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Impact of the Covid 19 pandemic on the mental health of health workers

Results of a selective literature review

On 7 April 2023, the legal nationwide framework for the so-called Corona protective measures expired, i.e. the last remaining obligations, especially the wearing of an FFP2 mask when visiting a hospital or nursing home, ceased to apply, as had been decided in the ‚Erste[n] Verordnung zur Änderung der Schutzmaßnahmenaussetzungsverordnung' (First Regulation Amending the Regulation on the Suspension of Protective Measures) of 24 February 2023 by the German federal government. At the latest now, the (self-)critical reappraisal of the Corona pandemic should begin on a scientific basis with regard to successes, consequences and mistakes in the fight against the pandemic. In the following, an attempt will therefore be made to draw an interim conclusion on the possible consequences and repercussions of the Covid 19 pandemic and the resulting (health) policy measures for medical personnel with a focus on mental well-being, with the help of the presentation and interpretation of data from current publications.

>> A selective literature review was conducted to clarify the following research questions: Has there been a demonstrable deterioration in the mental well-being of hospital staff during or as a result of the Covid 19 pandemic? What are risk factors for deterioration in mental health status; what are key protective or resilience factors?

The selective literature search considered studies in the PubMed, Google Scholar and Livivo databases. Multiple searches were conducted between 25 November 2022 and 10 January 2023. The following inclusion criteria were selected: 1.) the study deals with the mental health of medical personnel during the Corona pandemic; 2.) comparative data from the time before the pandemic or from a comparative population from the general population are used; 3.) the survey is carried out with the usual or evaluated survey instruments, with the help of which the study was conducted. 4.) the study is published in German and/or English; 5.) the publication refers to Europe in order to ensure comparability with regard to the health care system and the handling of stress and mental health.

Results

Of the 10,690 ‚first hits' of the literature search, 52 were shortlisted after a selection process, of which 14 could be included in compliance with the inclusion criteria. Of these publications, five came from Germany and two from Switzerland.

Table 1 summarises the results of the studies, names the measuring instruments and questionnaires used, but also the main limitations of the published studies.

Summary

The aim of a selective literature search with a focus on European countries was to clarify whether and how the Covid 19 pandemic influenced the psychological well-being of medical personnel. Of the 14 publications ultimately considered, five came from Germany and two from Switzerland. The majority of the studies found more psychological symptoms and perceived stress among many respondents. Younger employees with less work experience were found to have more anxiety and depressive symptoms. Other risk factors seem to be (mental) pre-existing illnesses or stress. Nurses tend to show symptoms more often than doctors. The critical and deliberative assessment of the pros and cons of the pandemic measures in Germany that is now beginning should also include their possible short- and long-term consequences for the mental health of health care workers.

Schlüsselwörter

Covid 19 pandemic, mental health, risk factors, health workers

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Quote

‚It is basic knowledge in psychotherapy, psychosomatics and medical psychology that reliable and close social ties promote mental and physical health. On the psychobiological level, the data is clear: social contact, close social relationships, physical touch, but also symbolic closeness buffer stress loads and prolong life ...'

(Ditzen 2020).

Stress and increased workload

Basically, all studies that have examined the parameter of stress find indications of increased stress levels among health system employees. Beschoner et al. report that 87.6% of the medical-technical assistants surveyed had medium to high levels of stress [5]. There seems to be a link between increased stress levels and fear of contracting the virus [6]. In the work of Rodríguez-Jiménez et al. 94.5% of the surveyed clinic staff reported feeling constantly overtaxed and stressed [14].

Depression

Several papers found evidence of high rates of depressive symptoms among healthcare workers. Valaine et al. describe symptoms of clinically relevant depression in 24.8% of the study participants; in addition, they found male gender, young age and higher education or higher educational attainment as risk factors [10]. Valaine et al. state that 65% of the respondents had no or mild symptoms, 18% moderate, 17% severe depressive symptoms [10]. Fountoulakis et al. found depressive symptoms in 10.8% of women and 5.6% of men. They describe a more frequent occurrence among nurses compared to other occupational groups in health care [16].

