Research

Psychological and social wellbeing of paramedics in Riyadh City during the COVID-19 pandemic

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Abstract

Introduction

Our research sought to assess the psychological and social wellbeing of paramedics in Riyadh City in Saudi Arabia during the COVID 19 pandemic. It also aimed to assess the therapeutic assistance provided to pre-hospital care givers during the pandemic.

Methods

In this quantitative cross-sectional analysis an assessment of 106 paramedics was undertaken from data obtained from 28 September to 10 November 2020. The authenticity and durability of Pilot and the Cronbach have been added.

Results

Of the 106 paramedics surveyed, 60 (56.6%) were 30–39 years of age; 101 were male (95.3%). The mean average psychological wellbeing of the paramedics was 6.41 with the standard deviation of 2.42. Family and friends' average social support score was 9.2 in norm 2.6 deviation.

Conclusion

Our study showed that during the COVID-19 pandemic paramedics suffered from social and psychological depression. Paramedics must be protected from the socioeconomic and psychological difficulties they face every day in order to combat the COVID-19 pandemic.

Keywords:

paramedics; COVID-19; psychological wellbeing; social wellbeing; Saudi Arabia

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Introduction

Coronavirus disease-19 (COVID-19) was first reported in Wuhan, China and has spread globally (1). Healthcare workers working during the COVID-19 pandemic are prone to poor psychological results, specifically regarding sleep, waking early morning, as well as a lack of energy and post-traumatic stress symptoms (2-3). The emergency medical service (EMS) is a comprehensive and well-developed system that includes trained medical personnel, equipment and resources in order to deliver high quality medical treatment and support for patients in pre-hospital settings (4). EMS includes dispatchers, emergency medical technicians (EMTs) and paramedics, with each one playing an important role in saving lives. EMTs utilise basic skills such as cardiopulmonary resuscitation, administering oxygen and treating allergic reactions. Moreover, paramedics are highly educated and skilled in administering medication, interpreting electrocardiograms, inserting an endotracheal tube and other advanced airway skills in addition to performing physical assessments (4). A paramedic is certified after completing a Bachelor degree in EMS while an EMT is certified after completing a diploma EMS. This is the most significant difference between the qualifications of paramedics and EMTs.

The healthcare workers, including paramedics, are experiencing extreme pressure, stress and anxiety during the COVID-19 pandemic (5). It was observed that the risk of burnout during the SARS pandemic had a negative effect on healthcare workers and patient care (6), and the negative effect also resulted in poor work performance (7). Paramedics are also at risk of emotional strain due to their exposure to critical illness or death of their co-workers as well as being faced with a moral challenge when working in an environment with limited resources (8). Failure to obey the safety measures and negligence of the public are the major factors associated with the rise in the infection curve (9). The psychological and social wellbeing of paramedics has become a global concern due to the stigma associated with the COVID-19 pandemic (9).

Saudi Arabia had 361,903 confirmed cases as of 26 December 2020 with 6168 deaths, 2920 active cases and 352,815 recoveries (10). The peak of the disease was in June 2020 when the country recorded the highest number of infections at 30,925 in a single day (11). About 40.3% of the infected healthcare professionals were nurses (12). Saudi Arabia has about 5548 paramedics who risk their lives to offer services to the public, moreover, in 2016, the Saudi Red Crescent Authority was dispatched to 439,038 emergencies across the Kingdom of Saudi Arabia (4).

Studies have generated new information regarding the COVID-19 impact on pre-hospital caregivers and their contribution in containing the spread of the pandemic through reducing community spread of the disease. Previous studies focussed on healthcare professionals working in hospital

settings, overlooking social workers who interact regularly with community members. Due to the lack of previous studies in Saudi Arabia, the aim of this study was to determine the psychological and social wellbeing among healthcare workers during the COVID-19 pandemic and to assess the psychological and social support offered to paramedics during the pandemic.

Methods

Study design and sample

This cross-sectional study was conducted among paramedics working as pre-hospital care providers in Riyadh City. Data was collected between 28 September and 10 November 2020. The study was conducted among the general population of Riyadh City, the capital and the biggest city of Saudi Arabia. The sample was purposive and an inclusive approach targeting working paramedics in Riyadh City during the pandemic was taken. The age of the target sample population ranged from 20 to 59 years in addition to 1 year's work experience.

