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Efectos de la COVID-19 en la salud mental de la población trabajadora ecuatoriana durante la primera ola de la pandemia

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EFECTOS DE LA COVID-19 EN LA SALUD MENTAL DE LA POBLACIÓN TRABAJADORA ECUATORIANA DURANTE LA PRIMERA OLA DE LA PANDEMIA

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DEDICATORIA

*A mis hijos **Aerin** y **Nadir,** el motor de mi vida.*

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GLOSARIO DE TÉRMINOS

IC	Intervalo de Confianza.
CINAHL	*Cumulative Index of Nursing and Allied Literature Complete*
ERI	*Effort–Reward Imbalance* o Desequilibrio Esfuerzo-Recompensa
GHQ-12	Cuestionario de Salud General o *General Health Questionnaire* - ítems
HCWs	Trabajadores de la salud o *HealthCare Workers*
JBI	Joanna Briggs Institute para revisiones sistemáticas
JCR	*Journal Citation Reports* (Factor de Impacto)
JDCS	*Job Demand Control Support o Modelo de Demanda-Control*
JDR	*Job Demands-Resources* o modelo demandas laborales y recursos laborales
MeSH	Descriptores en ciencias de la salud o *Medical Subject Headings*
OMS	Organización Mundial de la Salud
OR	*Odds Ratio - Razón de probabilidades*
OSHA	*Occupational Safety and Health Administration*
PD	Malestar psicológico o *Psychological Distress*.
PICOT	Estrategia de investigación (Población, Intervención, Comparación, Outcomes/resultados, Tiempo)
PRISMA	*Preferred Reporting Items for Systematic reviews and Meta-Analyses* o elementos de informe preferidos para revisiones sistemáticas y metaanálisis
PROSPERO	*International Prospective Register for Systematic Reviews*
PYMES	Pequeñas y Medianas Empresas
SD	Desviación estándar
SOC	Sentido de coherencia o *Sense of Coherence*
UCI	Unidad de Cuidados Intensivos
UWES-9	Escala *Utrecht Work Engagement Scale* o escala de compromiso laboral de Utrecht
WE	Compromiso laboral o *Work Engagement*

RESUMEN

ANTECEDENTES: Las pandemias han azotado a la humanidad desde sus inicios, con consecuencias devastadoras muy similares a la de las guerras, siendo su impacto más visible a nivel económico, social y político; sin olvidar los efectos a nivel de salud mental que una pandemia provoca. El coronavirus del síndrome respiratorio agudo grave de tipo 2 causante del síndrome respiratorio agudo severo (SARS-CoV-2) que provoca la enfermedad COVID-19, ocasionó una crisis de salud a nivel mundial con consecuencias dramáticas, siendo declarada pandemia por la Organización Mundial de la Salud (OMS) el 11 de marzo de 2020. A partir de este momento investigadores de todo el mundo tomaron la iniciativa de estudiar el malestar psicológico (PD) que la COVID-19 estaba generando en las diferentes poblaciones y su relación con otros factores como el compromiso laboral (WE), el ambiente de trabajo, el sentido de coherencia (SOC), entre otros.

OBJETIVOS: El objetivo general de la tesis fue evaluar el PD generado por la pandemia por COVID-19 durante la primera fase en Ecuador y su relación con el WE, el *burnout* y el ambiente de trabajo. Se establecieron 3 objetivos específicos:

1) Identificar el conocimiento científico existente sobre el *burnout*, el WE y su relación con desarrollar PD durante la pandemia por COVID-19.

2) Analizar el nivel de PD en la población ecuatoriana, durante la primera ola de la pandemia por COVID-19, identificando la posible asociación con variables sociodemográficas, presencia de síntomas físicos, historial de contacto y las medidas preventivas adoptadas.

3) Evaluar la relación entre el PD, WE y el ambiente de trabajo, con el fin de conocer en qué medida el PD se puede ver afectado de manera positiva o negativa por las otras dos variables durante el período de confinamiento por COVID-19 en Ecuador.

METODOLOGÍAS: Para lograr el primer objetivo se realizó una revisión sistemática siguiendo las pautas de la declaración PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*), la cual fue registrada en el *International Prospective Register for Systematic Reviews* (PROSPERO) de la Universidad de York, con código de identificación

CRD42022350318. Para el segundo objetivo se llevó a cabo un estudio transversal con el fin de medir el malestar psicológico utilizando el cuestionario de salud general de Goldberg (GHQ-12), además, se complementó con cuestionarios validados que midieron variables sociodemográficas, síntomas, historial de contacto y las medidas preventivas utilizadas. Por último, para el tercer objetivo también se realizó un estudio transversal para el cual se utilizó el GHQ-12, se complementó con la UWES-9 para medir el WE y cuestionarios validados que recogían información sobre el ambiente laboral durante la primera fase del periodo de pandemia, tales como carga de trabajo, seguridad percibida, conflictividad laboral, medidas preventivas adoptadas, riesgo de contagio en el trabajo, grado de satisfacción o necesidad de apoyo psicológico.

RESULTADOS: En la revisión sistemática que se realizó para lograr el primer objetivo cuyo fin era identificar el conocimiento científico existente sobre la relación entre el PD, el *burnout* y el WE, se analizaron 24 estudios que fueron seleccionados de 704 referencias utilizando la metodología PRISMA, en todos los artículos se encontró una asociación entre los factores mencionados, pero también se identificaron otros que tienen una asociación, especialmente con el WE. Como resultado del estudio de campo realizado para evaluar el nivel de PD en la población del Ecuador durante la primera fase de la pandemia por COVID-19, que corresponde al segundo objetivo de esta tesis, se encontró que el 62.72% de la muestra tenía PD y que se predice por las variables: ser mujer con un 69.1% *versus* los hombres con 55%, nivel de estudios universitarios, no tener hijos, mala percepción de salud durante los últimos 14 días y mayor número de síntomas. Según el estudio realizado para conocer la asociación del PD con el WE y ambiente de trabajo se observó que, el valor medio global del WE medido con el cuestionario UWES-9 fue 4.5 (SD=1.2), lo que se considera un nivel medio de compromiso en la UWES-9, siendo menor entre aquellos con PD (M =4,2; SD=1.2). Con respecto a ambiente de trabajo los resultados de PD fueron mayores en los lugares de trabajo donde se produjo un aumento de los conflictos laborales, en aquellos lugares donde el riesgo de infectarse era elevado y en aquellos entornos donde se percibía mayor carga de trabajo y más estrés. Asimismo, el nivel de PD fue alto entre quienes pensaban que se necesitaba apoyo psicológico para las personas y familias afectadas por la enfermedad, así como entre quienes pensaban que se necesitaba apoyo psicológico para profesionales y voluntarios.

CONCLUSIONES: Producto del estudio realizado, se puede concluir que sí existe una asociación entre el PD, *burnout* y WE, encontrándose niveles de medio a bajo en el WE, cuando los niveles de PD y *burnout* son altos, pudiéndose atribuir estos resultados a la organización interna de cada institución y país, como por ejemplo la asignación de todos los recursos de protección en los lugares de trabajo, el seguimiento por parte de los directivos a sus empleados o la difusión de información precisa y confiable; pero también se encontraron otros factores que tienen una asociación con el WE como el presentismo, el trabajo significativo, la atención plena e incluso la inteligencia emocional. A nivel mundial la pandemia por COVID-19 tuvo un impacto en la salud mental y en Ecuador el 62.72% de la población ecuatoriana presentó PD, también se puede concluir, del estudio realizado en este país que existe una relación entre el WE, ambiente de trabajo y PD, factores que se deben tomar en consideración para minimizar el impacto de estos eventos en la productividad laboral.

PALABRAS CLAVES: COVID-19, malestar psicológico, compromiso laboral, ambiente de trabajo, *burnout*, trabajadores, Ecuador, sentido de coherencia.

ABSTRACT

BACKGROUND: Pandemics have plagued humanity since its inception, with devastating consequences similar to those of wars, their most visible impact being on economic, social, and political levels, not to mention the mental health effects that a pandemic triggers. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), causing COVID-19, led to a global health crisis with dramatic consequences, being declared a pandemic by the World Health Organization (WHO) on March 11, 2020. Researchers worldwide then took the initiative to study the psychological distress (PD) that COVID-19 was generating in different populations and its relationship with other factors such as *work engagement* (WE), the work environment, and the sense of coherence (SOC), among others.

OBJECTIVES: The general objective of the thesis was to assess the PD generated by the COVID-19 pandemic during the first phase in Ecuador and its relationship with *work engagement*, *burnout*, and the work environment. Three specific objectives were established:

1) Identify the existing scientific knowledge about burnout or work engagement and its relationship with developing PD during the COVID-19 pandemic.

2) Analyze the level of PD in the Ecuadorian population during the first wave of the COVID-19 pandemic, identifying possible associations with sociodemographic variables, presence of physical symptoms, contact history, and adopted preventive measures.

3) Evaluate the relationship between PD, work engagement, and the work environment to understand to what extent PD can be positively or negatively affected by the other two variables during the COVID-19 lockdown period in Ecuador.

METHODOLOGIES: To achieve the first objective, a systematic review was conducted following the PRISMA guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), which was registered in the International Prospective Register for Systematic Reviews (PROSPERO) at the University of York with identification code CRD42022350318. For the second objective, a cross-sectional study was carried out to measure psychological distress using the Goldberg General Health Questionnaire (GHQ-12), complemented with

validated questionnaires measuring sociodemographic variables, symptoms, contact history, and preventive measures used. Finally, for the third objective, another cross-sectional study was conducted using GHQ-12, complemented with the UWES-9 to measure *work engagement*, and validated questionnaires gathering information about the work environment during the first phase of the pandemic period, such as workload, perceived safety, work conflict, adopted preventive measures, risk of contagion at work, level of satisfaction, or need for psychological support.

RESULTS: In the systematic review conducted to achieve the first objective, which aimed to assess the relationship between PD, *burnout*, and *work engagement*, 24 studies were analyzed, selected from 704 references using the PRISMA methodology. In all articles, an association between the mentioned factors was found, but other associations were also identified, especially with *work engagement*. Regarding the field study conducted to evaluate the level of PD in the Ecuadorian population during the first phase of the COVID-19 pandemic (the second objective of this thesis), it was found that 62.72% of the sample had PD. Predictors of PD included being female (69.1% versus 55% for males), having a university education, not having children, poor perceived health in the last 14 days, and a higher number of symptoms. The study investigating the association of PD with *work engagement* and the work environment revealed that the global mean value of *work engagement* measured using the UWES-9 was 4.5 (SD=1.2), indicating a moderate level of engagement. This was lower among those with PD (M =4.2; SD=1.2). Concerning the work environment, higher levels of PD were observed in workplaces with increased work conflicts, higher perceived infection risk, greater workload, and more stress. Additionally, a high level of PD was observed among those who believed that psychological support was needed for affected individuals and families, as well as for professionals and volunteers.

CONCLUSIONS: Based on the conducted study, it can be concluded that there is indeed an association between PD, *burnout*, and *work engagement*. When PD and *burnout* levels are high, *work engagement* tends to be at a moderate to low level. These results may be attributed to the internal organization of each institution and country, such as resource allocation to workplaces, managerial follow-up with employees, or dissemination of accurate and reliable information. Other factors associated with *work engagement* were

also identified, such as presenteeism, meaningful work, mindfulness, and even emotional intelligence. Globally, the COVID-19 pandemic had an impact on mental health, and in Ecuador, 62.72% of the population experienced PD. Furthermore, the study conducted in this country indicates a relationship between *work engagement*, the work environment, and PD. These factors should be considered to minimize the impact of such events on work productivity.

KEYWORDS: COVID-19, psychological distress, *work engagement*, work environment, *burnout*, workers, Ecuador, sense of coherence.

1. INTRODUCCIÓN

1.1. ANTECEDENTES

Grandes pandemias y epidemias como la peste negra, el cólera, la gripe, el coronavirus del síndrome respiratorio agudo severo (SARS-CoV) y el coronavirus del síndrome respiratorio de Oriente Medio (MERS-CoV) ya han afectado previamente a la humanidad; la globalización de los viajes y comercio de animales y alimentos de origen animal aumentan aún más la propagación de enfermedades infecciosas y la velocidad con la que son difundidas por todo el mundo (Piret & Boivin, 2021). Las pandemias son consideradas catástrofes naturales ya que tienen resultados similares a los de las guerras, pues su impacto es devastador a nivel económico y social. Han sido estudiadas a lo largo de la historia, sin embargo, poca atención ha sido dada al estudio de como impactan al individuo y a su grupo psicosocial. Recientemente, a partir de la aparición del SARS en el 2002, se realizaron los primeros estudios del impacto de la salud mental de los individuos (Gargantilla, 2020).

La nueva pandemia que azota a la humanidad es provocada por el virus del síndrome respiratorio agudo severo (*Severe Acute Respiratory Síndrome* SARS-CoV-2) que causa la enfermedad (COVID-19) y ha ocasionado una crisis de salud a nivel mundial con consecuencias dramáticas. El 31 de diciembre de 2019, la Comisión de Salud Municipal de Wuhan en China notificó a la Organización Mundial de la Salud (OMS) 27 casos de neumonía de origen desconocido (Johnson, 2020). El 30 de enero de 2020, la OMS declaró una emergencia de salud pública internacional tras el brote de COVID-19 que comenzó en Wuhan, China. Para esa fecha, se habían identificado 83 casos en 18 países diferentes fuera de China (Mahase, 2020). Tras el aumento de la propagación a más de 118,000 casos en 114 países y 4291 muertes, el 11 de marzo de 2020, la OMS informó de su consideración de pandemia (WHO, 2020). A partir de ese momento en el mundo se tomaron una serie de medidas para evitar la propagación del virus, hasta que finalmente el 5 de mayo de 2023, se declaró el fin de la pandemia, reportándose 765.835.110 de casos confirmados y 6.927.088 de muertes al 7 de mayo de 2023 (WHO, 2023).

A medida que la pandemia ha ido progresando, algunos estudios se han llevado a cabo para conocer los efectos negativos que la misma ha generado, específicamente del impacto psicológico que ha tenido en los trabajadores de diferentes áreas a nivel mundial

(Gorini et al., 2020; Nishimura et al., 2022; Ruiz-Frutos, Arias-Ulloa, et al., 2022; Talavera-Velasco et al., 2021), así como también el impacto que ciertas variables como el tipo de trabajo, el clima organizacional, entre otras, pueden tener en los trabajadores (Giauque et al., 2022). Según Matziari et al. (2017), el *burnout* y el compromiso laboral o *work engagement* (WE) son reacciones psicológicas que se desarrollan cuando las características individuales interactúan con las características del trabajo, y que se basan en el Modelo de Recursos y Demandas Laborales (Xanthopoulou et al., 2007). Una de estas variables es el WE, el cual está definido como la relación entre trabajo y la convicción de poder realizarlo de manera efectiva. Esta variable involucra una serie de dimensiones como el vigor (altos niveles de energía), dedicación (identificación con el trabajo), y absorción (concentración en el trabajo) (Schaufeli et al., 2002). En este sentido, el WE es parte importante del desarrollo de productividad de las empresas, donde se requieren altos estándares de satisfacción laboral, adecuada satisfacción con la vida familiar y suficiente salud autopercibida (Li et al., 2022).

La pandemia por COVID-19 ha afectado de una u otra forma el WE de los trabajadores en general, tal como lo determinan varios estudios llevados a cabo en diferentes países y áreas de trabajo (Almalki et al.; 2021; Ruiz-Frutos, C., et al., 2021; Tan & Yeap, 2021).

Del mismo modo, otros factores pueden influir en el WE como el presentismo por enfermedad, definido como continuar realizando tareas en el lugar de trabajo, a pesar de trabajar por debajo de su capacidad total debido a una enfermedad, (Lee et al., 2022), trabajo significativo (Tan & Yeap, 2021), calidad de sueño (Zeng et al., 2021), inteligencia emocional (Sanchez-Gomez et al., 2021), etc.

Cabe señalar que, durante la pandemia, las empresas tuvieron que buscar alternativas para que se pudieran realizar las labores de otra manera, en algunos casos pasando al teletrabajo o incluso modificando la jornada laboral. En otras empresas se pasó a modalidades mixtas de contratación, es decir personas que trabajaban desde casa y personas que tenían que asistir a la oficina a pesar del confinamiento que se implementó en la mayoría de los países, esta situación también pudo haber afectado el WE (Orfei et al., 2022; Straus et al., 2022; Toscano et al., 2022).

El PD puede afectar negativamente el WE. En un estudio sobre trabajadores no sanitarios, se encontró que había diferencias estadísticamente significativas entre las

personas con y sin PD. Sin embargo, los trabajadores con los porcentajes más altos de PD mostraron bajos niveles para los subdimensiones de WE (vigor, dedicación, y absorción) (Ruiz-Frutos, Ortega-Moreno, Allande-Cussó, et al., 2021). Debe tenerse en cuenta que el estrés o los estresores interpersonales crónicos relacionados con el trabajo, también pueden ocasionar agotamiento emocional, cinismo o desapego del trabajo, lo que puede conducir al estrés crónico o al agotamiento también conocido como *burnout* (Maslach & Leiter, 2016).

1.2. MARCO TEÓRICO

La salud mental en general puede verse afectada por varios fatores, eventos como la pandemia causada por la COVID-19, definitivamente tienen efectos en la población mundial, a continuación, se presentan los factores sobre los cuales se ha realizado este estudio y enfocados en la población trabajadora.