In the result of the VOICE study, an association of the occurrence of depressive symptoms with previous mental illness, female gender and low social support was found. No significant difference was found between employees with and without direct Covid 19 patient contact [4]. In contrast, Zerbini et al. described higher levels of depression among employees with direct contact to covid-19 infected patients [6]. Krammer et al. found depression in 15% of survey participants; here, too, previous illnesses and female gender are described as the main risk factors [8].

Anxiety

Valaine et al. describe that 17.2% of the participants have clinically

significant anxiety symptoms [10], in Mattila et al. 40% of the study participants have low to moderate anxiety symptoms, in 5% there is a pronounced anxiety disorder [12]. In Hummel et al. these values are even higher: 15% have indications of moderate, 22% of marked anxiety symptoms. Rossi et al. also describe more anxiety, especially among female employees [17].

Sick leave and desire to change jobs

In their study, Röthke et al. deal, among other things, with absenteeism due to illness and a tendency to change professions. Almost 11% of the respondents had thought about a change of profession in the course of the pandemic. A correlation was found between increased psychological stress and an increased number of sick days as well as a desire to change professions [7].

Risk factors

Most studies describe more psychological symptoms in the study participants [4,8,9,12,16,17]. Regarding the age factor, younger employees seem to have a potentially worse starting position [10,11,12]. Less work experience may lead to more symptoms of anxiety and depression [10]. The VOICE study also identified job change as a risk factor for symptoms of mental illness [4]. Furthermore, pre-existing mental illnesses or stresses seem to be associated with a higher risk [4,5,6]. Nurses tend to show symptoms more often than doctors [6,8].

Resilience factors

Not unexpectedly, optimism and a positive coping strategy as well as a positive reappraisal style seem to have a positive effect [7,4]. Good social support from family and friends and good integration into social structures are also associated with lower levels of anxiety [4]. In addition, more work experience and older age seem to have a positive effect [10,11,12].

Limitations

According to the Federal Ministry of Health, 5.8 million people work in the health care system in Germany, which corresponds to about one in eight of the working population [18]. Studies with only a few hundred participants are therefore unlikely to be representative [8]. In Germany, about 75% of health care workers are women [19]. Studies also describe significantly more female participants. It is possible that male employees are underrepresented; here, too, the possibility of a selection bias seems to exist.

Moreover, the predominantly anonymous online survey procedures do not allow any conclusion as to who actually participated. Are they particularly stressed employees?

In addition to a lack of representativeness and a selection bias, the lack of comparability is problematic. Comparisons were rarely made at all, and if they were, they were made with a sample from the general population. Pre-pandemic data from the health sector were not available [7].

Accordingly, the role of the Covid 19 pandemic in relation to the reported increased psychological stress and the occurrence of depression or depressive symptoms cannot be reliably classified. In this respect, it also remains unclear whether the relatively poor mental health of health care workers observed represents the actual state even without the pandemic, lockdown measures, etc.



Fig. 1: Risk factors for negative effects of the Covid 19 pandemic on the mental health of medical staff.

Conclusion and recommendations

1) The actual role of the pandemic for the mental health of healthcare workers cannot yet be classified with certainty. The evaluation of further large studies, such as the HEROES study, which has so far surveyed about 34,000 health care workers in 22 countries [21], remains to be seen.
2) Regular screening of the mental state of hospital staff seems to make sense; here the effectiveness of measures can be evaluated, and in addition, comparative data is generated that can be used in the event of a renewed ‚health crisis' to identify and mitigate negative influences at an early stage.
3) Future studies should take socio-demographic differences into account in order to assess their specific contribution to the observed differences and variations.
4) Our findings highlight the need for preventive programmes for healthcare professionals to improve their coping skills and prevent the long-term consequences of chronic stress. By identifying trends and variables that worsen the impact on the mental health of medical staff, interventions and strategies can be developed at local, regional, national and international levels [24,25].
5) The critical pro and con assessment of pandemic measures in Germany must also include their possible short and long-term consequences for the health of healthcare workers. <<

