformed. HCWs should also take personal responsibility to learn so that they have adequate knowledge and develop a better attitude toward COVID-19 patients. Their social, financial, familial and personal security should be ensured with adequate testing and PPE. Moreover, every healthcare facility should have mental health counselling and treatment services available so that early diagnoses, interventions and treatments are on offer for HCWs.

### *Variation of stigma with gender*

The study depicts that female HCWs had a more positive professional attitude towards COVID-19 patients. This result is in contrast with other research conducted in Nepal (Basnet et al., 2020; Tamang et al., 2020), Ethiopia (Farah et al., 2021) and Italy (Ramaci et al., 2020) where no gender differences were seen. The cultural differences between Nepal and other countries may have resulted in the difference. Similarly, differences in the data collection tool and techniques (hospital-based study with self-assessed questionnaire) used in other studies of Nepal as compared to the online survey in the current study could have produced different findings. It is important to address such gender differences in social stigma towards COVID-19 patients among health professionals and study it systematically within the country both at a community and hospital setting.

### *Variation of stigma with type of work*

It was observed that HCWs who had a history of serving COVID-19 patients had around two-fold higher odds of having low satisfaction in their professional work as compared to those who had not served COVID-19 patients. Several reasons may account for this result. The COVID-19 pandemic has affected the quality of life for HCWs and increased many concerns: fear of contracting the virus among health professionals, fear of something bad happening to family and friends, fear of transmitting infection, increased workload and working hours, reduced salary and effective workforce, stigmatisation in the community, affected work-life balance, mental health and made the working atmosphere more difficult. But the findings are in contradiction with the study done in Italy where frontliners were found to have a high level of satisfaction with their profession during

the pandemic than non frontliners (Buselli et al., 2020). In China, frontline nursing staff had less burnout than those working in a 'normal' ward (Wu et al., 2020). These could stem from more decision-making power, financial and public support, timely and appropriate information to the HCWs, greater sense of control of the situation due to policies and study conducted in the early stages of the pandemic. Moreover, results of multivariate analysis indicated that gender was not found to be associated with a low satisfaction, low burnout and low fatigue in the current study. This clearly indicates that irrespective of gender, the sense of fulfilment and dedication at work seems to be equally distributed and felt by the HCWs.

### *Effect of stigma on professional quality of life*

Interestingly, with the presence of a discriminatory attitude towards COVID-19 patients and fear of COVID-19, there were half-lower odds of having low satisfaction at work for HCWs. And, with the presence of fear of COVID-19, there were 13-times higher odds of having lower satisfaction in professional life for the HCWs. Similarly, having an attitude of acceptance towards COVID-19 patients increases the odds of getting low burnout two-fold. The positive relationship of stigma discrimination and fear with burnout and fatigue and their negative relationship with satisfaction has been established (Ramaci et al., 2020). The findings of the regression analyses reveal that social stigma in terms of fear of COVID-19 was associated with all three subscales of ProQOL (i.e. satisfaction, burnout and fatigue) of the HCWs. This result is consistent with the study carried out among HCWs in Italy where social stigma was found to be a strong predictor of ProQOL and explained a variance in satisfaction, burnout and fatigue at work (Ramaci et al., 2020). This finding is also supported by other studies which showed that stigma is associated with life satisfaction, ProQOL including burnout and fatigue among healthcare professionals (Greef et al., 2010; Holzemer et al., 2009; Platania et al., 2015). Moreover, as HCWs are one of the vulnerable groups being overexposed to the negative effects of the COVID-19 pandemic, it has been identified that social support and a supportive working environment could protect their mental health (Sarchiapone, et al., 2021), which in turn could enhance their ProQOL.

In order to effectively manage the COVID-19 pandemic in Nepal, the underlying findings of this study show that social stigma of COVID-19 patients is an important predictor of ProQOL in HCWs, so it is of utmost importance to strengthen and support HCWs by emphasising measures to decrease stigma, and in particular to reduce the fear of COVID-19.