MALESTAR PSICOLÓGICO O PSYCHOLOGICAL DISTRESS (PD)

El PD se confunde a menudo con tensión, estrés y angustia; sin embargo, en base a la literatura, tensión (*strain*) significa estirar más allá de un límite adecuado, la tensión describe el impacto de los factores estresantes, como por ejemplo el cuidado de un niño con un trastorno del comportamiento, sobre los individuos. El estrés se define como "un estado físico y emocional siempre presente en la persona como resultado de vivir; se intensifica en una respuesta no específica a un cambio interno o externo o amenaza" y no siempre es negativo, al estrés bueno se le denomina eustrés y el estrés malo es la angustia. El malestar o distrés se relaciona con el sufrimiento físico mental y el PD o malestar emocional es un estado experimentado por un individuo en respuesta a una determinado estresor o demanda que resulta en daño, ya sea temporal o permanente, a la persona. (Ridner, 2004)

El modelo de Demanda-Control (*Job Demand Control Support*, JDCS) de Karasek, menciona que el estrés laboral es el resultado de la interacción entre las demandas del trabajo y el control que tiene el individuo sobre su trabajo; según este modelo, el estrés es más probable cuando las demandas son altas y el control es bajo (Navajas-Romero et al., 2020)

Otro modelo, el de Desequilibrio Esfuerzo-Recompensa (ERI**,** E*ffort–Reward Imbalance*) de Siegrist, se centra en la relación entre el esfuerzo invertido en el trabajo y las recompensas recibidas. Se cree que ERI es un factor de riesgo significativo para el desarrollo de trastornos psicológicos. angustia, especialmente agotamiento y estrés laboral el cuestionario ERI evalúa 10 ítems, 3 de los ítems evalúan los esfuerzos invertidos, mientras que siete de los ítems miden: recompensas obtenidas en términos de estima (2 ítems), seguridad laboral (2 ítems), y salario y trabajo promoción (3 ítems) (Thanapop et al., 2023), así lo demuestra un estudio realizado a 158 pasantes de varios países, mucho antes de la pandemia, en el cual se pudo comprobar que, cuando los participantes cayeron en condiciones de alto esfuerzo o baja recompensa, reportaron menor rendimiento percibido también se sentían menos valorados; el patrón inverso se observó cuando los participantes completaron su pasantía en condiciones de bajo esfuerzo y alta recompensa. (Jeske & Axtell, 2017)

A partir de la declaración de la pandemia por la actual de SARS-CoV-2 se han comenzado a realizar estudios de los efectos que genera en la población, siendo los sanitarios el colectivo mejor estudiado, por el peligro derivado de su proximidad a las personas contagiadas y tener que gestionar situaciones de estrés e incertidumbre (Wu & McGoogan, 2020). Los sanitarios tienen un mayor riesgo de desarrollar la enfermedad (Wu & McGoogan, 2020) y propagarla (Chang et al., 2020) por la proximidad en el trato de personas contagiadas. Se han visto efectos mentales en fases tempranas de la pandemia (B. Zhang et al., 2020), con altos niveles de ansiedad y depresión (Maunder et al., 2003);(Cristine et al., 2020); (Xiang et al., 2020), de insomnio (Pappa et al., 2020), trastornos emocionales (Kang et al., 2020) o desorden de estrés post-traumático (Preti et al., 2020).

En estudios realizados en Latinoamérica se ha encontrado que el 66 % de los encuestados había tenido a algún familiar, amigo o conocido fallecido, con efectos en la salud mental que le afectaban el grado de atención, el entendimiento, la toma de decisiones y el bienestar general (Castro et al., 2020; Martínez et al., 2020). Los grupos vulnerables identificados son las mujeres, jóvenes, trabajadores autónomos y personas con procesos psicológicos previos con tratamientos interrumpidos debidos a la pandemia (Dagnino et al., 2020).

BURNOUT

El término *Burnout* se empezó a utilizar desde 1977, a partir de una exposición de Maslach y se conceptualizó como el desgaste profesional de personas que estaban en contacto directo con los usuarios, especialmente personal sanitario y profesores. Entre 1981 y 1982 Maslach y Jackson lo definen como una manifestación del estrés laboral y lo entienden como un síndrome tridimensional que lo componen el cansancio emocional, la despersonalización, que luego se sustituyó por "cinismo", el trato con los clientes y usuarios y dificultad para el logro / realización personal. A partir de estos tres componentes se elaboró el "*Maslach Burnout Inventory*", que es aceptado ampliamente y también se han introducido las "profesiones no asistenciales" (Goldin, 2016).

El *burnout*, puede ser un indicador predisponente para el desarrollo de desórdenes sociales y mentales, especialmente importante para aquellas personas que tienen cierta predisposición a sufrir trastornos psicológicos, tomar medicamentos o cometer intentos de suicidio, entre otros (Kandula, 2022). Cualquier cambio puede generar una situación estresante, incluso mayor en un contexto de incertidumbre y complejidad de planteamiento. Este PD persistente en el tiempo puede conducir al agotamiento. Este a su vez puede ser el mayor problema de salud pública en cual se interrelacionan trabajo, familia y sociedad y en el que se necesita un abordaje interdisciplinario y comunitario. De hecho, durante la COVID-19, muchos trabajadores han estado especialmente expuestos a la enfermedad, algunos han perdido su empleo y otros han visto modificadas sus condiciones laborales, con el consiguiente impacto mental que ello conlleva (Tušl et al., 2021). Por ejemplo, en un estudio longitudinal realizado sobre una muestra de 1308 trabajadores finlandeses, se constató un aumento del PD y el tecnoestrés durante la crisis del COVID-19 derivado especialmente de un cambio en las condiciones de trabajo, siendo mayor en mujeres jóvenes (Savolainen et al., 2021). De igual forma, algunos colectivos ocupacionales como el personal de limpieza o sanitario han visto incrementada su carga laboral en un contexto de mayor exposición al COVID-19, con el fin de atender necesidades emergentes en la sociedad (Dias et al., 2022). Otros colectivos profesionales han tenido que modificar su forma de trabajar (teletrabajo, cambio de

destinos y funciones, etc.) y otros se han visto obligados al paro o al paro temporal (van Zoonen et al., 2021).

Según Matziari et al. (2017), el *burnout* y el *work engagement* son reacciones psicológicas que se desarrollan cuando las características individuales interactúan con las características del trabajo, y que se basan en el Modelo de Recursos de Demandas Laborales.

Otro modelo que mide *burnout* es el *Sydney Burnout Measure***,** en el cual se hace una ampliación de los constructos de síntomas y considera el modelo de diátesis-estrés donde un estilo de personalidad perfeccionista es un factor predisponente clave, y observa que el agotamiento no está limitado en el trabajo formal, también se establece que el *burnout* no es sinónimo de depresión. Dado que muchos pacientes con *burnout* son derivados a psiquiatras, es necesario conocer su patrón de síntomas para su manejo. (Parker & Tavella, 2021)

COMPROMISO LABORAL O *WORK ENGAGEMENT* (WE)

El WE se describe como el estado mental positivo y satisfactorio relacionado con el trabajo, expresado en tres dimensiones: vigor, dedicación y absorción. El vigor se refiere al deseo de invertir esfuerzo en el trabajo; la dedicación está relacionada con la participación proactiva; y absorción, con la concentración durante el trabajo (García-Sierra et al., 2016). Este concepto multiaxial está íntimamente relacionado con el clima organizacional, los recursos laborales, los profesionales, las demandas laborales y las variables demográficas (Keyko et al., 2016), y se asocia a valores bajos de agotamiento y cinismo, y una alta eficiencia (W. Schaufeli et al., 2002).

En España, estudios con profesionales sanitarios revelaron un alto nivel de *engagement*, destacando al colectivo de las enfermeras (Gómez-Salgado et al., 2021). Mientras, en un grupo de trabajadores no sanitarios, se observó una asociación entre un mayor nivel de PD y niveles inferiores de WE en sus tres dimensiones (Ruiz-Frutos, Ortega-Moreno, Allande-Cussó, et al., 2021). En otros estudios realizados en trabajadores en modalidad de teletrabajo se ha constatado que los factores que aumentan el WE son la comunicación con los superiores, la reducción de jornadas largas y el control de las horas de sueño adecuadas (Amano et al., 2021).

Las organizaciones pueden actuar sobre el WE de sus trabajadores fomentando reuniones virtuales, cursos de actualización, seminarios web para controlar la ansiedad y el estrés o mediante sesiones de conversación informal, herramientas que se han visto efectivas durante la actual pandemia y que pueden ayudar incluso en una etapa post-Covid (Chanana & Sangeeta, 2021). Igualmente, se ha visto de qué manera el apoyo familiar y de amigos, la potenciación de la autoeficacia y la resiliencia de los trabajadores consiguen aumentar el WE durante situaciones estresantes (Ojo et al., 2021). Concretamente, en los trabajadores sanitarios implicados en la pandemia, se ha comprobado que el apoyo psicológico es una medida muy eficaz para reducir los efectos negativos sobre la salud mental (Rizzi et al., 2022) y son válidos para la población general (Paczkowska et al., 2022). Además, el COVID-19 persistente ha obligado a elaborar guías específicas para minimizar sus efectos en el trabajo y ayudar a recuperar a los trabajadores (European Agency for Safety and Health at Work, 2021).

AMBIENTE DE TRABAJO O WORK ENVIRONMENT

Se refiere a la interacción de las personas con su entorno. Esto no solo incluye cómo las personas se ven afectadas por su ambiente de trabajo, sino que también se relaciona con cómo las personas son desarrolladas por y, a su vez, cómo desarrollan su entorno laboral. Desde esta perspectiva, es claro que, no se refiere sólo a relaciones entre personas, sino también al ambiente físico del trabajo y este entorno puede afectar a las personas psicológicamente de diferentes maneras (Abrahamsson & Johansson, 2013).

El modelo de ambiente de trabajo de hoy también pretende satisfacer tales necesidades psicológicas. Necesidades de los trabajadores del conocimiento como la autonomía, al facilitar el trabajo independientemente del tiempo, lugar y modo. Además, el ambiente de trabajo apunta a un espacio en la organización que apoya la innovación y la mejora de la cultura laboral, que también reduce la carga ambiental. A pesar de los esfuerzos por abordar necesidades psicológicas, la carga mental en el trabajo del conocimiento ha aumentado, ya que el límite entre el trabajo y la vida privada se desdibuja cuando las personas están constantemente accesibles (Lindeberg et al., 2022).

SENTIDO DE COHERENCIA O *SENSE OF COHERENCE* (SOC)

La idea del SOC surgió de la búsqueda de recursos de resistencia individual contra encuentros estresantes. Debe entenderse como un mundo orientación o disposición que conduce a una cierta actitud hacia el medio ambiente. El SOC no determina el comportamiento manifiesto, sino más bien la percepción e interpretación de eventos externos. Consta de tres componentes:

1) comprensibilidad: el mundo social se interpreta como racional, comprensible, estructurada, ordenado, consistente y predecible; una dimensión refiriéndose a la controlabilidad cognitiva del entorno de uno.
2) la manejabilidad, denota la medida en que los individuos consideran los recursos para ser personalmente disponibles para ayudarles a afrontar adecuadamente demandas o problemas.
3) y el significado, representa la motivación y determina si una situación se valora como desafiante y si vale la pena hacer compromisos e inversiones para hacerle frente.

El SOC es una forma de explicar por qué unas personas caen enfermas frente a una situación estresante y otras no (Geyer, 1997). También se destaca el papel que puede jugar la resiliencia, ya que la resiliencia es difícil de predecir después de procesos traumáticos por ser un proceso continuo que requiere una autorregulación flexible. Antes de la pandemia de COVID-19, se había demostrado que un SOC alto en las enfermeras se asociaba con una mejor salud y WE (Gómez-Salgado et al., 2022).

MODELO DEMANDAS LABORALES Y RECURSOS LABORALES O *JOB DEMANDS-RESOURCES*

El modelo demandas laborales y recursos laborales (JDR) menciona que, si bien cada ocupación puede tener sus propios factores de riesgo específicos asociados con el estrés laboral, estos factores se pueden clasificar en dos categorías generales, es decir, demandas laborales y recursos laborales. Las demandas laborales están relacionadas con la salud y los recursos laborales con la motivación, estudios han demostrado que el modelo JDR es un predictor del estrés y compromiso laboral (Orgambídez-Ramos et al., 2014).

Según, un estudio realizado a 1599 trabajadores de 154 pymes españolas, en el cual se realizó un análisis multivariante multinivel para analizar las diferentes relaciones se observó que las demandas laborales se asociaron negativamente con la salud de los trabajadores, mientras que los recursos laborales se correlacionaron positivamente con salud y bienestar de los trabajadores (Lopez-Martin & Topa, 2019).

CONDICIONES LABORALES

Los impactos del trabajo en el hogar durante el encierro fueron experimentados más agudamente por aquellos con problemas de salud mental existentes, independientemente de la edad, el sexo o la situación laboral, y se vieron agravadas por el trabajo regular de horas extra, según un estudio realizado a 623 trabajadores en Reino Unido, en el que el 62% eran mujeres. En él se indica que los predictores de estrés y síntomas depresivos fueron: ser mujer, menor de 45 años, trabajo a domicilio a tiempo parcial y dos personas a cargo, aunque los hombres informaron mayores niveles de conflicto entre el trabajo y la vida personal, lugar y patrón de trabajo tuvo un mayor impacto en las mujeres, además la calidad de liderazgo más baja fue un predictor significativo de estrés y el agotamiento tanto para hombres como para mujeres y, para empleados mayores de 45 años, por lo cual los empleadores deberán tomar en cuenta estos resultados para establecer prácticas creativas e innovadoras que ayuden a la fuerza laboral (Platts et al., 2022).

Según Athanasiadou & Theriou (2021), de 2000 a 2020, los estudios que investigan la adopción del teletrabajo se basan explícitamente en los problemas que surgen al tratar de encontrar el equilibrio entre el trabajo y los aspectos personales; además, los estudios examinan el impacto, los beneficios y las oportunidades que otorga al trabajador. Sin, embargo, considerando que el teletrabajo fue una medida que se adoptó a nivel mundial con la finalidad de prevenir los contagios sobre todo en la primera ola de la pandemia, se torna importante considerar las condiciones en las que se realiza el teletrabajo que van desde la temperatura del lugar (Kawakubo & Arata, 2022), hasta la infraestructura tecnológica necesaria para desarrollar las actividades (Afrianty et al., 2022), puesto que estas condiciones tienen un impacto sobre la productividad laboral.

En Ecuador a diferencia de otros países desarrollados, no se consideraba el teletrabajo como una modalidad laboral, fue recién a raíz de la pandemia que el Ministerio de Trabajo expidió el Acuerdo Ministerial N° MDT-2020-076 con fecha 12 de marzo de 2020, en el cual se indicaba toda empresa pública o privada podía adoptar la modalidad de "teletrabajo emergente" con la finalidad de evitar los contagios y que esta podía finalizar una vez que concluya la emergencia sanitaria o por acuerdo de las partes (Madero, 2020), después, el 14 de septiembre de 2020 entró en vigencia el Acuerdo Ministerial N° MDT-2020-181, en el cual se hace énfasis en que el empleador debe proveerle al trabajador todas las herramientas de trabajo y a la vez que, este, tenía derecho a la desconexión (Isch, 2020), si bien es cierto, que hubo un avance con respecto a esta modalidad, a la fecha no hay otra ley a nivel país que establezca otras condiciones necesarias para que se lleve a cabo el teletrabajo, la forma en cómo controlar el cumplimiento de las horas y mucho menos aspectos relacionados al análisis del compromiso y productividad laboral.

1.3. JUSTIFICACIÓN

A partir de la declaración de pandemia por el virus SARS-CoV-2, emitida por la Organización Mundial de la Salud el 11 de marzo de 2020, la forma en la que vivimos y trabajamos ha cambiado súbitamente (WHO, 2020b, 2020a, 2020c).

Para prevenir los efectos nocivos de la pandemia en la salud de los trabajadores, una guía de la *Occupational Safety and Health Administration* (OSHA) sobre la preparación de los lugares de trabajo, sugería que se debían minimizar los movimientos y los contactos entre trabajadores, clientes y usuarios, en general, transformando las reuniones presenciales en virtuales y fomentando el teletrabajo para prevenir la transmisión de la enfermedad (OSHA, 2020). Sin embargo, para las Naciones Unidas, no se ha valorado lo suficiente el efecto colateral de dichas medidas en la salud mental de las personas (United Nations, 2020), aunque ya se han publicado diferentes investigaciones sobre los efectos de la pandemia y el teletrabajo (Xiao et al., 2021), incluso diferenciando por género (Oakman et al., 2022) o según la calidad de vida de la población. Es visible que el teletrabajo tiene ciertos efectos negativos en la salud generados por la dificultad para establecer una separación física y temporal entre la actividad laboral y el tiempo propio, repercutiendo así en el nivel de satisfacción y en el WE. Igualmente, el teletrabajo conlleva efectos positivos,

como la reducción de los desplazamientos al lugar del trabajo, que facilitan el acceso laboral a las personas, especialmente a aquellas con déficit de movilidad. También se han observado mejoras en la productividad y aumento del WE (Sandoval-Reyes et al., 2021; Xiao et al., 2021).

Sin embargo, algunas cosas permanecen sin cambios desde la peste negra hasta la COVID-19, como la incredulidad pública de la presencia de enfermedades, el desprecio de las reglas gubernamentales, propagación de mitos y desinformación, comunicación poco clara y riesgo de evaluación por personal inadecuado. La supresión de noticias sigue siendo como en los viejos tiempos en que el gobierno suprime la declaración del número de muertos y los médicos son irrespetados por advertir al público de la llegada de una pandemia. En general se ha encontrado que la población más joven, las personas con comorbilidades y los pacientes sintomáticos se vieron más afectados psicológicamente. (Sampath et al., 2021)

Precisamente la importancia de este trabajo de investigación es conocer cómo afectó la pandemia a la población en general, especialmente a la población trabajadora, es decir los mayores de 18 años de todo sector productivo que realizaron sus actividades laborales tanto en modalidad presencial como virtual, cuáles son los factores que hacen que una persona sea más vulnerable a tener niveles altos de malestar psicológico y de qué manera las organizaciones y en especial los organismos de control pueden implementar medidas para aumentar el compromiso laboral y por ende mantener la productividad en beneficio de toda la población.

2. OBJETIVOS

2.1. OBJETIVO GENERAL

El objetivo general de la tesis fue evaluar los efectos de la COVID-19 en el malestar psicológico de la población ecuatoriana durante la primera ola de la pandemia en Ecuador.

2.2. OBJETIVOS ESPECÍFICOS

OBJETIVO ESPECÍFICO 1

Identificar el conocimiento científico existente sobre el *burnout* y el compromiso laboral y su relación con desarrollar malestar psicológico durante la pandemia por COVID-19.

OBJETIVO ESPECÍFICO 2

Analizar el nivel de malestar psicológico en la población ecuatoriana, durante la primera ola de la pandemia por COVID-19, identificando la posible asociación con variables sociodemográficas, presencia de síntomas físicos, historial de contacto y las medidas preventivas adoptadas.

OBJETIVO ESPECÍFICO 3

Evaluar la relación entre el malestar psicológico, el compromiso laboral y el ambiente de trabajo, durante el período de confinamiento por COVID-19 en Ecuador.

3. METODOLOGÍA

Para lograr los objetivos planteados que corresponden a cada uno de los artículos publicados, se requirió la aplicación de varias metodologías que se explican a continuación, pero se resumen en dos grandes fases: un análisis bibliográfico y un estudio de campo para los objetivos 2 y 3.