Data collection was done using a survey which was distributed as a web-based internet survey questionnaire developed by the World Health Organization (WHO) for assessing the psychological and social wellbeing of healthcare workers during the H1N1 influenza outbreak (13). The questionnaire contained three sections: demographic, psychological wellbeing, and social wellbeing. The demographic section included 12 questions and participants provided information on their age, job title and years of experience. The psychological wellbeing section included 11 questions that was gauged on a scale of 1 to 10 (10 being the most positive), and the last section included nine questions about the social wellbeing with 'yes' and 'no' answers. The questionnaire was detailed enough to allow the researcher to acquire the required information from the paramedics participating in the study. The questionnaire was in English. A pilot study of 20 paramedics was conducted to test the validity of the study. The Cronbach's α was found to be 0.790 that ensured that the questionnaire was internally reliable and consistent.

Consent on the aims, processes, voluntary essence of involvement, confidentiality and secrecy was included in the questionnaire cover tab page of the web page. The questionnaire was sent via email to all the participants. As the respondents were able access the electronic questionnaire, there was a high level of convenience for both researcher and respondents because it reduced meetings and commuting from one participant to another (14). The respondents were given the chance to seek clarification and ask questions based on areas that were unclear.

Measurement tool and data analysis

Data were analysed using SPSS (version 24, Chicago IL, USA) a statistical data analysis program. The results were presented using frequency and percentage to show the distribution of various responses on the psychological wellbeing of paramedics.

The results of social wellbeing were also presented using the chi-square test while the variables were categorical. The chi-square test established access to the relationship between the understanding of social wellbeing of paramedic workers in the study; $p < 5\%$ was considered as significant level.

Results

Of the respondents, 56.6% were aged 30 to 39 years, 30.2% were aged 20 to 29 years, and 1.9% were aged 50 to 59 years. Most respondents were male (95.3%). Of these, 60.4% worked as EMTs before being promoted to paramedic. The percentage of total respondents (35.8%) were those with between 1 to 4 years' work experience (Table 1).

Table 1. Demographic characteristics of participants (n=106)

Variables	Frequency (n)	Percentage (%)
Age (years)		
20-29	32	30.2
30-39	60	56.6
40-49	12	11.3
50-59	2	1.9
Gender		
Male	101	95.3
Female	5	4.7
Career		
EMT	64	60.4
Paramedic	42	39.6
Work experience (years)		
1-4	38	35.8
5-8	24	22.6
9-12	21	19.8
>13	23	21.7

In assessing the perception of pre-hospital caregivers, the study utilised a scale of 0 to 10 to represent the 'yes' 'no' responses which paramedics were expected to provide: a score of 0 to 3 was taken to be 'low', 4 to 6 medium, and 7 to 10 as high (Table 2). Table 2 also represents the mean and standard deviation (SD) of participants' responses to psychological wellbeing. The mean psychological health at work was 6.41 (SD=2.42), while the mean score of stress level at work was 7.13 (SD=2.19). The analysis of psychological wellbeing indicates that the mean score on perception of the employer providing current aids in stress management was 4.58 (SD=2.57). The analysis also indicates that the mean perception score for interest in access to more mental health resources at work was 6.28 (SD=3.17). The mean perception score of feeling a need to request help for mental and physical health issues at work was 5.44 (3.15); and the mean perception score on the interpersonal relationship of the respondents with colleagues was 7.11 (SD=2.26) and on work-life balance it was 5.63 (SD=2.56). The mean score on outside office hours devoted to work projects was 5.13 (SD=2.63). The analysis indicated that the mean score of employers help to improve work-life balance was 5.56 (SD=2.59) and the mean score of rating the physical health of respondents was 6.56 (SD=2.66). Finally, the mean score of help provided to improve physical health was 5.13 (SD=2.73).