Übersicht der Recherche- und Studienergebnisse

Erstautor:in [Literaturquelle]	Land, in dem die Studie/Befragung durchgeführt wurde	Publikationsjahr	Anzahl Befragter (n)	Studienparameter	Untersuchungsmethode	Limitationen	wesentliche Ergebnisse
Schug et al. [4]	Deutschland	2021	n = 7765	Depression, Angst, soziale Unterstützung	Umfrage online; Patient Health Questionnaire-2 (PHQ-2); Generalized-Anxiety-Disorder Scale-2 (GAD-2); ENRICHD Social Support Inventory (ESSI)	Selektionsbias; fehlende Vergleichsgruppen	Jede/r fünfte Befragte zeigt Symptome von Angst und/oder Depression.
Beschoner et al. [5]	Deutschland	2022	n = 1483	Angst, Arbeitsbelastung, Depression, Arbeitszufriedenheit	Umfrage online; Likert-Skala (1-5); Effort-Reward-Imbalance-Fragebogen (ERI); Work-Family-Conflict-Scale (WFC)	Selektionsbias; fehlende Vergleichsgruppen	60,9% der Befragten haben psychische Mehrbelastung durch Pandemie angegeben; markanteste Belastungen sind körperliche Erschöpfung und die Angst, Angehörige zu infizieren.
Zerbini et al. [6]	Deutschland	2020	n = 110	psychische Gesundheit; Resilienz	Umfrage online; Patient Health Questionnaire (PHQ); Maslach Burnout Inventory (MBI)	kleine Populationen; Selektionsbias; fehlende Vergleichsgruppen	Mitarbeiter/-innen von Covid-19-Stationen berichten über mehr Stress, Ermüdung und depressive Symptome als med. Personal anderer Bereiche.
Röthke et al. [7]	Deutschland	2021	n = 650	psychische Belastung; Resilienz; Krankenfehltage; Berufswechselwunsch	Umfrage online; Likert-Skala (1-5); General Health Questionnaire-12 (GHQ-12); Patient Health Questionnaire-4 (PHQ-4); Allgemeine-Selbstwirksamkeit-Kurzskala (AKSU); Coping Orientation to Problems Experienced (COPE); Cognitive Emotion Regulation Questionnaire (CERQ)	Selektionsbias; kleine Population; Vergleichsgruppe Querschnitt der Allgemeinbevölkerung; kein Vergleich zu medizinischem Personal	47,1% (GHQ-12) bzw. 36,2% (PHQ-4) der Befragten weisen eine erhöhte psychische Belastung auf; 14,7% denken über Krankschreibung aufgrund der Pandemie nach; 10,9% erwogen einen Berufswechsel.
Krammer et al. [8]	Schweiz	2020	n = 100	psychische Gesundheit; Depression; Stress; Resilienz	Umfrage schriftlich; Patient Health Questionnaire-9 (PHQ-9); Adjustment Disorder – New Module 20 (ADNM-20); Stress and Coping Inventory (SCI)	kleine Population; Selektionsbias	15% der Befragten zeigen Symptome einer Depression, 8% einer Anpassungsstörung.
Vanhaecht et al. [9]	Belgien	2021	n = 4509	psychische Gesundheit; Angst; Resilienz	Umfrage online; zusätzlich retrospektive Befragung	Selektionsbias; Population eher unspezifisch „Krankenhauspersonal"	57,5% der Befragten sind gestresst; Mehrauftreten von Symptomen wie Müdigkeit, Angst, Schlaflosigkeit während der Pandemie.
Valaine et al. [10]	Lettland	2021	n = 864	Depression; Angst	Interview-Umfrage; Patient Health Questionnaire-9 (PHQ-9); Generalized-Anxiety-Disorder Scale-7 GAD-7)	kleine Population; Selektionsbias; fehlender Vergleich Zustand vor Covid-19-Pandemie	24,8% der Befragten zeigen klinisch signifikante Symptome einer Depression; 17,2% Symptome einer Angststörung.