A continuación, se presenta en la tabla 1 el cronograma de la metodología utilizada para el desarrollo de esta tesis:

N°	Detalle de la actividad	Cronograma												
		mar-20	abr-20	may-20	jun-20	jul-20	ago-20	sep-20	sep-21	may-22	jul-22	nov-22	ene-23	jul-23
	FASE – ESTUDIO DE CAMPO													
1	*Preparación del instrumento*													
2	*Recogida de datos*													
3	*Creación base de datos*													
4	*Análisis de datos*													
5	*Desarrollo de 2 artículos y publicaciones científicas*													
	FASE – ANÁLISIS BIBLIOGRÁFICO													
6	*Búsqueda de artículos*													
7	*Selección de artículos*													
8	*Desarrollo de artículo de revisión sistemática y publicación científica*													
9	*Desarrollo de Tesis*													

Tabla 1. Cronograma del desarrollo de la tesis

3.1. METODOLOGÍA - OBJETIVO ESPECÍFICO 1

Para lograr este objetivo, se realizó una revisión sistemática siguiendo las directrices de la declaración PRISMA (*Preferred Reporting Items for Systematic reviews and Meta-Analyses*) (Moher et al., 2009; Urrútia & Bonfill, 2010). Para ello, los autores se basaron en un protocolo para realizar esta revisión sistemática siendo registrado en el *International Prospective Register for Systematic Reviews* (PROSPERO) de la Universidad de York con el código de identificación CRD42022350318, el mismo que se encuentra en el 8. ANEXO 1.

La búsqueda se realizó en las bases de datos electrónicas Pubmed, Scopus y Web of Science, a partir de las palabras claves que arrojó la pregunta de investigación siguiendo la estrategia PICOT, tal como se observa en la tabla 2.

Población:	Trabajadores sanitarios y no sanitarios
Intervención:	Nivel de estrés y/o agotamiento
Comparativa:	Compromiso laboral
Resultados:	Niveles por tipo de trabajo, diferencias entre personal sanitario/no sanitario, diferencias entre personal de primera línea y personal no sanitario
Tiempo:	Durante la pandemia de COVID-19
Pregunta de investigación:	¿Cómo afecta el estrés y/o el agotamiento al WE de los trabajadores durante la pandemia COVID-19?

Tabla 2. Formato PICOT

Los descriptores *Medical Subject Headings* (MeSH) usados, se presentan en la tabla 3.

MeSH	Términos
Malestar psicológico (PD)	Angustia psicológica, Angustia emocional, Estrés emocional
Agotamiento laboral	Agotamiento profesional, Agotamiento ocupacional, Agotamiento laboral
Compromiso laboral (WE)	WE, Compromiso de los empleados, Compromiso del personal, Compromiso en el lugar de trabajo, Participación de los empleados, Participación de los trabajadores, Participación del personal
COVID-19	Infección de COVID-19, 2019-nCoV, Infección de SARS-CoV-2, 2019 Nueva enfermedad por coronavirus, COVID-19 Infección por virus, enfermedad de coronavirus 2019, Enfermedad 2019-nCoV, pandemia por COVID-19

Tabla 3. Términos de búsqueda

La tabla 4 recoge la estrategia de búsqueda empleada, realizada hasta el día 5 de noviembre de 2022 para cada una de las bases de datos durante el proceso de búsqueda.

Base de datos	Estrategia de búsqueda	Fecha búsqueda	Resultados
Pubmed	*((stress*[Title/Abstract] OR burnout [Title/Abstract]) AND (COVID-19[Title/Abstract])) AND (Work engagement [Title/Abstract])*	5 Nov. 2022	63
Scopus	*(TITLE-ABS-KEY (stress* OR burnout) AND TITLE-ABS-KEY (covid-19) AND TITLE-ABS-KEY (work AND engagement))*	5 Nov. 2022	257
Web Of Science	*stress* OR burnout (Topic) and COVID-19 (Topic) and Work engagement (Topic)*	5 Nov. 2022	384
		Total	704

Tabla 4. Estrategias de búsqueda y base de datos

Para la selección de artículos se utilizaron los siguientes criterios de inclusión, idioma: artículos originales publicados en inglés y español, tipo: artículos originales, artículos que miden valores y/o efectos como el nivel de *burnout*, nivel de depresión, nivel de estrés, WE, número de casos de profesionales con depresión, estrés y/o ansiedad, comparación de niveles antes vs. durante la pandemia por COVID-19 y comparación por país/tipo de profesión/servicio. Y los criterios de exclusión son idioma: estudios escritos en lenguas diferente al Inglés o Español, población: personas desempleadas, estudios de baja calidad científico-técnica después de aplicar la herramienta de evaluación de la calidad, artículos que no responden a la pregunta de investigación y que no estaban relacionados con el objetivo de la revisión, tipología: artículos de opinión, editoriales y cartas al editor, revisiones sistemáticas, comunicaciones breves y casos clínicos, se seleccionaron 24 estudios.

3.2. METODOLOGÍA - OBJETIVO ESPECÍFICO 2

TIPO DE DISEÑO Y MUESTRA

Para lograr el objetivo número 2, se realizó un estudio observacional transversal. El número total de cuestionarios analizados fue de 3640, recogidos entre el 2 de abril y el 17 de mayo de 2020. Los criterios de inclusión fueron: tener 18 años o más, residir en Ecuador durante la pandemia, y aceptación del consentimiento informado. Se recibieron cuestionarios de las 24 provincias de Ecuador. Se adoptó un estricto criterio de selección, eliminando todos los cuestionarios con un porcentaje de respuesta inferior al 99% (857 cuestionarios de los 4497 recibidos).

INSTRUMENTOS

Este estudio se integra en una investigación, coordinada desde España, que se realiza en un total de 16 países, latinoamericanos, europeos, africanos y asiáticos, en diferentes etapas de adaptación e implementación; que utilizan una metodología similar, salvo las diferencias generadas por la adaptación a cada país o las fechas de recogida de los datos. El cuestionario original ha sido validado a la población española, adaptando las preguntas de estudios previos (Wang et al., 2020) y mediante una revisión de la literatura sobre publicaciones de epidemias anteriores (Pappa et al., 2020). Para facilitar su

validación y no dilatar su proceso en el tiempo, por la necesidad de recoger datos de los efectos en el inicio de la pandemia, se incluyeron instrumentos validados con anterioridad. El borrador de cuestionario fue analizado por un panel de expertos formado por psicólogos, médicos y enfermeras ocupacionales, epidemiólogos y expertos en salud pública. Se realizó una prueba piloto en la que participaron 57 personas de diferentes profesiones, niveles educativos, sexo, edad y áreas geográficas, y en la que no se identificaron problemas de comprensión ni incidentes relevantes, con un coeficiente alfa de Cronbach de 0.86. Con posterioridad, el cuestionario se adaptó culturalmente a la población ecuatoriana, modificando las preguntas con dificultad de comprensión por los ciudadanos del país.

El cuestionario incluye datos sociodemográficos: sexo, edad, personas con las que convive, nivel de estudios, situación laboral, si tiene hijos, mascotas o tiene alguna discapacidad.

El PD se midió mediante una herramienta muy utilizada para evaluar la salud mental y el bienestar psicológico, el cuestionario de salud general de Goldberg (GHQ-12) (Goldberg et al., 1997). Este cuestionario consta de 12 ítems con cuatro opciones de respuesta. A las dos primeras se les asigna una puntuación de 0 puntos y a los dos últimos se les asigna una puntuación de 1 punto, con una puntuación total que oscila entre 0 y 12. El punto de corte establecido para la población general fue de tres, considerando PD aquellos con puntuaciones mayores o iguales a 3.

Se recogió información sobre los síntomas percibidos durante los últimos 14 días: tos, dolor de cabeza, rinitis, fiebre, mialgia, mareos, dolor de garganta, escalofríos, diarrea o dificultad para respirar. Para ello se utilizó la información proporcionada por la Organización Mundial de la Salud sobre los síntomas físicos más comunes asociados con el COVID-19. Se les cuestionó sobre si padecían una enfermedad crónica o estaban tomando medicamentos en el momento de contestar el cuestionario. Igualmente, si habían estado hospitalizados o habían requerido atención médica en los últimos 14 días.

También se les preguntó sobre el historial de contacto en los últimos 14 días, para ello se incluyeron tres ítems: posible contacto (más de 15 min a menos de dos metros de distancia) o contacto casual con personas infectadas confirmadas, o contacto con personas o materiales sospechosos de estar infectados, así como la existencia de un

familiar o compañero de trabajo infectado, diagnosticado mediante prueba diagnóstica. La percepción sobre su nivel de salud se midió con cinco niveles de respuesta, de pésima a óptima, agrupándose para el análisis final en dos categorías, y siendo éste un conocido buen indicador para predecir mortalidad (Idler & Benyamini, 1997).

Las medidas de prevención se evaluaron a través de preguntas con cinco opciones de respuesta categorizadas de nunca a siempre con respecto a la frecuencia con la que se realizaron los siguientes comportamientos: cubrirse la boca con el codo al toser o estornudar; evitar compartir utensilios (por ejemplo, tenedor) durante las comidas; lavarse las manos con agua y jabón; lavarse las manos con solución hidroalcohólica; lavarse las manos inmediatamente después de toser, tocarse la nariz o estornudar; lavarse las manos después de tocar objetos potencialmente contaminados; usar una máscara independientemente de la presencia o ausencia de síntomas; dejando al menos metro y medio de separación de los demás.

ANÁLISIS DE DATOS

Tras depurar la base de datos se determinaron frecuencias, media y desviación típica en función del tipo de variable. Se llevó a cabo el estudio de normalidad de la distribución de datos, mediante la prueba Kolmogorov-Srminov, obteniendo un valor de $p>0.20$. Por tanto, se implementaron los test chi-cuadrado de asociación y T de *Student* para muestras independientes, que permitieron contrastar la existencia o no de relación entre las diferentes variables (sociodemográficas, síntomas físicos, percepción de salud, historial de contactos con personas infectadas por el virus SARS-CoV2 o material contaminado y medidas preventivas adoptadas) con respecto a la presencia o no de PD.

El análisis de regresión logística binaria permitió identificar aquellas variables entre las estudiadas que jugaban un papel más relevante y construir un modelo para determinar la presencia o no de *psychological distress*. La selección de variables se realizó hacia delante considerando el estadístico de razón de verosimilitud, se estimaron los *Odd Ratios* (OR) y se facilitaron los intervalos de confianza para esta medida de asociación. Además, se emplearon diferentes medidas de bondad de ajuste: test de Hosmer-Lemeshow, porcentaje de valores clasificados correctamente, sensibilidad y especificidad.

Todos los análisis se llevaron a cabo con el software estadístico SPSS 26.0 (IBM, Armonk, NY, EE. UU.).

PRINCIPIOS ÉTICOS

Se han seguido los principios éticos establecidos en la Declaración de Helsinki. El permiso de los participantes se obtuvo mediante un consentimiento informado en el que expresaron su deseo voluntario de participar en el estudio. Los sujetos debían consignar que eran mayores de edad y que participaban voluntariamente en el estudio, al inicio de la encuesta en línea, para poder acceder al contenido de la misma. Los datos se registraron de forma anónima y se trataron de forma confidencial. Este estudio cuenta con el informe favorable del Comité de Ética de la Investigación de Huelva, perteneciente a la Consejería de Salud de Andalucía (PI 036/20) y del Comité de Ética de la Universidad de Portoviejo, Ecuador (USGP-DI-049-2021).

3.3. METODOLOGÍA - OBJETIVO ESPECÍFICO 3

TIPO DE DISEÑO Y MUESTRA

Para lograr el objetivo número tres, se realizó un estudio transversal por medio de cuestionarios ya validados (datos sociodemográficos (Gómez-Salgado et al., 2020)), *General Health Questionnaire* (GHQ-12) (Goldberg et al., 1997), y el *Utrecht Work engagement Scale* (UWES-9) (Schaufeli et al., 2006)).

Se obtuvo una muestra no probabilística, con el método de bola de nieve, de 2161 cuestionarios procedentes de las 24 provincias del Ecuador, correspondiendo a personas que estaban trabajando y tenían residencia en el país durante la primera fase de la pandemia. Solo se admitió a mayores de 18 años que aceptaran participar voluntariamente en el estudio.

INSTRUMENTO

Para la recogida de datos se utilizó un cuestionario validado en España por un grupo de expertos (Gómez-Salgado et al., 2020) basado en estudios similares sobre otras pandemias, que obtuvo un coeficiente alfa de Cronbach de 0.86 y buenas propiedades psicométricas. Luego se adaptó culturalmente a la población de Ecuador, para asegurar una buena comprensión de los elementos e incluir datos específicos del país. El

cuestionario incluía variables sociodemográficas como sexo, edad, estado civil, nivel educativo, número de hijos, tenencia de mascotas y tipo de trabajo, diferenciando entre trabajo fuera del hogar y teletrabajo.

También se recopiló información sobre once variables relacionadas con el clima laboral durante la pandemia (tabla 5): efectividad de las medidas preventivas, seguridad percibida, nivel de conflictividad laboral, riesgo de contagio en el trabajo, grado de aceptación de la enfermedad, carga de trabajo, estrés, grado de satisfacción y necesidad de apoyo psicológico para diferentes colectivos, medido con un rango de 1 (nunca) a 10 (siempre).

Pregunta 1. Eficacia de las medidas preventivas
¿Ha proporcionado su departamento, servicio o empresa a los trabajadores los medios y materiales necesarios para llevar a cabo su trabajo de manera efectiva?
Pregunta 2. Seguridad percibida
¿Ha proporcionado su departamento, servicio o empresa a los trabajadores los medios y materiales adecuados para llevar a cabo su trabajo de forma segura?
Pregunta 3. Nivel de conflicto laboral
¿Han aumentado los conflictos laborales entre compañeros en su lugar de trabajo durante la pandemia?
Pregunta 4. Riesgo de infección en el trabajo
¿Existe el riesgo de infectarse en su profesión o entorno laboral?
Pregunta 5. Grado de aceptación de la enfermedad
¿Acepta el riesgo de infectarse como parte de su trabajo?
Preguntas 6, 7 y 8. **Necesidad de apoyo psicológico a profesionales, voluntarios, pacientes, familias y población general.**
¿Cree que sería importante ofrecer apoyo psicológico a los profesionales y voluntarios que participan activamente en la crisis de salud COVID-19?
¿Cree que sería importante ofrecer apoyo psicológico a las personas y sus familias directamente afectadas por COVID-19?
¿Cree que sería importante ofrecer apoyo psicológico a la población en general para hacer frente a la crisis de salud COVID-19?
Pregunta 9. Volumen de trabajo
¿Considera que ha aumentado la carga de trabajo desde que comenzó la crisis sanitaria?
Pregunta 10. Estrés
¿Se siente estresado por COVID-19 en el trabajo?
Pregunta 11. Satisfacción en el empleo
¿Se siente tranquilo en su lugar de trabajo durante la actual situación COVID-19?

Tabla 5. Preguntas sobre el entorno laboral en relación con la pandemia

El PD fue medido con la escala de Goldberg mediante el *General Health Questionnaire* (GHQ-12) (Goldberg et al., 1997), una escala diseñada para evaluar la salud mental mediante 12 preguntas o ítems, y una escala de Likert de 0 a 4, con puntuación general de 0 a 12 puntos. La indicación positiva de PD para todas las personas se marcó en un puntaje mayor o igual a 3 en el GHQ-12. (*Cronbach's alpha* = 0.880).

Para evaluar el WE se usó la *Utrecht Work engagement Scale* (UWES-9) (W.Schaufeli et al., 2006). Este cuestionario consiste en 9 preguntas con respuestas tipo escala de Likert de 0 (nunca) a 6 (siempre), distribuido en 3 dimensiones: Vigor, Dedicación y Absorción. La consistencia interna presentadas en las diferentes dimensiones fueron: $\alpha = 0.872$ para el vigor, $\alpha = 0.877$ para la dedicación y $\alpha = 0.781$ para la absorción.

ANÁLISIS DE DATOS

Una vez depurada la base de datos se determinaron las medidas descriptivas en función del tipo de variable. La existencia o no de relación entre las diferentes variables (sociodemográficas, dimensiones UWES y ambiente de trabajo), con respecto a la presencia o no de PD se valoró a partir del test chi-cuadrado de asociación y T de *Student* para muestras independientes.

Un análisis de regresión logística binaria permitió identificar aquellas variables que jugaban un papel más relevante con respecto al PD. La selección se realizó hacia delante considerando el estadístico de razón de verosimilitud, estimando los *Odd Ratios* (OR). Se facilitaron los intervalos de confianza para esta medida de asociación. Además, se emplearon diferentes medidas de bondad de ajuste: test de Hosmer-Lemeshow, porcentaje de valores clasificados correctamente, sensibilidad y especificidad.

Todos los análisis se llevaron a cabo con el software estadístico SPSS 26.0 (IBM, Armonk, NY, EE. UU.).

PRINCIPIOS ÉTICOS

Se obtuvo el consentimiento informado de todos los participantes en el estudio, el cual se realizaba previo al inicio del cuestionario. Se siguieron los principios éticos establecidos en la Declaración de Helsinki de 1964 y la nueva declaración de Fortaleza de 2013. El estudio estuvo autorizado en Ecuador por el Comité de Investigación Ética de la Universidad San Gregorio de Portoviejo (USGP-DI-049-2021) y en España por el Comité de ética de Huelva, perteneciente a la Consejería de Salud de Andalucía, España (PI 036/20).

4. RESULTADOS

En este apartado se presentan los resultados, de cada uno de los estudios realizados para cumplir con los objetivos planteados y de manera general se muestra en la figura 1, un mapa conceptual de cómo se relacionan las diferentes variables objeto de esta investigación.