## LIMITATIONS

Although, this study has produced novel results in the Nepalese context to understand social stigma of COVID-19 among HCWs and its impact on their ProQOL, it has a few limitations. The study was cross-sectional and an online survey with convenient sampling. Therefore, the findings need to be interpreted with caution as it cannot establish causation. The findings may not be representative of all the healthcare professionals from various educational and economic backgrounds across the country. Those without access to the internet and those who have already experienced stigma and therefore, unwilling to participate in the online survey, have not been included in the study. But considering the lockdown in the country, the online platform was the best possible way to assess HCWs.

As the current ongoing duration of the pandemic is uncertain, the attitude of HCWs may change over time as treatments advance, control and management of COVID-19 improves and they are vaccinated against it. Hence, the findings may not be generalised in post vaccination time since both stigma and ProQOL will be affected by the vaccination.

The data extracted in this study is based on self-reported measures, rather than direct observation and clinical assessment of behaviours of HCWs. Social stigma of healthcare professionals can be affected by their own COVID-19 positive status or their family members, ongoing stresses in their personal and professional lives and their mental health disturbances and illnesses.

We have not been able to systematically study these variables.

## CONCLUSION

Social stigma of COVID-19 among HCWs was found to be an important predictor of ProQOL affecting satisfaction, burnout and fatigue. Fear of COVID-19 among HCWs was associated with low work satisfaction, low burnout, and low fatigue. An attitude of acceptance of COVID-19 patients was associated with low burnout and low fatigue, and an attitude of discrimination towards COVID-19 patients was associated with low work satisfaction. Furthermore, HCWs, especially males, and those working in primary care settings reported more stigmatising attitudes towards COVID-19 patients. Therefore, prevention strategies, timely and appropriate training, and stress management workshops should be organised among all HCWs, and with more emphasis on male HCWs to reduce their social stigma towards the patients and improve their ProQOL. Moreover, vaccination against COVID-19 among HCWs,

provision of availability of adequate PPE and specific training aimed at caring for COVID-19 patients could help increase their acceptance of COVID-19 patients and reduce discrimination and thereby decrease the fear of COVID-19; hence, could increase work satisfaction among HCWs during the pandemic. Further studies should contemplate the qualitative approach to gather the detailed perspective of different level of HCWs regarding stigmatisation of COVID-19 and understand their perception towards measures for effective management of the outbreak. It will be worthwhile to identify other variables related to social stigma and examine them. Similarly, we look forward to studies comparing social stigma against COVID-19 and ProQOL of health professionals before and after the vaccination period.

## ACKNOWLEDGEMENTS

We thank Institutional Review Committee – Patan Academy of Health Sciences for giving permission to carry out this research.

We express our deep gratitude to all research participants. We would also like to thank Ambika Thapa Pachya for her sincere support during the initial phase of protocol development for the study.

**Authors' contribution:** RS: conception and design, project administration, investigation, data analysis and interpretation; supervision, writing original draft, review and editing.

MS: project administration, supervision, review and editing.

CBS: project administration, supervision, review and editing.

SP: project administration, review and editing. BS: project administration, review and editing. SM: project administration, data curation, supervision, review and editing.

### *Ethical approval*

Ethical approval was sought from IRC-Patan Academy of Health Sciences to carry out the study (Ref. phs2007311404).

### *Conflict of interest*

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

## Funding

This research received no specific grant from any funding agency, commercial or not-for-profit sector.

## Informed consent

Once the ethical approval was obtained from IRC-PAHS, potential participants were contacted through social media and were invited to complete the online survey. The first page of the Google form used in the online survey consisted of the informed consent form. Participants who agreed to move ahead with the online survey began the main section. Those who disagreed were taken as refusing the consent and the survey was terminated taking the student to the end of the survey. So, digital informed consent was obtained from the study participants prior to their enrolment in the online survey.

## Study registration

The study was not registered externally.

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