The study utilised a scale of 0 to 10 to represent the 'yes' 'no' responses which paramedics were expected to provide: a perception of 0 to 3 was considered as 'low', 4 to 6 'medium', and 7 to 10 as 'high' perception. The standard deviation and mean for responses on the perception of the participants is presented in Table 3. The mean for paramedics having time with friends was 6 (SD=4.9); meeting with family members during the COVID-19 pandemic was 5.8 (SD=4.9); engaging in entertainment since the outbreak of the pandemic was 4.6 (SD=5); being kept at a distance from their families was 7.2 (SD=4.6) and from their friends 7.8 (4.2). Regarding social support from family and friends, the analysis shows a mean score of 9.2 (SD=2.6). The mean score on whether the paramedics received social support was 5.8 (SD=5). Conversely,

Table 2. Mean and SD of participants' answers to psychological wellbeing questions

Psychological wellbeing questions	Mean	SD
How do you evaluate the general degree of wellbeing at work?	6.41	2.42
What rate would you make for your stress levels at work?	7.13	2.19
Do you believe that your boss helping to relieve stress?	4.58	2.57
Do you like to get access to more support and resources for mental wellbeing at work (eg. sessions on meditation, attention lessons, seminars on stress reduction)?	6.28	3.16
Are you interested in talking to someone or requesting assistance with emotional and physical problems at work?	5.44	3.15
How will your interpersonal interactions with colleagues be described?	7.11	2.26
How can you describe the balance of your work-life?	5.63	2.57
How many hours outside official duty do you commit to work projects?	5.13	2.63
What do you think could be done by your employer helping in improving your work-life balance?	5.56	2.59
How can your physical health be rated?	6.56	2.66
Do you think could your company help you in improving your physical health?	5.13	2.73

the study sought to determine whether paramedics received support from friends and families. The results showed a mean score of 4.4 (SD=5) and 5.5 (SD=5).

In Table 4, the mean score and the standard deviation assessed the relationship between paramedics having time for family and friends and being welcomed. The results indicated that there is a statistically significant association between having time for friends and being welcomed to meet them. Conversely, there was no statistically significant relationship between having time for family and being welcomed to meet. Phi and Cramer's V test the strength of association between having time and being welcomed by friends, which was low (0.255) but statistically significant ($p=0.009$), while that between having time and being accepted to meet family was very low at 0.027 and not significant.

Discussion

In this study, most of the respondents were male (95.3%). The low number of female paramedics (4.7%) could be explained by the fact that paramedic education for women only started in Saudi Arabia in 2015 (15).

Our findings indicate that paramedics experience high levels of stress during the COVID-19 pandemic when delivering healthcare services to infected people. According to the findings, healthcare workers faced psychological instability due to stigma and discrimination from families and friends which resulted into low self-esteem by the fact that they interact with COVID-19 patients every day. Many believe that their lives are in danger considering the nature of COVID-19 spread and shortage of

personal protective equipment (16). Our study also revealed that there is a significant number of healthcare providers who have minimal access to mental health resources in Saudi Arabia. Some studies indicate that management's failure to react to paramedical stress is not due to insufficient empathy, but failure in handling coercion, confrontation and secrecy, which 'swamps' the management of the workplace (17).

This study also shows that the mean perception score on the interpersonal relationship of respondents with co-workers (7.11, SD=2.26) and the mean score on work life-balance (5.63, SD=2.56) warn us that potential service providers of therapeutic interventions should provide medical workers with psychological wellbeing support as a priority. For such personnel dealing with high-risk work, supportive services should be given on a priority basis. One study showed that healthcare workers who had to undergo mandatory working during COVID-19 pandemic are likely to have worse psychological results, particularly with respect to sleep, waking early morning, lack of energy and post-traumatic stress symptoms (3). These psychosocial problems can be caused by stressful life events. The outbreak of the COVID-19 pandemic is one such event (18). This study shows that most paramedics working day and night to combat the pandemic are affected by physiological anxiety where they are full of worried thoughts, feelings of tension and physical changes such as high and low blood pressure. The paramedics who work in fever clinics, intensive care units, isolation wards and other departments in healthcare settings have an increased workload and are at a high risk of getting infected (18).