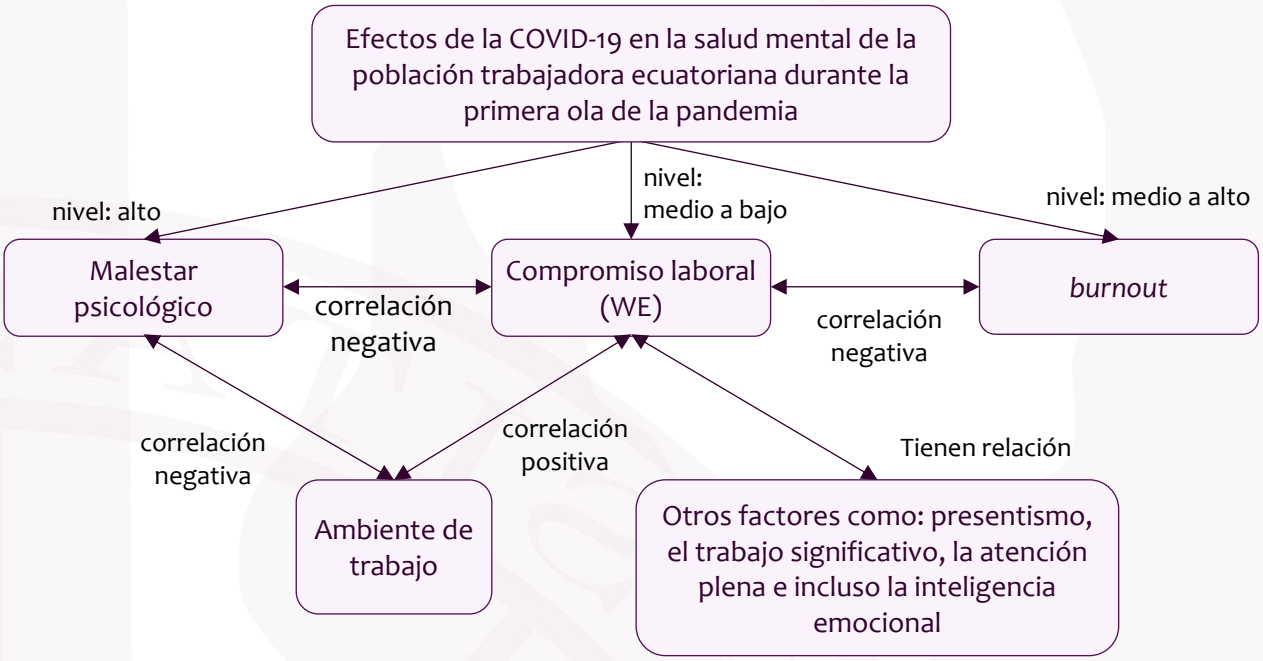
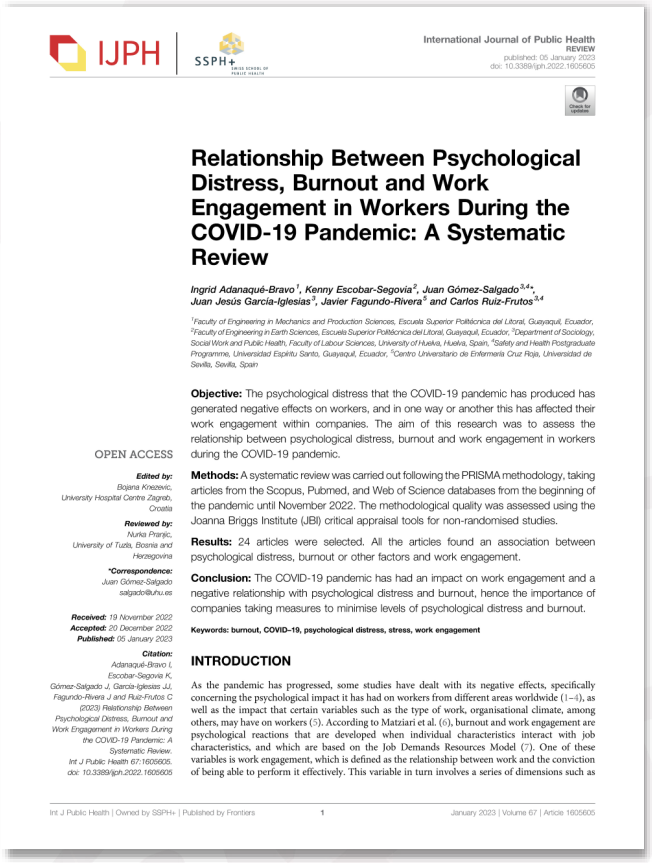


Figura 1. Mapa Conceptual

4.1. RESULTADOS - OBJETIVO ESPECÍFICO 1



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Relationship Between Psychological Distress, Burnout and Work Engagement in Workers During the COVID-19 Pandemic: A Systematic Review

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Objective: The psychological distress that the COVID-19 pandemic has produced has generated negative effects on workers, and in one way or another this has affected their work engagement within companies. The aim of this research was to assess the relationship between psychological distress, burnout and work engagement in workers during the COVID-19 pandemic.

Methods: A systematic review was carried out following the PRISMA methodology, taking articles from the Scopus, Pubmed, and Web of Science databases from the beginning of the pandemic until November 2022. The methodological quality was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools for non-randomised studies.

Results: 24 articles were selected. All the articles found an association between psychological distress, burnout or other factors and work engagement.

Conclusion: The COVID-19 pandemic has had an impact on work engagement and a negative relationship with psychological distress and burnout, hence the importance of companies taking measures to minimise levels of psychological distress and burnout.

Keywords: burnout, COVID-19, psychological distress, stress, work engagement

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INTRODUCTION

As the pandemic has progressed, some studies have dealt with its negative effects, specifically concerning the psychological impact it has had on workers from different areas worldwide (1–4), as well as the impact that certain variables such as the type of work, organisational climate, among others, may have on workers (5). According to Matziari et al. (6), burnout and work engagement are psychological reactions that are developed when individual characteristics interact with job characteristics, and which are based on the Job Demands Resources Model (7). One of these variables is work engagement, which is defined as the relationship between work and the conviction of being able to perform it effectively. This variable in turn involves a series of dimensions such as

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Los resultados obtenidos, con respecto al objetivo 1, se centran en la selección y análisis de 24 estudios. Producto de las estrategias iniciales de búsquedas, se identificaron un total de 704 referencias, las cuales fueron objeto de sucesivos cribados conforme al tópico de esta revisión, tal como se observa en la figura 2. El artículo completo se encuentra en el 8. anexo 2.

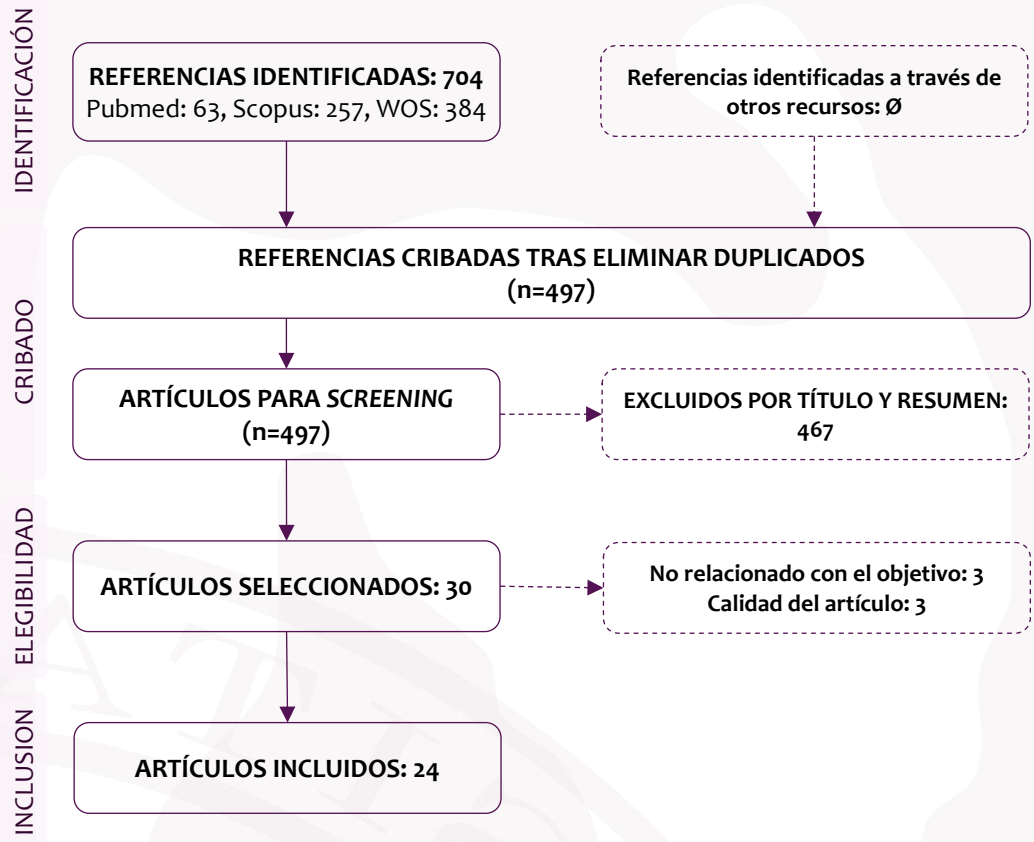


Figura 2. Resultados de la búsqueda Diagrama de flujo – PRISMA

Todos los estudios analizados fueron cuantitativos, de los 24 estudios, 18 fueron realizados en la primera fase de la pandemia es decir de diciembre 2019 a junio 2020 y 6 fueron realizados con datos recogidos hasta agosto de 2021. Los estudios realizados a personal sanitario fueron 13 de los 24; en los cuales hubo 9469 participantes divididos de la siguiente forma: 6707 fueron mujeres lo que representa el 71%; de estos 13 estudios, 9 fueron enfocados específicamente a enfermeros. Los 11 estudios restantes se realizaron con trabajadores en general, se mencionan trabajadores sociales, desarrolladores de software, profesores y personal de servicio, en 1 estudio de los 11 hubo 1038 participantes, pero no se presentan datos por sexo, en los otros 10 estudios hubo 7828 participantes, 4539 fueron mujeres lo que representa un 58%. De los 24 artículos, 11 corresponden a estudios realizados en Europa y 8 en Asia, 1 en África, 1 en Oceanía y 3 en América.

Luego de seleccionar los artículos para la revisión, dos revisores determinaron de forma independiente la calidad metodológica de los estudios seleccionados mediante las herramientas de evaluación crítica para estudios no randomizados del *Joanna Briggs Institute* (JBI) de la Universidad de Adelaida (Australia) (Jordan et al., 2019). Permitiendo evaluar la calidad metodológica de los estudios y determinar en qué medida un estudio ha excluido o minimizado la posibilidad de sesgo en su diseño, conducta y/o análisis. Se usaron

las versiones para estudios cuantitativos transversales (Moola et al., 2019) (8 ítems) situando el punto de corte en 6 para aceptar su inclusión en esta revisión. En la tabla 6 y 7, se presentan las tablas de evaluación de los artículos seleccionados.

Estudio JBI	*Los participantes y el medio ambiente se describen en detalle*	*Los criterios de inclusión están claramente definidos*	*La exposición se midió de forma válida y fiable*	*El criterio utilizado para medir la condición era objetivo*	*Se identificaron factores de confusión*	*Estrategias para lidiar con factores de confusión*	*Resultados válidos y fiables*	*Se utilizó un análisis estadístico adecuado*
Jia et al. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Tan & Yeap. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Poelmann et al. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Liu et al. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Zheng et al. (2020) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Tokdemir. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Ruiz-Frutos, Ortega-Moreno, Allande-Cussó, et al. (2021b) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Gimenez-Espert et al. (2020) (21) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Ruiz-Frutos, Ortega-Moreno, Soriano-Tarín, et al. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Meirun et al. (2020) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
M. Zhang et al., (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Sanchez-Gomez et al. (2021b) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Giauque et al. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Meynaar et al. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Khan. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Galanti et al. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Bernburg et al. (2021) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Wontorczyk & Rożnowski. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Mohamed et al. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Courson et al. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Ruiz-Frutos, Adanaqué-Bravo, et al. (2022b) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Romero-Martín et al. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Hai-Dong et al. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI
Rosas-Paez et al. (2022) 6/8	SI	SI	SI	SI	NA	NA	SI	SI

Tabla 6. Puntuación del estudio según las herramientas JBI (COVID-19, Ecuador, 2020-2022)

Estudio	Contexto	Objetivo del estudio	Tipo de studio	Participantes	Métodos	Hallazgos principales	JBI
Jia et al. (2022)	Provincia de Jilin, Noreste de China	Evaluar los efectos directos del estrés laboral, el estado de salud y el presentismo en el desempeño de las tareas, y explorar los efectos mediadores del estado de salud y el presentismo, con la esperanza de proporcionar una base teórica para mejorar el desempeño del personal médico.	Un estudio transversal	4261 personal médico	La escala de estrés auto informado relacionado con retos y obstáculos, la escala de encuesta de salud del formulario corto 8, la escala de presentismo de Stanford y la escala de rendimiento en las tareas.	El estrés laboral y el presentismo tuvieron un efecto negativo significativo en el desempeño de las tareas del personal médico, a diferencia del estado de salud, que tuvo un efecto positivo significativo en el desempeño de las tareas. El estado de salud y el presentismo mediaron la relación entre el estrés laboral y el desempeño de las tareas.	6/8
Tan & Yeap. (2021)	Nueva Zelanda	Abordar la brecha de investigación de examinar la relación entre el trabajo significativo y las dimensiones del agotamiento laboral con el WE como mediador, especialmente en tiempos de la pandemia COVID-19.	Un estudio transversal	530 trabajadores sociales	El modelado de ecuaciones estructurales de mínimos cuadrados parciales (PLS-SEM). La encuesta consistió en tres instrumentos: WAMI, UWES-9 y MBI-22.	Se constató que el WE tiene efectos mediadores en las relaciones entre el trabajo significativo y todas las dimensiones del agotamiento laboral. La edad no tiene ningún efecto moderador en estas relaciones.	6/8
Poelmann et al. (2021)	Países Bajos	Obtener información sobre la participación de los residentes quirúrgicos en los Países Bajos en la atención de COVID, el impacto de COVID-19 en la calidad experimentada de la capacitación quirúrgica y la influencia en Agotamiento y WE en comparación con el período sin COVID-19 en enero de 2020.	Un estudio transversal	317 residentes quirúrgicos	Se encuestó al cuestionario holandés "*Utrecht Burn-out Scale*", derivado del MBI, y también se recogió el UWES.	El estudio muestra un impacto significativo de los primeros meses de la pandemia de COVID-19 en el programa de residentes de cirugía. El estudio subraya la necesidad de orientar adecuadamente a todos los residentes de cirugía en relación con la formación y la educación quirúrgicas.	6/8
Liu et al. (2021)	Chengdu, China	Examinar si la percepción de la fuerza de la crisis COVID-19 de un empleado disminuirá su WE y su asunción de responsabilidades en el trabajo.	Un multi-estudio	258 enfermeras: estudio 1; 61 profesionales médicos empleados en UCI	En primer lugar, se comprobaron las hipótesis realizando una encuesta de campo con desfase temporal a enfermeras que prestaban cuidados a pacientes con COVID-19 (Estudio 1). A continuación, se abordó la pregunta de investigación realizando un experimento de campo longitudinal (Estudio 2) en una unidad de cuidados intensivos (UCI) para pacientes con COVID-19 en estado crítico. Instrumentos/variables: Fortaleza percibida de la crisis COVID-19, Significado del trabajo, UWES-9 y Asumir la responsabilidad en el trabajo.	La investigación demuestra que las organizaciones pueden mitigar el impacto de esta crisis en sus empleados al proporcionar intervenciones diseñadas para debilitar la fuerza percibida de la crisis COVID-19 y fortalecer la significación del trabajo.	6/8
Zheng et al. (2020)	Wuhan, China y Reino Unido	Examinar si la atención plena puede neutralizar los efectos negativos de los factores estresantes COVID-19 sobre el WE a través del papel mediador de la duración del sueño.	Un multi-estudio	97 trabajadores generales de Wuhan (China) y 140 del Reino Unido	En el Estudio 1, se llevó a cabo un experimento de campo en Wuhan, China, durante el cierre patronal entre el 20 de febrero de 2020 y el 2 de marzo de 2020, en el que se indujo el estado de atención plena asignando aleatoriamente a los participantes a una práctica diaria de atención plena o a una práctica diaria de vagabundeo mental. En el Estudio 2, en un estudio diario de 10 días en el Reino Unido entre el 8 de junio de 2020 y el 19 de junio de 2020, se replicaron los resultados del Estudio 1 utilizando una medida subjetiva de los estresores COVID-19 y una medida diaria de mindfulness de estado.	Los resultados de los estudios contribuyen a la investigación sobre el estrés y el bienestar de los empleados, así como a la investigación emergente sobre mindfulness en la literatura organizacional. Como resultado, mindfulness amortigua el efecto negativo de los estresores COVID-19 sobre el WE mediado por la duración del sueño.	6/8

Tokdemir. (2022)	Turquía	Explorar el bienestar mental y el WE de los profesionales del software y las relaciones de estas variables con la tensión laboral y los factores relacionados con los recursos en el entorno de trabajo forzado en casa durante la pandemia COVID-19.	Un estudio transversal	321 profesionales del software	Se realizó una encuesta en turco que incluía preguntas sobre características sociodemográficas, parámetros relacionados con el trabajo en casa durante la COVID-19, escalas validadas relacionadas con el bienestar mental de los participantes, el WE, la calidad del sueño, características psicosociales relacionadas con el trabajo como la tensión laboral y la latitud de decisión, y preguntas cerradas sobre el equilibrio entre la vida laboral y personal y los hábitos de ejercicio físico.	6/8
Ruiz-Frutos, Ortega-Moreno, Allande-Cussó, et al. (2021b)	España	Evaluar los efectos del COVID-19 en la salud física y mental de los trabajadores no sanitarios. Diseño: Estudio observacional descriptivo transversal.	Un estudio transversal	1038 trabajadores no sanitarios (461 que trabajaban fuera de casa y 577 que lo hacían a domicilio)	Instrumentos/variables: WE UWES-9, sentido de la coherencia (SOC-13) y salud mental (Goldberg GHQ-12). En los niveles bajos de compromiso, el porcentaje de angustia es mayor (77.9%). A bajos niveles de SOC corresponden los mayores porcentajes de estrés (86.3%). El 94.1% considera necesario que los profesionales y voluntarios implicados en COVID-19 reciban apoyo psicológico. La baja comprensibilidad está mediada por la percepción de estrés; si la percepción es baja, la comprensibilidad está modulada por el nivel de significación; si es bajo, genera un 95.9% de angustia.	6/8
Gimenez-Espert et al. (2020) (21)	España	Analizar la percepción del COVID-19 por parte de las enfermeras, especialmente sobre las medidas, recursos e impacto en su trabajo diario. Asimismo, analizar los riesgos psicosociales de estos profesionales y la relación entre la percepción del COVID-19 y dichos riesgos.	Un estudio descriptivo correlacional	92 enfermeras	Los datos se recogieron mediante un cuestionario autocompletado en línea durante el auge de la pandemia, del 29 de marzo al 8 de abril, cuando el número de infecciones pasó de 78,797 a 146,690. Parece existir una relación negativa y significativa entre la información disponible para las enfermeras, las medidas aplicadas y los recursos con algunos de sus riesgos psicosociales, y una positiva con la satisfacción laboral y el WE. También existe una relación positiva y significativa sólo entre el impacto del COVID-19 y su desigualdad laboral, pero no para otros riesgos.	6/8
Ruiz-Frutos, Ortega-Moreno, Soriano-Tarín, et al. (2021)	España	Evaluar el PD de los trabajadores sanitarios ocupacionales y su relación con su WE y las características del entorno de trabajo.	Un estudio transversal	499 enfermeras y médicos	El 65.53% de los profesionales de la salud laboral que participaron tenían MP. No se encontraron diferencias significativas entre médicos y enfermeros. Sin embargo, el CL fue mayor entre las mujeres y los trabajadores del sector público. Las variables incluían datos demográficos, características del entorno de trabajo, UWES-9 y GHQ-12. Las variables que facilitan el desarrollo de MP fueron el estrés laboral, la carga de trabajo, la presencia de conflictos laborales y la menor satisfacción laboral.	6/8
Meirun et al. (2020)	Punjab, Pakistán	Identificar el predominio de las exigencias psicosociales del trabajo y los recursos laborales en el bienestar de los enfermeros, con un efecto indirecto en los factores de salud psicológica.	Un estudio transversal	208 enfermeras	Mediante este estudio analítico de las muestras de enfermeras se alcanzaron tres etapas para determinar las capacidades predictivas de la calidad del modelo de entorno laboral psicosocial. Y como resultado, desde la mediación parcial hasta la mediación total, el estrés y el eustrés influyen significativamente en el entorno psicosocial de trabajo de las enfermeras. Estrategia de desfase temporal para recopilar datos al inicio de la pandemia (Tiempo 1) y de nuevo 3 meses después (Tiempo 2).	6/8
M. Zhang et al. (2021)	Wuhan, provincia de Hubei, China	Aclarar tanto los posibles factores que influyen como la situación actual del WE de las enfermeras de primera línea, y proporcionar así una referencia para intervenciones específicas.	Un estudio transversal	1040 enfermeras	El modelo final interpretaba el 27.3% de la varianza, de la que cada bloque podía explicar el 11.7%, el 10.3% y el 7.9% de los cambios R2 incluyendo las características sociodemográficas, el estrés y la carga de trabajo, respectivamente. El WE se correlacionó negativamente con el estrés y la carga de trabajo. A finales de febrero de 2020 se llevó a cabo una amplia encuesta por muestreo en un hospital designado para tratar a pacientes con enfermedad por coronavirus de 2019 en Wuhan, la capital de la provincia china de Hubei.	6/8