Schmuck et al. [11]	Deutschland	2022	n = 1034	Resilienz; psychische Gesundheit; Stress	Umfrage online; Resilience-Scale-5 (RS-5); Patient Health Questionnaire-2 (PHQ-2); Generalized-Anxiety-Disorder Scale-2 (GAD-2)	Kurzversionen der genutzten Tools; Selektionsbias	Höheres Alter und zu versorgende Kinder sind mit höheren Resilienz-Scores assoziiert.
Mattila et al. [12]	Finnland	2021	n = 1995	Angst	Umfrage online; Generalized-Anxiety-Disorder Scale-7 (GAD-7)	kleine Population; Selektionsbias; Fokus stark auf dem Symptom Angst	55% der Befragten haben normales Angstlevel, 30% milde, 10% moderate, 5% schwere Angstzustände.
Hummel et al. [13]	Europa (Deutschland, Großbritannien, Spanien, Frankreich, Portugal, Österreich, Italien, Schweiz)	2021	n = 609	psychische Gesundheit; Depression; Angst; Stress	Umfrage online; Depression-Anxiety-Stress Scale-21 (DASS21)	kleine Population, insbesondere für die länderübergreifende Umfrage; Selektionsbias; teilweise unspezifische Population; keine Vergleichsgruppe	18% der Befragten zeigen milde, 17% ausgeprägte Symptome einer Depression; 22% ausgeprägte Angstsymptomatik.
Rodriguez-Jiménez et al. [14]	Spanien	2021	n = 294	psychische Gesundheit; Resilienz; Risikofaktoren	Umfrage online; General Health Questionnaire-12 (GHQ-12)	kleine Population; Selektionsbias; keine Vergleichsgruppe	94,5% der Befragten fühlen sich konstant überfordert und gestresst.
Spiller et al. [15]	Schweiz	2022	n = 809	Depression; Angst; Burn-out	Umfrage online; Generalized-Anxiety-Disorder Scale-7 (GAD-7); Patient Health Questionnaire-9 (PHQ-9)	kleine Population; Selektionsbias; keine Vergleichsgruppe	kein relevanter Unterschied der psychischen Gesundheit von medizinischem Personal während und nach der Pandemie
Fountoulakis et al. [16]	Griechenland	2022	n = 507	psychische Gesundheit; Angst; Depression	Umfrage online; Risk Assessment Suicidality Scale (RASS); Center for Epidemiologic Studies Depression Scale (CES-D); State-Trait Anxiety Inventory (STAI)	kleine Population; Selektionsbias; keine Vergleichsgruppe; genutzte Tools zum Teil vom Autor selbst entwickelt und schwierig mit gängigen Tools vergleichbar	10,8% der befragten Frauen und 5,6% der befragten Männer haben Symptome einer Depression.
Rossi et al. [17]	Italien	2021	n = 2856	Depression; Angst; Insomnie; posttraumatischer Stress	Umfrage online; Patient Health Questionnaire-9 (PHQ-9); Generalized-Anxiety-Disorder Scale-7 (GAD-7); Insomnia Severity Index (ISI); Global Psychotraumatic Screen-posttraumatic symptoms subscale (GPS-PTSS)	Selektionsbias; fehlende Vergleichsgruppen	erhöhtes Level von Symptomen von Depression und Angst; mehr Schlafstörungen bei weiblichen Befragten

Tab. 1: Overview of research and study results. Own representation.

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