Friends and family support given to paramedics during the COVID 19 pandemic was highlighted in this study. Most family

Table 3. Mean and SD of participants answer to social wellbeing questions

Social wellbeing questions	Mean	SD
Do you have time with friends?	6	4.9
Have you been meeting your family members since the COVID-19 pandemic outbreak?	5.8	4.9
Do you practise entertainment and sport after work since the COVID-19 pandemic?	4.6	5.0
Families during this COVID-19 pandemic keep distance between you and them?	7.2	4.6
Friends during this COVID-19 pandemic keep distance between you and them?	7.8	4.2
Are the friends and family supportive to you during the COVID-19 pandemic?	9.2	2.6
Is there social support during this COVID-19 pandemic?	5.8	5.0
As health provider in pre-hospital, do you see that you are welcomed among friends due to risk of infecting them?	4.4	5.0

Table 4. Test for social wellbeing of participants

		Value	p-value
Pearson chi-square	Welcomed among friends	6.893	0.009
	Welcomed among family	0.78	0.780
Phi and Cramer's V	Welcomed among friends	0.25	0.009
	Welcomed among family	0.027	0.485

and friends kept a distance from paramedics who are at the frontline fighting the pandemic. Healthcare workers are at higher risk as they are highly exposed to infectious diseases due to their commitment in treating and transporting COVID-19 patients (19). For example, in China, frontline paramedics dealing directly with COVID-19 patients have experienced anxiety, insomnia and very high levels of negative mental health symptoms (20). The results indicate that the social wellbeing of paramedics has declined because families and friends have distanced themselves and are unable to offer social support to paramedics attending COVID-19 patients. Healthcare workers feel that they are losing the love and affection of families, which has resulted in depression and stress among healthcare providers (21).

Social assistance contributes to improved psychological results. Better corporate help was seen by paramedics to alleviate concerns (22). This study observed that knowledge and literacy were linked to reduced psychological distress, likely by improved management techniques and greater access to social support services (23). Social withdrawal and signs and symptomatic symptoms described above produced an atmosphere that adversely impacted personal interactions and intensified the feeling of alienation and withdrawal (24). To handle this, paramedics specifically had challenges and blame others such as their close friends (25-26).

A study of 1563 health professionals showed 50.7% were depressed while 44.7% had symptoms of anxiety and 36.1% had sleep disturbance (20). According to this study, there are few services that provide psychiatric screening and counselling services for depression, anxiety and suicidality for frontline healthcare workers who have worked with COVID-19 patients. Most paramedics have shown emotional disturbances, heightened stress and higher levels of anxiety and depression (27). Additionally, this is causing many paramedics to work in fear of getting infected due to the high risk of being exposed which created a fear of transmitting the disease to their families, friends and children (22), minimising their interactions as a result.

The opportunity to participate in entertainment activities and being welcomed by friends was what most paramedics were most affected by. It was found that the COVID-19 pandemic adversely affected tourism and other forms of personal entertainment due to social distancing requirements and avoiding unnecessary travel (28). Also, the findings suggest a rejection by friends who wish to conform to WHO recommendations about avoiding crowded places to limit the spread of COVID-19 (29). Pre-hospital care providers adhere to other containment measures, while being kept socially distanced from family members and friends who were supportive of their activities to help the affected received appropriate medical intervention. The professionals observed all the requirements in handling and preventing COVID-19 spread to their loved ones.

Based on the results, having time for family and friends significantly influence their acceptance by friends. The results

indicate that friends avoided physical meetings with the paramedics as a containment measure. Additionally, it was found that community members perceive healthcare professionals as infected with COVID-19, hence avoid them (30). Nevertheless, kinship bonds and proximity caused most of the paramedics to interact with their family members after handling COVID-19 patients in their respective communities.

Limitations

This study was limited to paramedics working in Riyadh City in Saudi Arabia. Due to COVID-19 restrictions, researchers were only able to conduct the study through email.

Conclusion

This study shows that during the COVID-19 pandemic, paramedics suffer social psychological distress. It also concluded that paramedics have been experiencing a lack of social wellbeing, and that paramedics have not been welcomed by family members and friends during the pandemic. This study has suggested that there should be public knowledge on the importance of supporting paramedics during the COVID-19 pandemic, as they perform an important duty in protecting society against COVID-19. This report also concluded that paramedics must be protected from the social and psychological problems they face every day while they help to combat the COVID-19 pandemic.

This study recommend that paramedics should be given psychological support and social counselling services by the Ministry of Health as they form an important part of the frontline soldiers in the fight against the COVID-19 pandemic.

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Competing interests

The authors declare no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

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