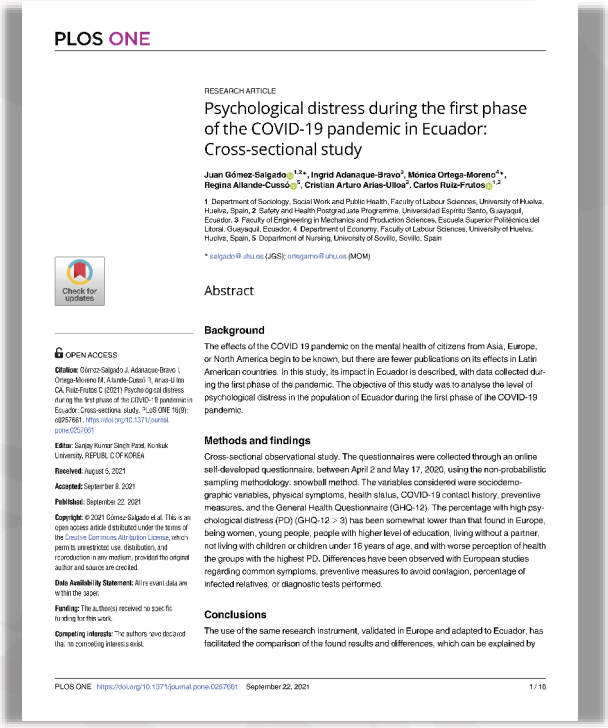
Sanchez-Gomez et al. (2021)	España	Evaluar el papel mediador del WE en el impacto directo de la inteligencia emocional sobre el rendimiento laboral de los profesionales sanitarios.	Un estudio transversal	1549 trabajadores sanitarios (62,1% mujeres; edad media 36,51 años) (26,9% enfermeras)	Un total de 1549 trabajadores sanitarios (62.1% mujeres; edad media 36.51 años) rellenaron la Escala de Inteligencia Emocional de Wong y Law, el UWES y el Cuestionario de Rendimiento Laboral Individual.	Los resultados demostrados en esta investigación evidencian el significativo efecto directo de la inteligencia emocional hacia el rendimiento laboral individual, así como la implicación mediadora del engagement, en una muestra de profesionales sanitarios españoles considerando los tres constructos de engagement, el vigor, que emergió por encima de la dedicación, y la absorción como la dimensión de engagement más determinante.	6/8
Giauque et al. (2022)	Suiza	Examinar el impacto de las modalidades de trabajo, las variables relacionadas con el puesto de trabajo, relacionales y de clima organizativo sobre el compromiso, el agotamiento y el rendimiento percibido de los empleados antes y durante el período de teletrabajo forzoso.	Un estudio transversal	1373 Empleados públicos (19-60 años)	Teniendo en cuenta las condiciones de la pandemia y del teletrabajo, el método de encuesta fue una metodología cuantitativa, que se consideró la más adecuada para recabar datos de los participantes. Los datos se recogieron en una única administración cantonal suiza situada en la parte francófona del país.	Los resultados muestran que, mientras que el periodo de teletrabajo forzoso influyó positivamente en la autonomía laboral y el equilibrio entre vida personal y profesional de los empleados, influyó negativamente en su grado de colaboración y en la tensión laboral percibida, pero no afectó a sus niveles de compromiso.	6/8
Meynaar et al. (2021)	Países Bajos	Estudiar el agotamiento y su asociación con el WE y la resiliencia entre los intensivistas holandeses tras la crisis COVID-19.	Un estudio transversal	162 intensivistas	El cuestionario constaba de preguntas sobre características personales y laborales y cuestionarios validados: el MBI, el UWES y la Escala de Evaluación de la Resiliencia.	A raíz de la crisis de la COVID-19, se detectó un mayor riesgo de agotamiento entre los intensivistas neerlandeses. Sin embargo, seguía siendo bajo en comparación con otros países. El WE resultó ser alto. El agotamiento estaba inversamente relacionado con la resiliencia y el WE, pero no se explicaba totalmente por ellos.	6/8
Khan. (2021)	Pakistán	Evaluar cómo perciben los individuos la WFM, que está afectando a su rutina diaria de trabajo en la pandemia.	Un estudio transversal	Maestros de escuelas públicas en Pakistán, edad media 37,2	El enfoque de modelado multinivel (MLM) se aplicó para analizar los datos para modelar la relación entre la desinformación de los medios sociales a nivel diurno, la amenaza percibida de COVID-19, la ansiedad, la fatiga de los medios sociales y el WE.	Los resultados revelaron que la desinformación y la amenaza COVID-19 aumentan la ansiedad y la fatiga de los medios sociales, lo que se traduce en un menor nivel de WE. Este estudio también descubrió que la resiliencia como mecanismo de afrontamiento reduce los efectos adversos de la ansiedad en el WE.	6/8
Galanti et al. (2021)	Italia	Investigar el impacto que el conflicto familiar-laboral, el aislamiento social, el ambiente de distracción, la autonomía laboral y el auto-liderazgo tienen en la productividad de los empleados, el WE y el estrés experimentado durante la pandemia.	Un estudio transversal	Un total de 209; edad media 49,81; mínimo: 25; máximo: 65	Este estudio transversal analizó los datos recopilados a través de un cuestionario en línea completado por 209 empleados de WFH durante la pandemia. Las hipótesis se probaron mediante regresión lineal jerárquica.	Los conflictos entre la familia y el trabajo y el aislamiento social estaban relacionados negativamente con el estrés de WFH, que no se veía afectado por la autonomía y el liderazgo propio. Los aspectos individuales y relacionados con el trabajo dificultan y facilitan la WFH durante el brote de COVID-19.	6/8
Bernburg et al. (2021)	Alemania	Investigar la percepción de estrés de las enfermeras ambulatorias alemanas durante la pandemia COVID-19. El objetivo era determinar las asociaciones entre el estrés pandémico y variables como la calidad del sueño, el WE, las preocupaciones y preocupaciones relacionadas con la pandemia.	Un estudio transversal	166 enfermeras	Se llevó a cabo un cuestionario en línea entre las enfermeras alemanas de los servicios de atención ambulatoria.	El estrés pandémico resultó ser un predictor de la peor calidad del sueño entre las enfermeras ambulatorias (H1) y el estrés pandémico demostró ser un predictor de menor WE entre las enfermeras ambulatorias (H2). Las preocupaciones y preocupaciones relacionadas con la pandemia no se relacionaron positivamente con una mayor experiencia de estrés entre las enfermeras ambulatorias (H3)	6/8

Wontorczyk & Rożnowski. (2022)	Polonia	Examinar cómo las diferentes formas de trabajo afectan el comportamiento de los empleados.	Un estudio transversal	544 participantes	Este estudio aplica el WE (la construcción clave en la psicología organizacional) como variable dependiente y considera sus determinantes en forma de factores de estrés y actitudes hacia el trabajo remoto. Se usaron UWES-9, Estándares de Manejo del Estrés y Actitudes hacia el Trabajo Remoto.	Los resultados obtenidos indican que no hubo diferencias significativas entre los grupos en cuanto a la intensidad del WE. Para los trabajadores in situ, los factores más importantes fueron el control y la definición de funciones.	6/8
Mohamed et al. (2022)	Zagazig, Egipto	Evaluar la percepción relevante, los sentimientos de agotamiento y el WE entre las enfermeras durante el brote del coronavirus.	Un estudio transversal	280 enfermeras	Un cuestionario auto administrado que contiene cuatro partes: características, importancia a escala de trabajo, escala de agotamiento y escala de compromiso.	Existe una correlación positiva estadísticamente significativa entre el compromiso y la percepción de importancia. Sin embargo, existe una correlación negativa estadísticamente significativa entre el agotamiento, el compromiso y la importancia.	6/8
Courson et al. (2022)	Estados Unidos	Comprender cómo se ha visto afectado el WE de las enfermeras por el COVID-19.	Un estudio transversal	107 enfermeras	Se utilizó un diseño descriptivo transversal. Se utilizó una encuesta más la Escala de miedo al COVID-19, Escala de WE de Utrecht,y tres preguntas abiertas.	El tipo de formación se correlacionó significativamente con las puntuaciones de compromiso, siendo la formación en servicio la que obtuvo las puntuaciones más altas. Los enfermeros siguen abandonando la profesión debido al elevado censo de pacientes, a la agudeza de los mismos y a una dotación de personal inadecuada.	6/8
Ruiz-Frutos, Adanaqué-Bravo, et al. (2022)	Ecuador	Encontrar la relación entre los factores del entorno laboral y el (WE) en la población general ecuatoriana durante la primera fase de la pandemia COVID-19 para evaluar sus niveles de PD.	Un estudio transversal	2161 participantes	Se recogieron datos sociodemográficos y del entorno laboral, puntuaciones de WE (escala UWES-9) y puntuaciones del Cuestionario de Salud General (GHQ-12).	Los factores que, en mayor medida (70.2%), predijeron el desarrollo de EP durante la primera fase de la pandemia COVID-19 en Ecuador fueron ser mujer y tener bajos niveles de la dimensión vigor WE, alto estrés laboral y baja satisfacción laboral.	6/8
Romero-Martín et al. (2022)	Reino Unido	Describir el WE percibido por los trabajadores del Reino Unido durante la pandemia de COVID-19.	Un estudio transversal	1085 participantes	Los datos se recogieron mediante un cuestionario en línea y el UWES-9.	Los participantes con menor satisfacción (21.8%) dieron puntuaciones UWES-9 significativamente bajas o muy bajas en el 58.5% de los casos. Se obtuvo un mayor WE con más recursos y menos conflicto, riesgo y estrés. En los casos en los que había habido contacto con COVID-19, esto se asoció con niveles ligeramente inferiores de WE.	6/8
Hai-Dong et al (2022)	Continente chino	Aclarar el mecanismo mediador y las condiciones límite entre la percepción del riesgo y el WE de los empleados, explorar el mecanismo causal del WE y proporcionar orientación organizativa práctica para mantener el WE de los empleados en respuesta a la epidemia de COVID-19.	Un estudio transversal	285 participantes	Se realizaron análisis de regresión y pruebas bootstrap en SPSS y AMOS para verificar las hipótesis pertinentes.	Se demuestra que los efectos moderadores de la resiliencia psicológica de los empleados son todos positivos sobre los efectos mediadores de la percepción del riesgo, la ansiedad y el WE. Para los empleados con alta resiliencia psicológica, el efecto mediador de la percepción del riesgo sobre el WE es más fuerte a través de la ansiedad.	6/8
Rosas-Paez et al. (2022)	México	Identificar la presencia de altos niveles de WE y agotamiento en los equipos de respuesta al COVID-19 (RT) durante la pandemia de COVID-19 en un nivel de atención secundaria.	Un estudio transversal	156 participantes	UWES-9 y las escalas MBI-HSS.	Se identificaron altos niveles de WE en el 55.1% de los miembros del COVID-19 RT, mientras que los altos niveles de agotamiento fueron del 3.2%. La prevalencia del WE fue superior a la del burn-out, pero ello no implicó protección frente al agotamiento.	6/8

WAMI: Inventario de Trabajo y Sentido; UWES-9: Escala de Compromiso Laboral (WE) de Utrecht; MBI-22: Índice de Burnout de Maslach

Tabla 7. Características de los estudios incluidos en la revisión sistemática (COVID-19, Ecuador, 2020-2022)

4.2. RESULTADOS - OBJETIVO ESPECÍFICO 2



PLOS ONE

RESEARCH ARTICLE

Psychological distress during the first phase of the COVID-19 pandemic in Ecuador: Cross-sectional study

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Abstract

Background

The effects of the COVID 19 pandemic on the mental health of citizens from Asia, Europe, or North America begin to be known, but there are fewer publications on its effects in Latin American countries. In this study, its impact in Ecuador is described, with data collected during the first phase of the pandemic. The objective of this study was to analyse the level of psychological distress in the population of Ecuador during the first phase of the COVID-19 pandemic.

Methods and findings

Cross-sectional observational study. The questionnaires were collected through an online self-developed questionnaire, between April 2 and May 17, 2020, using the non-probabilistic sampling methodology: snowball method. The variables considered were sociodemographic variables, physical symptoms, health status, COVID-19 contact history, preventive measures, and the General Health Questionnaire (GHQ-12). The percentage with high psychological distress (PD) (GHQ-12 > 3) has been somewhat lower than that found in Europe, being women, young people, people with higher level of education, living without a partner, not living with children or children under 16 years of age, and with worse perception of health the groups with the highest PD. Differences have been observed with European studies regarding common symptoms, preventive measures to avoid contagion, percentage of infected relatives, or diagnostic tests performed.

Conclusions

The use of the same research instrument, validated in Europe and adapted to Ecuador, has facilitated the comparison of the found results and differences, which can be explained by

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Los resultados que se obtuvieron para el objetivo No 2, que corresponde a analizar el nivel de PD en la población del Ecuador, durante la primera fase de la pandemia por COVID-19, identificando la posible asociación con variables sociodemográficas, presencia de síntomas físicos e historial de contacto, con el objeto de poder instaurar medidas preventivas, así como si los resultados difieren de los encontrados en otras zonas geográficas, y que se encuentran en el 8. anexo 3, son los siguientes:

DATOS SOCIODEMOGRÁFICOS

La muestra analizada, que asciende a un total de 3640 sujetos, es ligeramente mayor del sexo femenino 54.92%, con una edad en la que el porcentaje con 30 años o menos era del 52.81%, y un estado civil en el que un 61.43% no tenía pareja. Respecto al nivel educativo un 74.15% tenía escuela secundaria superior o menos y el 25.85% estudios universitarios o superior. En relación con su puesto de trabajo, el 45.07% eran empleados públicos, el 39.84% trabajaban en una empresa privada y el 15.09% un puesto de trabajo independiente. En la muestra, el porcentaje que tenía hijos era inferior (45.4%) a los que no lo tenían. Una mayoría afirmaba tener mascota (58.27%) y solo el 2.36% tenía algún tipo de discapacidad, en la tabla 8 se muestran los resultados mencionados.

		GHQ				
	N (%) (N=3640)	**SI (N=2283)**	**NO (N=1357)**	**χ^2**	**P**	*Odds Ratio (Confidence Interval at the 95 level)*
Sexo						
Hombre	1641 (45.1)	55.0	45.0	76.822	**<.001**	.546
Mujer	1999 (54.9)	69.1	30.9			(.477, .626)
Edad*						
30 años o menos	1900 (52.8)	64.1	35.9	2.650	.104	1.119
Más de 30 años	1698 (47.2)	61.4	38.6			(.977, 1.281)
Estado civil						
Sin pareja	2236 (61.4)	64.1	35.9	4.947	**.026**	1.169
Con pareja	1404 (38.6)	60.5	39.5			(1.019, 1.341)
Nivel educativo						
Escuela secundaria superior o menos	941 (25.9)	58.3	41.7	10.401	**.001**	.779
Estudios universitarios o más	2699 (74.1)	64.2	35.8			(.679, .907)
Usted es**						
Independiente	326 (15.1)	61.0	39.0	5.760	.056	
Empleado público	974 (45.1)	65.3	34.7			
Trabajador empresa privada	861 (39.8)	60.0	40.0			
Hijos						
SI	1652 (45.4)	59.9	40.1	10.087	**.001**	.804
NO	1988 (54.6)	65.0	35.0			(.702, .920)
Mascota						
SI	2121 (58.3)	62.6	37.4	0.025	.874	1.011
NO	1519 (41.7)	62.9	37.1			(.882, 1.159)
Discapacidad						
SI	86 (2.4)	60.5	39.5	0.191	.662	.907
NO	3554 (97.6)	62.8	37.2			(.586, 1.405)

***** *Variable agrupada a partir del valor mediano*

Tabla 8. Asociación entre variables sociodemográficas y malestar psicológico durante la pandemia

MALESTAR PSICOLÓGICO EN LA MUESTRA ESTUDIADA

Como podemos observar, en la tabla 9, el 62.72% de la muestra tiene malestar psicológico, en la que el punto de corte es GHQ ≥ 3. Siendo la puntuación global sobre los 12 ítems de M=4.41 (SD=3.49).

Los tres ítems con una mayor valoración (M>2.5) han sido los ítems *5: ¿Se ha sentido constantemente agobiado y/o en tensión?* M=2.66 (SD=0.94), ítem *7: ¿Ha sido capaz de disfrutar de sus actividades normales cada día?* M=2.62 (SD=0.92) y el ítem *2: ¿Sus preocupaciones le han hecho perder mucho sueño?* M=2.57 (SD=1.00). Por el contrario, los ítems con una menor valoración (M<2 o inferior a 2) han sido los ítems *11: ¿Ha pensado que usted es una persona que no vale para nada?* M=1.39 (SD=0.78), ítem *10: ¿Ha perdido la confianza en sí mismo/a?* M=1.74 (SD=0.92) y el ítem *4: ¿Se ha sentido capaz de tomar decisiones? M=1.99 (SD=0.78)*.

Ítem	TOTAL (N=3640) M (SD)
1. ¿Ha podido concentrarse bien en lo que hacía?	2.44 (0.76)
2. ¿Sus preocupaciones le han hecho perder mucho sueño?	2.57 (1.00)
3. ¿Ha sentido que está desempeñando un papel útil en la vida?	2.00 (0.88)
4. ¿Se ha sentido capaz de tomar decisiones?	1.99 (0.78)
5. ¿Se ha notado constantemente agobiado/a y en tensión?	2.66 (0.94)
6. ¿Ha tenido la sensación de que no puede superar sus dificultades?	2.18 (0.96)
7. ¿Ha sido capaz de disfrutar de sus actividades normales de cada día?	2.62 (0.92)
8. ¿Ha sido capaz de hacer frente adecuadamente a sus problemas?	2.23 (0.75)
9. ¿Se ha sentido poco feliz o deprimido/a?	2.36 (0.98)
10. ¿Ha perdido confianza en sí mismo/a?	1.74 (0.92)
11. ¿Ha pensado que usted es una persona que no vale para nada?	1.39 (0.78)
12. ¿Se siente razonablemente feliz considerando todas las circunstancias?	2.13 (0.79)
GHQ-12 (puntuación sobre 12)	4.41 (3.49)
Punto de corte ≥ 3	**N (%)**
SI	2283 (62.72)
NO	1357 (37.28)

α-Cronbach = 0.815

Tabla 9. Malestar Psicológico - General Health Questionnaire GHQ-12

DATOS SOCIODEMOGRÁFICOS Y MALESTAR PSICOLÓGICO

En las mujeres se ve un mayor porcentaje con PD (69.1%) que entre los hombres (55.0%), p<.001, un OR=0.546, 95% CI= (0.477, 0.626). Las personas sin pareja presentan mayor PD (64.1%) que entre las que tienen pareja (60.5%), p=.026, OR=1.169, 95% CI= (1.019, 1.341). Aquellos con estudios universitarios muestran un mayor porcentaje de PD (64.2%) que los que tienen menor nivel educativo (58.3%), p<.001, OR=0.779, 95% CI= (0.679, 0.907). No tener hijos se asocia con un mayor porcentaje de tener PD, 65.0% frente a 59.9%, p<.001, OR=0.804, 95% CI= (0.702, 0.920) (tabla 8).

No se ven diferencias estadísticamente significativas en tener PD respecto a la edad, el tipo de empleo (público, privado o independiente), disponer de una mascota o tener alguna discapacidad (tabla 8).

ASOCIACIÓN ENTRE SÍNTOMAS FÍSICOS, SALUD ACTUAL, HISTORIAL DE CONTACTOS Y MALESTAR PSICOLÓGICO DURANTE LA PANDEMIA

Entre los síntomas más frecuentes que afirman haber tenido en los 14 días previos a la participación en el estudio (tabla 9) destacan con mayor porcentaje de casos de dolor de cabeza (40.80%), congestión nasal (24.12%) y dolor de garganta (22.83%). Por el contrario, los síntomas con una menor frecuencia han sido fiebre (> 38 °C por al menos 1 día) un 4.42%, escalofríos (4.48%) y dificultad para respirar (4.78%). %). El conjunto de síntomas, con una M=1.59 (SD= 1.86) se asocia con el nivel de PD, M=1.86 (SD= 1.96) entre los que tienen PD frente a M=1.14 (SD=1.56) entre los que no presentan PD, p<.001.

Se aprecia diferencia estadísticamente significativa entre tener cualquiera de los síntomas estudiados o no tenerlo y presentar PD, como podemos observar en la tabla 9. Los síntomas donde vemos un mayor porcentaje entre los que presentan PD son: mareos 79.6%, OR=2.52, 95% CI= (1.947, 3.274); dificultad para respirar 76.4%, OR=1.98, 95% CI= (1.390, 2.837); diarrea 75.5%, OR= 1.96, 95% CI= (1.536, 2.491); fiebre 75.2%, OR=1.84, 95% CI= (1.281, 2.652); dolor muscular 74.8%, OR=1.99, 95% CI= (1.654, 2.394) y dolor de garganta 73.5%, OR=1.89, 95% CI= (1.591, 2.242) (tabla 8).

El número de síntomas, con una valoración de M=1.59 (SD=1.86), es diferente entre los que presentan PD alto, M=1.86 (SD=1.96) y los que presentan PD bajo, M=1.14 (SD=1.56), p<.001.

El 83.49% de los participantes afirmaron una percepción de salud óptima, asociándose dicha percepción con el nivel de PD, así entre los que tenían una salud óptima el 59.8% presentaron PD, porcentaje que aumenta a un 77.5% entre los que tenían una salud regular o pésima, p<.001, OR=0.431, 95% CI= (.351, .529). Estaban tomando medicamentos el 19.12%, con un mayor porcentaje con PD entre los que tomaban medicamentos 67.8% que entre los que no lo toman 61.5%, p=.002, OR=1.32, 95% CI= (1.106, 1.571). El 6.10% habían recibido atención médica durante los últimos 14 días, asociado con desarrollar PD; así entre los que habían recibido atención médica los últimos 14 días, el 71.2% tenía PD frente al 62.2% de los que no lo habían recibido, p=.007, OR=1.50, 95% CI= (1.114,2.025). El 15.38% padecían una enfermedad crónica, y el 0.71% habían requerido hospitalización en ese periodo de tiempo, sin haber encontrado asociación estadísticamente significativa entre esas dos variables y desarrollar PD (tabla 10).

	N (%)	GHQ SI (N=2283)	GHQ NO (N=1357)	χ^2	P	*Odds Ratio (Confidence Interval at the 95 level)*
SÍNTOMAS FÍSICOS						
Fiebre						
SI	161 (4.4)	75.2	24.8	11.141	**.001**	1.843
NO	3479 (95.6)	62.1	37.9			(1.281, 2.652)
Tos						
SI	623 (17.1)	70.5	29.5	19.287	**<.001**	1.518
NO	3017 (82.9)	61.1	38.9			(1.259, 1.830)
Dolor de cabeza						
SI	1485 (40.8)	72.7	27.3	107.436	**<.001**	2.110
NO	2155 (59.2)	55.8	44.2			(1.830, 2.433)
Dolor muscular						
SI	709 (19.5)	74.8	25.2	54.529	**<.001**	1,990
NO	2931 (80.5)	59.8	40.2			(1.654, 2.394)
Mareos						
SI	378 (10.4)	79.6	20.4	51.583	**<.001**	2.525
NO	3262 (89.6)	60.8	39.2			(1.947, 3.274)
Diarrea						
SI	388 (10.7)	75.5	24.5	30.411	**<.001**	1,956
NO	3252 (89.3)	61.2	38.8			(1.536, 2.491)
Dolor de garganta						
SI	831 (22.8)	73.5	26.5	53.778	**<.001**	1,889
NO	2809 (77.2)	59.5	40.5			(1.591, 2.242)
Congestión nasal						
SI	878 (24.1)	69.7	30.3	24.138	**<.001**	1.502
NO	2762 (75.9)	60.5	39.5			(1.276, 1.768)
Escalofríos						

SI	163 (4.5)	71.8	28.2	5.990	**.014**	1.539
NO	3477 (95.5)	62.3	37.7			(1.087, 2.180)
Dificultades respiratorias						
SI	174 (4.8)	76.4	23.6	14.705	**<.001**	1.986
NO	3466 (95.2)	62.0	38.0			(1.390, 2.837)
SALUD ACTUAL						
Percepción de la salud						
OPTIMA	3039 (83.5)	59.8	40.2	67.596	**<.001**	.431
REGULAR O PÉSIMA	601 (16.5)	77.5	22.5			(.351, .529)
Enfermedad crónica						
SI	560 (15.4)	65.9	34.1	2.850	.091	1.177
NO	3080 (84.6)	62.1	37.9			(.974, 1.422)
Toma medicación actualmente						
SI	696 (19.1)	67.8	32.2	9.559	**.002**	1,318
NO	2944 (80.9)	61.5	38.5			(1.106, 1.571)
Hospitalización últimos 14 días						
SI	26 (0.7)	69.2	30.8	.475	.491	1.340
NO	3614 (99.3)	62.7	37.3			(.581, 3.090)
Atención medica últimos 14 días						
SI	222 (6.1)	71.2	28.8	7.222	**.007**	1.502
NO	3418 (93.9)	62.2	37.8			(1.114, 2.025)
HISTORIAL DE CONTACTOS						
Contacto >15' <2m con persona infectada						
Si o no lo sé	1351 (37.1)	68.6	31.4	31.941	**<.001**	1.504
No	2289 (62.9)	59.2	40.8			(1.305, 1.734)
Contacto casual persona infectada						
Si o no lo sé	1307 (35.9)	68.6	31.4	29.685	**<.001**	1.487
No	2333 (64.1)	59.5	40.5			(1.289, 1.716)
Algún contacto con persona o material sospechoso de estar infectado						
Si o no lo sé	1596 (43.8)	67.2	32.8	24.051	**<.001**	1.407
No	2044 (56.4)	59.2	40.8			(1.227, 1.613)
Miembro de la familia infectado						
Si o no lo sé	886 (24.3)	67.9	32.1	13.678	**<.001**	1.353
No	2754 (75.7)	61.0	39.0			(1.152, 1.589)
Le han realizado la prueba diagnóstica						
Si	336 (9.2)	60.1	39.9	1.071	.301	.886
No	3304 (90.8)	63.0	37.0			(.704, 1.114)

Tabla 10. Asociación entre síntomas físicos, salud actual, historial de contactos y malestar psicológico durante la pandemia

HISTORIAL DE CONTACTOS Y MALESTAR PSICOLÓGICO

Un 37.1% de la muestra habían tenido contacto más de 15 minutos y/o con una distancia inferior a los 2 metros con persona infectada o que no lo sabían, frente al 62.9% que afirmaron no haber estado en contacto. El porcentaje con PD entre los que habían estado en contacto, o no lo sabían, era mayor 68.6% que entre los que no lo habían estado 59.2%, p<.001, OR=1.50, 95 CI= (1.305, 1.734) (tabla 10).

Los que habían tenido contacto casual con persona infectada o no lo sabían (35.9%) era inferior a los que afirmaron no haberlo estado (64.1%). Con porcentaje mayor de PD entre los que habían tenido contacto (68.6%) que entre los que no 59.5%, p<.001, OR=1.48, 95% CI= (1.289, 1.716). Los que habían tenido algún contacto con persona o material sospechoso de estar infectado, o no lo sabían, (43.8%) era inferior a los que dijeron no haberlo estado (56.4%); con mayor porcentaje de PD entre los que tuvieron contacto, p<.001, OR=1.41, 95% CI= (1.227, 1.613). Igualmente, los que habían tenido contacto con algún miembro de familia infectado, o no lo sabían, (24.3%) inferior a los que no (75.7%), p<.001, OR=1.35, 95% CI= (1.152, 1.589) (tabla 10).

Le habían realizado una prueba diagnóstica al 9.2%, no viéndose asociación estadísticamente significativa entre tener PD y haberle realizado la prueba diagnóstica (tabla 10).

MEDIDAS DE PREVENCIÓN Y MALESTAR PSICOLÓGICO

Como podemos observar en la tabla 9, la medida preventiva con mayor puntuación es la de "lavarse las manos con jabón y agua" M=4.73 (SD=0.55), seguido de "lavarse las manos tras tocar objetos potencialmente contaminados" M=4.65 (SD=0.69). A no mucha distancia, y con valores similares, nos encontramos las medidas preventivas: "llevar mascarilla con o sin síntomas" M=4.55 (SD=0.88), "cubrirse la boca" M=4.52 (SD=0.77) y "dejar al menos metro y medio de distancia" M=4.51 (SD=0.75). Por el contrario, las medidas preventivas menos usadas son las de "lavarse las manos con solución hidroalcohólica" M=4.20 (SD=0.99), "lavarse las manos después de toser. tocarse la nariz o estornudar" M=4.14 (SD=1.01) y "evitar compartir utensilios" M=4.14 (SD=1.23).

Se ha visto asociación estadísticamente significativa entre tener PD y el uso de las siguientes medidas preventivas: cubrirse la boca, evitar compartir utensilios, lavarse las manos con jabón y agua, lavarse las manos después de toser. tocarse la nariz o estornudar, y llevar mascarilla con o sin síntomas (tabla 11).

	TOTAL (N=3640)				
		GHQ			
	M (SD)	SI	NO	Estadístico	P
Cubrir boca	4.52 (0.77)	4.49 (0.80)	4.58 (0.72)	-3.244	**.001**
Evitar compartir utensilios	4.14 (1.23)	4.08 (1.24)	4.24 (1.19)	-3.774	**<.001**
Lavar manos con jabón y agua	4.73 (0.55)	4.72 (0.57)	4.76 (0.52)	-2.359	**0.018**
Lavar manos con solución hidroalcohólica	4.20 (0.99)	4.18 (0.99)	4.24 (0.99)	-1.817	.069
Lavar las manos después de toser. tocarse la nariz o estornudar	4.14 (1.01)	4.10 (1.02)	4.20 (0.98)	-2.918	**.004**
Lavar las manos tras tocar objetos potencialmente contaminados	4.65 (0.69)	4.63 (0.69)	4.68 (0.67)	-1.906	.057
Llevar mascarilla con o sin síntomas	4.55 (0.88)	4.52 (0.89)	4.59 (0.87)	-2.062	**.039**
Dejar al menos metro y medio de distancia	4.51 (0.75)	4.50 (0.74)	4.54 (0.77)	-1.475	0.140

Nota: Escala de respuesta tipo Likert de 1 (Nunca) a 5 (Siempre).

Tabla 11. Contraste entre las medidas preventivas y malestar psicológico durante la pandemia

PREDICCIÓN DEL MALESTAR PSICOLÓGICO DURANTE LA PRIMERA FASE DE LA PANDEMIA

El PD durante la pandemia en Ecuador se predice por las variables: ser mujer OR=1,765; 95% CI= (1.536, 2.028); nivel de estudios universitarios OR=1.284, 95% CI= (1.098, 1.501); no tener hijos OR=1.285; 95% CI= (1.118, 1.477); mala percepción de salud durante los últimos 14 días OR=1.628, 95% CI= (1.302, 2.037); y mayor número de síntomas OR=1.209, 95% CI= (1.154, 1.266). Estas variables predicen el 65.5%, con una sensibilidad/especificidad 25.6 / 88.9, R^2=0.063. Prueba de Hosmer-Lemoshov X^2=14.629 (p=0.067) y Prueba ómnibus X^2=238.050 (p<0.001).

4.3. RESULTADOS - OBJETIVO ESPECÍFICO 3

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Article

Work Engagement, Work Environment, and Psychological Distress during the COVID-19 Pandemic: A Cross-Sectional Study in Ecuador

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Abstract: Work environments can interfere with the mental health of workers as generators or reducers of psychological distress. Work engagement is a concept related to quality of life and efficiency at work. The aim of this study was to find the relationship between work environment factors and work engagement among the Ecuadorian general population during the first phase of the COVID-19 pandemic to assess their levels of psychological distress. For this purpose, a cross-sectional, descriptive study using a set of questionnaires was performed. Sociodemographic and work environment data, work engagement (UWES-9 scale) scores, and General Health Questionnaire (GHQ-12) scores were collected. The variables that predicted 70.2% of psychological distress during the first phase of the pandemic were being female, with a low level of vigour (work engagement dimension), being stressed at work, and low job satisfaction. The sample showed an intermediate level of engagement in both the global assessment and the three dimensions, being higher in those without psychological distress. With effective actions on work environment factors, mental health effects may be efficiently prevented, and work engagement may be benefited. Companies can reduce workers' psychological distress by providing safe and effective means to prevent the risk of contagion; reducing the levels of work conflict, work stress, or workload; and supporting their employees with psychological measures in order to maintain ideal working conditions.

Keywords: COVID-19; Ecuador; mental health; psychological distress; work engagement; work environment

check for updates

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1. Introduction

Since the SARS-CoV-2 (COVID-19) pandemic declaration by the World Health Organization on 11 March 2020, the way we live and work has changed rapidly [1–3]. In Ecuador, as of 18 April 2022, nearly 865,000 cases of COVID-19 were identified, and more than 35,000 deaths had been confirmed. These statistics placed the country among those with the highest number of cases and deaths per capita in the world [4,5]. Many studies have assessed the influence of the COVID-19 pandemic on the development of psychological distress in the general population and health care workers of Ecuador, evidencing a moderate-high level of psychological distress in both groups [6–10], in agreement with other studies in nearby Latin American countries [11–14].

The first preventive measures in the work environment adopted by agencies and institutions to stop the harmful effects of the pandemic on workers' health was social

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Para lograr el objetivo 3, que consiste en conocer la relación entre el PD, el WE y el ambiente de trabajo, durante el período de confinamiento por COVID-19 en Ecuador y que se puede observar también en el 8. ANEXO 4, se obtuvo que: un total de 2161 participantes formaron la muestra de este estudio. El 53 % eran mujeres, mientras que la edad media de más de la mitad de la muestra era de 32 años o menos (mediana: 32). El 54% no estaba casado en el momento de la encuesta, aunque un 52% tenía al menos un hijo. El 84% de la muestra tenía estudios universitarios o superiores, y había una cantidad similar de empleados públicos (45%) y privados (40%). El 52.8% de la muestra trabajaba desde casa durante el estudio y el 47.2% trabajaba fuera de casa.

N	2161
Mean (SD)	4.31 (3.41)
Minimum/Maximum	0 / 12
P25/P50/P75	1 / 4 / 7
GHQ ≥ 3	N = 1352 (62.6 %)
GHQ < 3	N = 809 (37.4%)

Tabla 12. Malestar psicológico: General Health Questionnaire GHQ-12

Como se puede observar en el análisis del GHQ-12 de la tabla 10, el 62.6% de la muestra presentaba un nivel alto de PD (GHQ-12 ≥ 3), con un valor medio de M=4.31 (SD=3.41).

Observando la asociación entre variables sociodemográficas y PD, se encontró un mayor nivel de PD (con p<0,001) entre mujeres (OR=1.908; IC 95%= 1.600-2.276) y entre individuos con estudios universitarios o superiores (OR=1.524; IC 95%= 1.205-1.926), no encontrándose diferencia estadísticamente significativa con respecto a las demás variables (edad, estado civil, número de hijos, tener mascota, organización para la que trabajaban o teletrabajo)

		Malestar Psicológico por GHQ-12			***Razón de probabilidad (Intervalo de confianza al nivel 95)***
	N (%)	***NO***	***SI***	***Estadísticas***	
Sexo					
Hombre	1015 (47.0)	45.4	54.6	52.069 *	1.908 (1.600, 2.276)
Mujer	1146 (53.0)	30.4	69.6		
Edad (mediana=32) (*N*=2143)					
32 años o menos	1137 (53.1)	35.8	64.2	3.062	.855 (.718, 1.019)
Mayor de 32 años	1006 (46.9)	39.5	60.5		
Estado civil					
Con pareja	979 (45.3)	38.4	61.6	.719	1.079 (.906, 1.285)
Sin pareja	1182 (54.7)	36.6	63.4		
Nivel de estudios					
Sin estudios universitarios	337 (15.6)	46.0	54.0	12.484 *	1.524 (1.205, 1.926)
Estudios universitarios o superiores	1824 (84.4)	35.9	64.1		
Hijos					
Si	1127 (52.2)	38.8	61.2	1.803	1,127 (.946, 1.342)
No	1034 (47.8)	36.0	64.0		
Mascota					
Yes	1221 (56.5)	38.2	61.8	.405	1.059 (.888, 1.262)
No	940 (43.5)	36.9	63.1		
Situación laboral					
Autónomo	326 (15.1)	39.0	61.0	5.760	-
Empleado público	974 (45.1)	34.7	65.3		
Trabaja para una empresa privada	861 (39.8)	40.0	62.6		
Teletrabaja o no					
Desde casa	1141 (52.8)	36.5	63.5	.817	.923 (.775, 1.099)
Fuera de casa	1020 (47.2)	38.4	61.6		

***** *p<.001*

Tabla 13. Asociación entre variables sociodemográficas y malestar psicológico

Es importante mencionar que en la tabla 11 se presentan las variables, situación laboral y modalidad de trabajo, que no se habían analizado previamente.

Como se puede observar en la tabla 12, el valor medio global del WE medido con UWES fue M=4,5 (SD=1.2), lo que se considera un nivel intermedio de WE, siendo menor entre aquellos con PD (M =4,2; SD=1.2) que entre aquellos sin PD (M=4,9 (SD=1.0), que alcanzaron un alto nivel de compromiso con p<.001.

Esta asociación también es significativa con respecto a las tres dimensiones del WE: el vigor en el trabajo tuvo la puntuación media más baja (M=4.2; SD=1.4) y la puntuación más baja para aquellos con PD (M=3.9; SD=1.4), aunque el tamaño del efecto fue mayor que otros. La dedicación obtuvo la puntuación media más alta (M=4.7; SD=1.3) y también la puntuación más alta para quienes no presentaban PD (M=5.1; SD=4.4). La absorción se mantuvo en el valor medio (M=4.5; SD=1.2) y recibió valores más altos para aquellos sin PD (M=4.8; SD=4.4 vs. M=4.4; SD=1.2).

Es posible observar los valores de WE en el percentil P75, donde los tamaños del efecto se consideran altos. En este caso, la absorción recibió un nivel "muy alto" (5.67) y la dedicación (5.67) junto con el vigor (5.33) se mantuvo en un nivel "alto".

	Puntuación de la categoría Compromiso laboral	***Mean (SD)***	***Malestar psicológico (GHQ-12)***		***Tamaño del efecto estadístico***	
	Min/P25/P50/P75/Max		NO M (SD)	SI M (SD)		
Vigor	0 / 3.33 / 4.33 / 5.33 / 6	4.2 (1.4)	4.8 (1.1)	3.9 (1.4)	15.960**	.64
Dedicación	0 / 4.00 / 5.00 / 5.67 / 6	4.7 (1.3)	5.1 (1.1)	4.4 (1.3)	12.194**	.50
Absorción	0 / 3.67 / 4.67 / 5.67/ 6	4.5 (1.2)	4.8 (1.1)	4.4 (1.2)	8.638**	.30
Total	0 / 3.67 / 4.77 / 5.44 / 6	4.5 (1.2)	4.9 (1.0)	4.2 (1.2)	13.375**	.55

*M: Media; SD: Desviación Estándar; **p<.001*

Tabla 14. Asociación entre las dimensiones del compromiso laboral y malestar psicológico

La tabla 15 corresponde a la asociación entre ambiente de trabajo y PD y se observa que, la necesidad de apoyo psicológico es la que presenta los valores más altos, tanto para las personas y familiares afectados por la enfermedad (M=9.2; SD=1.7), como para los profesionales y voluntarios (M=9.0; SD =2.0), y también para la población general (M=8.9; SD=1.9).

Al analizar la posible asociación entre las características del lugar de trabajo en relación con la respuesta a la pandemia y la probabilidad de desarrollar PD, se presentan diferentes tamaños del efecto. El mayor tamaño del efecto se encontró para la asociación entre el estrés laboral y la PD, siendo también relevantes la satisfacción laboral y el nivel de conflictos laborales.

Hubo un mayor nivel de PD en los lugares de trabajo donde se produjo un aumento de los conflictos laborales (M=5.7; SD=3.1 vs. M=4.8; SD=3.1); $p < 0.001$, en aquellos lugares donde el riesgo de infectarse era elevado (M=7.1; SD=3.2 vs. M=6.8; SD=3.2); y $p<.05$ en aquellos entornos donde se percibía mayor carga de trabajo (M=7.4; SD=3.0 vs. M=6.6; SD=3.1) y más estrés en el trabajo (M=7.7; SD=2.7 vs. M= 5.7; SD=3.2). Asimismo, el nivel de PD fue mayor entre quienes pensaban que se necesitaba apoyo psicológico para las personas y familias afectadas por la enfermedad (M=9.3; SD=1.6 vs. M=9.1; SD=1.9), así como entre quienes pensaban que se necesitaban apoyo psicológico para profesionales y voluntarios (M=9.1; DE=1.8 vs. M=8.8; DE=2.2). No se observó diferencia estadísticamente significativa con respecto a la necesidad de apoyo psicológico, en la población general.

Por el contrario, hubo un menor nivel de PD en los lugares de trabajo donde existe la eficacia de las medidas preventivas para realizar el trabajo de manera efectiva (M=7.3; SD=2.7), en los lugares de trabajo que proporcionaron los medios para realizar el trabajo de manera segura (M=7.3; SD =2.7), y entre aquellos individuos con mayor satisfacción laboral (M=7.2; SD=2.4 vs. M=6.3; SD=2.5), $p<.001$. El grado de aceptación de la enfermedad alcanzó resultados muy similares (M=5.1; SD=3.5 vs. M=4.9; SD=3.5).

		GHQ (≥3)			
	M (SD)	NO M (SD)	SI M (SD)	Estadísticas	Magnitud del efecto
Pregunta 1. Eficacia de las medidas preventivas	6.8 (2.9)	7.3 (2.7)	6.6 (3.0)	5.930**	.26
Pregunta 2. Seguridad percibida	6.9 (2.9)	7.3 (2.7)	6.6 (3.0)	5.396**	.23
Pregunta 3. Nivel de conflictividad laboral	5.3 (3.1)	4.8 (3.1)	5.7 (3.1)	-6.760**	.30
Pregunta 4. Riesgo de infección en el trabajo	7.0 (3.2)	6.8 (3.2)	7.1 (3.2)	-2.170*	.10
Pregunta 5. Grado de aceptación de la enfermedad	5.0 (3.5)	5.1 (3.5)	4.9 (3.5)	1.790	.08
Pregunta 6. Necesidad de apoyo psicológico (profesionales y voluntarios)	9.0 (2.0)	8.8 (2.2)	9.1 (1.8)	-3.658**	.17

Pregunta 7. Necesidad de apoyo psicológico (pacientes y familiares)	9.2 (1.7)	9.1 (1.9)	9.3 (1.6)	-2.943**	.14
Pregunta 8. Necesidad de apoyo psicológico (población general)	8.9 (1.9)	8.8 (2.0)	9.0 (1.9)	-1.949	.09
Pregunta 9. Carga de trabajo	7.1 (3.1)	6.6 (3.1)	7.4 (3.0)	-5.595**	.25
Pregunta 10. Estrés	7.0 (3.1)	5.7 (3.2)	7.7 (2.7)	-14.862**	.65
Pregunta 11. Satisfacción profesional	6.6 (2.5)	7.2 (2.4)	6.3 (2.5)	8.545**	.37

**p<.05 ; **p<.001.*

Tabla 15. Asociación entre ambiente de trabajo y malestar psicológico (N=2161)

La tabla 16 muestra que las variables que predicen el PD entre los trabajadores ecuatorianos, con un porcentaje del 70,3%, son ser mujer (OR=1.633; IC 95%= 1.349-1.977), con un bajo nivel de "vigor" (OR= 0.718; IC 95%= 0.668-0.773), percibiendo necesidad de apoyo psicológico para profesionales y voluntarios (OR=1,130; IC 95%= 1.083-1.179), percibiendo aumento de carga laboral desde el inicio de la crisis sanitaria (OR= 0.944; IC 95%= 0.907-0.982), estar estresado en el trabajo (OR=1.255; IC 95%=1.206-1.306), y la seguridad con su trabajo en la situación actual de COVID-19 (OR=0.921; IC 95% = 0.885-0.959).

	Odds Ratio (Confidence Interval at the 95% level)
SEX (ref. Male)	1.546** (1.273, 1.876)
WE: Vigour	.874** (.850, .900)
Question 10. Stress	1.190** (1.152, 1.230)
Question 11. Job satisfaction	.901** (.865, .939)
Sensitivity / Specificity	84.2 / 46.8
Correctly classified percentage	70.2
R^2	.235
Hosmer-Lemeshov test	χ^2=2.445 (p=.964)
Omnibus test	χ^2=407.903 (p<.001)

***p<.001*

Tabla 16. Regresión logística binaria para malestar psicológico (N=2161)

5. DISCUSIÓN

El presente estudio ha permitido conocer el malestar psicológico (PD) de la población ecuatoriana en relación a la pandemia por COVID-19 en su primera fase, abordando en primera instancia su relación con el *burnout*, compromiso laboral (WE) y ambiente de trabajo; también se han podido identificar factores, como el trabajo significativo o la inteligencia emocional que contribuyen a mejorar el nivel del WE y pueden mitigar el impacto psicológico de la pandemia. Por lo tanto, la contribución de esta tesis es que se puedan establecer políticas públicas desde los organismos de control y las organizaciones con el fin de minimizar el impacto de una situación similar futura y mantener la productividad, a partir del conocimiento presentado en esta investigación.

5.1. DISCUSIÓN FASE - ANÁLISIS BIBLIOGRÁFICO

De la revisión sistemática llevada a cabo, se ha encontrado que todos los artículos realizaron sus estudios con empleados a tiempo completo mayores de 18 años, pero es importante destacar la participación de las mujeres, con un 71% en el colectivo de personal sanitario y más del 50% en el caso de trabajadores generales. En el caso del personal sanitario, la causa podría ser que la mayoría de los artículos se centraran en las enfermeras, puesto en el que destacan las mujeres.

Con respecto al personal sanitario, en un estudio realizado en China, con 258 enfermeros y 61 médicos (Liu et al., 2021) s se analizó el impacto negativo de la pandemia por COVID-19 y su relación con el WE, y los resultados mostraron que estaban correlacionados negativamente, pero que, si se brindaba la capacitación necesaria, disminuía la percepción del riesgo y aumentaba el WE. En otro estudio, en el mismo país con 1040 enfermeros, también se encontró que el WE se correlacionó negativamente con el estrés y el agotamiento, y que las mujeres tenían niveles más bajos de WE que los hombres, con 43.02 y 47.25, respectivamente(Zhang et al., 2021), al igual que en el estudio de Jia et al (2022). Estos valores de compromiso son considerados en un nivel moderado, en este estudio los factores que influyeron para obtener mejores niveles de WE fueron: tener entre 31 y 40 años, estar casado, tener más de 2 hijos, tener un máster universitario, entre otros. El estrés laboral y el presentismo tuvieron un impacto negativo significativo en el desempeño de la tarea, que está relacionado con dos de las tres dimensiones del WE, a saber, la absorción y la dedicación. En un estudio también realizado en China, con 4261 médicos participantes, se encontraron

niveles moderados de WE (Jia et al., 2022). Los factores que influyeron en estos resultados fueron tener entre 41-50 años, estar casado y tener estudios universitarios. En estos estudios se encontró una correlación negativa entre el PD y el WE, que podrían influir ciertos factores sociodemográficos como el sexo, el estar casado, la edad o los años de experiencia, y que la asistencia y capacitación que la organización puede ofrecer son también determinantes en la reducción de la percepción de riesgo y, por tanto, en el incremento del WE.

Dirigiendo nuestra visión hacia los trabajadores de la salud, en un estudio realizado en Holanda sobre *burnout* y WE, no se encontraron diferencias significativas entre hombres y mujeres(Poelmann et al., 2021). Sin embargo, los residentes que estaban en el área de COVID-19 tenían niveles más altos de *burnout* que los que no estaban asignados al área con pacientes COVID-19, con un 16 % y un 7,6 %, respectivamente. Esto puede deberse a las condiciones laborales (carga de trabajo y concurrencia de eventos negativos) y al impacto emocional que tuvo la pandemia, especialmente en las etapas iniciales de la misma (Steil et al., 2022). En cuanto al WE, los residentes que fueron asignados a pacientes de cuidados intensivos evidenciaron un mayor impacto de la pandemia de COVID-19 en su rutina diaria. Sin embargo, no se observaron diferencias antes y después de la pandemia para los residentes que no atendían a pacientes con COVID-19, posiblemente debido a un programa de capacitación específico y estrictas condiciones de higiene, lo que puede conducir al alto nivel de entusiasmo entre los residentes en ese país(Poelmann et al., 2021). En España, un estudio con 92 enfermeras encontró que, a pesar de la pandemia y su impacto, el WE era de moderado a alto, quizás porque este grupo de profesionales era consciente de la importancia de su trabajo (Giménez-Espert et al., 2020). En el mismo país, el estudio realizado a 499 participantes del personal de enfermería reveló que el WE era del 34.80 y los participantes con bajo nivel de compromiso presentaban altos niveles de PD 76.7% (Ruiz-Frutos, Ortega-Moreno, Soriano-Tarín, et al., 2021), lo que indicó una correlación negativa entre estas dos variables. Mientras tanto, en Alemania, en un estudio con 166 enfermeras, se encontró que la mitad de los participantes tenían niveles bajos de estrés, durante la pandemia de COVID-19 (Bernburg et al., 2021). Vale la pena mencionar que los datos de este estudio se tomaron hasta mayo de 2021, el segundo año de la pandemia, lo que puede explicar en parte el alto nivel de WE. Además, en un estudio holandés sobre 162 intensivistas, 98 hombres y 64 mujeres, los niveles de agotamiento fueron del 5.1 % y el 12.5 %, respectivamente, mientras que el WE se evaluó en niveles bajo, moderado y alto, en hombres con un 43.9 % y mujeres con un 31 %. Aunque los

valores de *burnout* fueron bajos, las mujeres tenían un nivel más alto y los puntajes de WE de los hombres fueron mejores que los de las mujeres (Meynaar et al., 2021). En Holanda y Alemania se encontraron niveles similares a otro estudio realizado en enfermeras en Egipto, encontrándose niveles bajos de PD y WE de moderado a alto, mientras que en España los niveles de malestar fueron superiores con respecto a los resultados de estos países, y el WE fue moderado. Podría deducirse entonces que los sistemas organizativos de cada país y los recursos asignados en cada hospital también pueden influir en el PD y, por tanto, en el nivel de WE, además de otros factores como el sexo, la edad o el estar casado.

En México, hubo una prevalencia de altos niveles de WE, pero esto no implicó protección contra el *burnout* (Rosas-Paez et al., 2022). Los resultados en cuanto al compromiso en el trabajo fueron muy similares a los encontrados en Estados Unidos (Courson et al., 2022), lo que puede explicarse por el hecho de que estos dos estudios se realizaron en el segundo año de la pandemia, momento en el cual, había más conocimiento en cuanto a cómo hacer frente a la pandemia.

Con respecto a los trabajadores generales, un estudio realizado en Ecuador a 2161 trabajadores generales determinó que el 62.72% de la población presentaba PD, siendo las mujeres los que presentaban niveles más altos (69.1% vs. 55%), tal como indica nuestro estudio en Ecuador. Como muestran estudios sobre trabajadores de la salud, el sexo, la edad, tener hijos o no, el nivel educativo y estar casado también son factores que influyen en los resultados (Chen et al., 2020). En otro estudio realizado en España en trabajadores no sanitarios se encontró que a niveles bajos de WE había mayores porcentajes de PD (77.9%), y esta misma tendencia se observó tanto en el grupo de colaboradores que trabajaban fuera de casa y entre los que trabajaban desde casa (Ruiz-Frutos, Ortega-Moreno, Allande-Cussó, et al., 2021). En un estudio realizado en el Reino Unido con 1038 trabajadores generales (Bernburg et al., 2021), y en otro realizado en Nueva Zelanda con 530 trabajadores sociales (Tan & Yeap, 2021), se encontró que el WE era un factor eficaz predictor de agotamiento laboral, cinismo y sentimientos de competencia profesional reducida.

En general, los resultados de varios países muestran que la angustia psicológica (estrés o agotamiento) tienen un efecto negativo significativo en el WE. Sin embargo, otros factores como el presentismo también pueden influir (Jia et al., 2022). Por su parte, el trabajo significativo es otro factor que puede influir en el WE (Tan & Yeap, 2021) y comprender las

necesidades de los trabajadores de la salud durante una pandemia es fundamental para atraerlos y retenerlos (Courson et al., 2022). Por otro lado, el mindfulness y la cantidad y calidad del sueño también son factores a tener en cuenta, tal y como indica un estudio realizado en Wuhan, China y replicado en Reino Unido con trabajadores en general. Los resultados revelaron que había una relación positiva entre la cantidad de horas de sueño y el WE (Zheng et al., 2020). La inteligencia emocional es otro factor a analizar, y un estudio realizado con trabajadores españoles indicó que existía evidencia de un efecto directo significativo de la inteligencia emocional sobre el desempeño laboral individual, así como un efecto mediador sobre el WE (Sanchez-Gomez et al., 2021).

5.2. DISCUSIÓN FASE - ESTUDIO DE CAMPO

De acuerdo estudio realizado en la población ecuatoriana, se observó que el porcentaje con PD alto (GHQ-12: cut point ≥ 3) ha sido inferior en Ecuador (62.72%) en comparación con el de España (72.0%) (Gómez-Salgado et al., 2020), con una escala total (sobre 12 puntos) en Ecuador de M= 4.41 (SD=3.49) frente a M=4.99 (SD=3.34). Estas diferencias pueden explicarse porque en la muestra ecuatoriana el porcentaje con nivel de estudios universitarios y de mujeres era inferior al estudio realizado en España, siendo ambas situaciones (mayor nivel de estudios y ser mujer) asociado a mayor nivel de PD, encontrado tanto en estudios realizados en Europa (Domínguez-Salas et al., 2020) como en Latinoamérica (Dagnino et al., 2020), con la salvedad de Chile en donde los hombres presentaban más afectación mental que las mujeres (Bermejo-Martins et al., 2021). En un estudio realizado en 28 países europeos, se ha constatado que los hombres son más optimistas que las mujeres respecto a la pandemia y que dicha diferencia se acrecentaba con el tiempo (Eurofound, 2020). Precisamente ese optimismo puede relacionarse con la óptima percepción del nivel de salud, observando en nuestro estudio que una percepción óptima se asocia con menor PD, algo que no resulta raro ya que es bien conocido que la percepción de salud es un buen predictor de la mortalidad (Idler & Benyamini, 1997). No hemos observado que las mujeres en Ecuador perciban su salud como óptima en mayor porcentaje, estadísticamente significativo, que los hombres (54.3% frente al 45.7%, p=.074). Las estadísticas a nivel mundial dan un porcentaje mayor de letalidad por contagio por COVID-19 en los hombres, pero el Banco Mundial afirma que el coronavirus no es ciego al género y que las mujeres se ven más afectadas por la pandemia en términos de

riesgos para la salud, desigualdades laborales preexistentes y responsabilidades de cuidar a otras personas (Bank World, 2020), que se corresponde con el mayor porcentaje de PD en las mujeres de nuestro estudio.

Si analizamos de acuerdo a los grupos etarios, se observó que los más jóvenes se han visto más afectados en su salud mental, igual que los que no conviven con niños y menores de 16 años. Esta mayor afectación en jóvenes se ha visto en estudios previos realizados en Ecuador (Bermejo-Martins et al., 2021), España (Bermejo-Martins et al., 2021; Ruiz-Frutos et al., 2021) y Colombia (Bermejo-Martins et al., 2021), aunque en Chile eran las personas mayores las más afectadas (Bermejo-Martins et al., 2021). Pudiera parecer que convivir con niños o jóvenes generan un mayor trabajo, por sus necesidades de cuidado, pero compensadas por lo positivo que para la salud mental aporta su compañía, algo que no se ha visto por tener mascota. Igual que puede entenderse que los jóvenes sufran más de los efectos del confinamiento y restricción de movimiento para reducir el contagio. Tampoco hemos observado que tener algún grado de discapacidad aumente el PD, explicable por el bajo porcentaje 2,4% (86 casos) que afirmaron tenerla en nuestro estudio.

En los resultados del estudio, los síntomas que con más frecuencia se han encontrado fueron: dolor de cabeza, dolor de garganta y congestión nasal, mientras que en el estudio europeo se detectaron otros dos síntomas en segundo y tercer lugar, la tos y la mialgia(Gómez-Salgado et al., 2020). Respecto a las medidas preventivas para evitar el contagio se han encontrado tres medidas con un claro mayor uso respecto al estudio realizado en España (Alcover et al., 2020): "llevar mascarillas con o sin síntomas", "lavarse las manos con solución hidroalcohólica", y "lavarse las manos después de toser, tocarse la nariz o estornudar". Las costumbres sociales o la información recibida pueden estar detrás de dichas diferencias, teniendo en cuenta que los datos en Ecuador se obtuvieron en un periodo de tiempo más tarde que en España. Por ejemplo, el uso de mascarilla no fue recomendado por la OMS a nivel general, ni los Gobiernos obligaron su uso, en los primeros momentos de la pandemia.

El porcentaje que afirmó que ningún miembro de su familia estaba infectado (75.7%) era muy inferior al encontrado en estudios previos en España (97.8%) y el porcentaje de los que se habían realizado una prueba diagnóstica en los 14 días previos (9.2%) era superior al europeo (6.1%) (Gómez-Salgado et al., 2020). Una explicación de esta diferencia, aparte del

nivel socioeconómico y del sistema sanitario, puede ser la diferente fecha en la recogida de los datos o el tipo de prueba diagnóstica realizada.

En un estudio realizado en los 28 países de Europa, en dos fases de la pandemia, al inicio y tras 6 meses de evolución epidemiológica de la misma, se ha observado como en los países más afectados por la crisis sanitaria (Francia, Italia y España) estuvieron entre aquellos con la mayor mejora en el bienestar mental entre abril y julio. En dicho estudio se ha visto que el optimismo había aumentado más en los países que habían establecido restricciones de movimiento por la pandemia que entre los que no lo habían realizado (Eurofound, 2020), contradiciendo la influencia que se supone produce el confinamiento en la salud mental (del Pino et al., 2020).

En Ecuador la variable etnia tiene gran importancia por la cantidad y diversidad de etnias existentes en el país. Es conocido que es una variable que influye en la desigualdad respecto a la atención sanitaria que reciben (Thakur & Jain, 2020), por lo que se puede deducir que habrá influido en los efectos de la salud mental durante la pandemia por COVID-19. En nuestro estudio no estaba contemplada la variable etnia y no se han observado diferencias en PD ni por provincias ni por tipo de vivienda.

Se ha podido determinar ante los resultados preliminares que en efecto la población ecuatoriana ha tenido una exacerbación dentro del PD a causa de la pandemia COVID-19, pero es muy interesante relacionar además este PD con el WE y ambiente de trabajo dentro de esta misma población.

Uno de los hallazgos de interés presentados en este estudio señala la asociación entre la inseguridad percibida por los trabajadores en sus centros de trabajo para protegerse de un posible contagio y un mayor nivel de PD, lo que corrobora la evidencia previa sobre los efectos en la salud mental del COVID-19 en el ambiente laboral (Bazzoli & Probst, 2022). Por ello, los responsables de proteger la salud de los trabajadores en las empresas deberían tener en cuenta estos aspectos, ya que la disponibilidad inmediata de las medidas preventivas afecta al posible contagio de la enfermedad, y también a la salud mental de los trabajadores. No obstante, este particular no es el único factor a tener en cuenta para reducir el nivel de PD de los trabajadores, puesto que se ha podido constatar cómo el nivel de conflicto en la empresa, la carga de trabajo, el estrés laboral o el grado de satisfacción con su trabajo son también factores intrínsecamente asociados con la salud mental en momentos de pandemia. Es

importante no sólo con conocer que la pandemia por COVID-19 está generando alteraciones de salud física y mental (Oakman et al., 2022) sino identificar los factores que más influyen, al objeto de poder instaurar las medidas preventivas para reducir dichas repercusiones en la salud (Bourmistrova et al., 2022).

No se han encontrado diferencias entre el PD percibido de los que teletrabajaban y aquellos que lo hacían fuera de casa, algo que sí se ha visto en otros estudios donde el PD era mayor entre los que trabajaban fuera de casa (Gómez-Salgado et al., 2020). Esto se podría justificar por la presencia de factores estresores psicosociales en el teleworking (Xiao et al., 2021), y por el riesgo de contagio durante las actividades esenciales de quienes trabajaban fuera de sus casas (Ruiz-Frutos et al., 2020).

Algo que todavía no se ha podido aclarar es el desarrollo de posibles efectos a largo plazo. Cada vez tenemos más información sobre síntomas que se mantienen en el tiempo, otros que aparecen mucho después de haberse curado la enfermedad, o incluso algunos que se presentan en personas que habían cursado el contagio de forma asintomática (Higgins et al., 2021). Sin embargo, son menos los estudios que han analizado los efectos a largo plazo en la salud mental (Bourmistrova et al., 2022; Manchia et al., 2022; Titze-de-Almeida et al., 2022) y que pueden encuadrarse entre las futuras líneas de investigación. Se plantea oportuno evaluar los efectos a largo plazo en la salud mental de la población, una vez conocida la aparición de síntomas en circunstancias alejadas en el tiempo o pacientes asintomáticos (Godeau et al., 2021).

Este estudio ha permitido identificar variables que pueden predecir el desarrollo de PD durante la primera fase de la pandemia por COVID-19 en Ecuador, valorando factores como el WE y ambiente de trabajo. Para la correcta interpretación de los resultados es conveniente tener en cuenta que los datos se obtuvieron durante la primera fase de la pandemia mediante un muestreo no probabilístico y que durante estas fechas se impuso un estricto sistema de confinamiento en el que solo podían salir de sus domicilios los profesionales sanitarios y aquellas personas que realizaban actividades esenciales (Gobierno de Ecuador, 2020). Las diferencias de los resultados observados en este estudio con otros estudios publicados a nivel internacional han sido consideradas y pueden justificarse por variaciones en el porcentaje de personas afectadas, el tipo de sistema sanitario o las medidas de restricción de movimientos

adoptadas, así como que la población analizada fuera exclusiva o no de trabajadores sanitarios.

Otro hallazgo interesante de este estudio apunta a la asociación entre la percepción de inseguridad de los trabajadores en sus lugares de trabajo para protegerse de una posible infección y un mayor nivel de PD, lo que corrobora la evidencia previa sobre los efectos en la salud mental de la presencia de COVID-19 en el entorno laboral (Bazzoli & Probst, 2022). Los responsables de proteger la salud de los trabajadores en las empresas deben tener en cuenta estos aspectos, considerando que la disponibilidad inmediata de medidas preventivas de contacto y respiratorias podría reducir la potencial propagación de la enfermedad. Este no es el único factor a considerar para reducir el nivel de PD en los trabajadores. Se ha demostrado que el nivel de conflictividad en la empresa, la carga de trabajo, el estrés laboral o el grado de satisfacción con el trabajo también son factores intrínsecamente asociados a la salud mental en tiempos de pandemia. La seguridad percibida del lugar de trabajo y la eficacia de las medidas preventivas dadas en el trabajo también se han identificado como los factores más influyentes para reducir el impacto en la salud mental (Bourmistrova et al., 2022).

En el presente estudio no se encontraron diferencias entre el PD percibido entre quienes teletrabajaban y quienes trabajaban fuera de casa, algo que sí se ha encontrado en otros estudios donde el PD era mayor entre quienes trabajaban fuera de casa (Gómez-Salgado et al., 2020). Esto podría estar justificado por la presencia de estresores psicosociales en el teletrabajo (Larrea-Araujo et al., 2021) y por el riesgo de contagio durante las actividades esenciales de quienes trabajan fuera del hogar (Ruiz-Frutos et al., 2020).

5.3. LIMITACIONES

Con respecto a la revisión sistemática relacionada con el objetivo número 1, tenemos una serie de limitaciones. En primer lugar, se debe comentar que se consideraron artículos que solo estaban escritos en inglés o español, pudiéndose dar el caso de dejar fuera artículos que cumplieran el resto de los requisitos de inclusión. En segundo lugar, es importante recalcar que 13 de los 24 artículos están enfocados en personal sanitario y el resto en trabajadores en general pero relacionados al área administrativo o de servicios, por lo tanto, los resultados no pueden ser extrapolados a profesiones de otros sectores como el de manufactura, construcción, alimentos, etc.

Con respecto a los estudios relacionados con el objetivo número 2 y 3, las limitaciones del presente estudio están relacionadas con la técnica de muestreo no probabilística empleada, así como la desigualdad entre los porcentajes de hombres y mujeres participantes (una 69% de la muestra fueron mujeres), que podría afectar a los resultados desde la perspectiva de género.

Además, es importante mencionar que los datos recogidos fueron exclusivamente en la primera fase de la pandemia, durante estas fechas se impuso un estricto sistema de confinamiento en el que solo podían salir de sus domicilios los profesionales sanitarios y aquellas personas que realizaban actividades esenciales (Gobierno de Ecuador, 2020).

5.4. POSIBLES LÍNEAS DE INVESTIGACIÓN FUTURAS

Los estudios realizados están basados en datos recogidos en la primera fase de la pandemia en Ecuador, por lo tanto, se podría realizar un estudio actualizado para identificar las secuelas que ha dejado la pandemia (Covid Persistente o Long Covid) incluyendo un estudio amplio desde lo físico, psicosocial y/o mental.

Los resultados indican que el PD puede verse afectado positiva o negativamente por otros factores, como los sistemas de organización de cada país y sus políticas públicas, por lo cual se podría realizar un estudio considerando esta variable de manera particular, además sería interesante analizar resultados a nivel de continentes, para analizar si la cultura también tiene un impacto significativo.

Realizar un estudio sobre el impacto psicológico que generó el teletrabajo en Ecuador y como impacta en la productividad laboral, puesto que antes de la pandemia todas las actividades laborales en el país eran presenciales, por la pandemia se migró al teletrabajo, sin embargo al no estar preparados para esta situación muchos no tenían todos los recursos básicos, como el tener incluso un espacio trabajar, compartir equipos y no poder separar las actividades familiares de las laborales, también podría haber afectado el WE y la calidad del mismo.

En futuros estudios, independientemente de su alcance sería importante considerar la variable género en porcentajes muy similares para no afectar los resultados, y con respecto a población trabajadora abarcar todos los sectores o realizar estudios por sector y luego

compararlos, ya que los estudios analizados en la revisión sistemática se enfocaban a personal administrativo y de ciertos servicios, pero no se conoce resultados en otros sectores esenciales como los de manufactura (especialmente alimentos y farmacéutica), logística y transporte, construcción, etc.

Otro estudio que podría ser fundamental es conocer la relación que tiene el compromiso y los accidentes laborales, durante la primera fase de la pandemia puesto que los sectores esenciales seguían laborando de manera presencial.

6. CONCLUSIONES

1. En base a la revisión sistemática podemos afirmar que el malestar psicológico tiene una asociación de impacto sobre el compromiso laboral y el *burnout*. Habiendo factores que predisponen al WE como son: el trabajo significativo, la atención plena o incluso la inteligencia emocional.

2. Otro resultado de la revisión es que, para minimizar los efectos negativos sobre el compromiso laboral, los empleadores deben promover estrategias que faciliten a los trabajadores comprender su contribución a las metas de la organización, su impacto en el cuidado y bienestar de otros y su propio crecimiento personal. Además, deben asignar recursos suficientes y proporcionarles información clara que les facilite hacer frente cuando se presente una crisis sanitaria.

3. Durante la primera fase de la pandemia por COVID-19 el 62.72% de la población ecuatoriana presentó malestar psicológico (GHQ ≥ 3). Siendo las variables que mejor lo predicen: ser mujer, no convivir con hijos o menores de 16 años, tener estudios universitarios, no tener una buena percepción de la salud y por el número global de síntomas de la enfermedad.

4. Entre las variables que no se ha podido evidenciar que predicen el nivel de malestar psicológico se encuentran: trabajar en una empresa pública frente a hacerlo en una empresa privada o ser autónomo, disponer de mascota o padecer algún grado de discapacidad.

5. Otros factores que en gran medida (70,2%) predijeron el desarrollo de PD durante la primera fase de la pandemia por COVID-19 en Ecuador además de ser mujer, fueron: tener bajo niveles de vigor en la dimensión compromiso con el trabajo, alto estrés laboral y baja satisfacción laboral.

6. El nivel de malestar psicológico durante la primera fase de la pandemia por COVID-19 difiere por países y entre las explicaciones de dichas diferencias pueden encontrarse las políticas públicas instauradas para prevenir los efectos, el sistema sanitario o factores culturales que pueden predisponer al cumplimiento de las medidas preventivas.

7. En relación, al compromiso laboral, la muestra alcanzó un nivel intermedio en su valoración global, así como en sus tres dimensiones. Sin embargo, los individuos con mayores niveles de compromiso tenían niveles más bajos de PD.

8. Con respecto, al ambiente de trabajo, se concluye que es necesario apoyo psicológico para quienes atienden a los pacientes y sus familias. Además, reducir los conflictos familiares, la carga de trabajo y el estrés laboral podría ser beneficioso para aumentar la satisfacción laboral durante situaciones similares a la pandemia.

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8. ANEXOS

8. ANEXO 1. REGISTRO EN PROSPERO

Relationship between Psychological distress and work engagement in workers during COVID-19: a systematic review

Review methods were amended after registration. Please see the revision notes and previous versions for detail.

Citation

Kenny Escobar-Segovia, Ingrid Adanaque-Bravo, Cristian Arias-Ulloa. Relationship between Psychological distress and work engagement in workers during COVID-19: a systematic review. PROSPERO 2022 CRD42022350318 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42022350318

Review question

How does stress or burnout affect work engagement during the COVID-19 pandemic?

Searches [1 change]

A systematic review was carried out following the PRISMA format in the electronic databases PubMed, Scopus, Web of Science, in November 2022.

As restrictions we have the language, type of article, articles that are complete, that have undergone peer review and that measure mental health.

Search strategy:

PubMed ((stress*[Title/Abstract] OR burnout[Title/Abstract]) AND (COVID-19[Title/Abstract])) AND (Work engagement[Title/Abstract])

WoS stress* OR burnout (Topic) and COVID-19 (Topic) and Work engagement (Topic)

Scopus (TITLE-ABS-KEY (stress* OR burnout) AND TITLE-ABS-KEY (covid-19) AND TITLE-ABS-KEY (work AND engagement))

Types of study to be included [1 change]

Inclusion criteria:

• Original articles published in English and Spanish

• Typology: original articles

• Articles that measure any of the following values and/or effects: level of burnout, level of depression, level of stress and commitment to work, number of cases of professionals with depression, stress and/or anxiety, comparison of levels before vs during the COVID-19 pandemic and comparison by country/type of profession/service

Exclusion criteria:

• Studies with a language other than English and Spanish.

• Population: unemployed people

Studies of low scientific-technical quality after applying the quality assessment tool.

• Articles that do not answer the research question and are not related to the objective of the review.

• Typology: opinion articles, editorials and letters to the director/editor, systematic reviews, brief/short communication and case reports.

Condition or domain being studied

The objective of this study is to assess how stress or burnout affect work engagement during the COVID-19 pandemic.

Participants/population

The study focuses on the general population.

Intervention(s), exposure(s)

Psychological distress (stress or burnout) on the general population affect work engagement during COVID-19.

Comparator(s)/control

Level of burnout, stress and anxiety, number of cases of people with depression, comparison of levels before vs. during the COVID pandemic and comparison according to type of profession, influencing factors.

Context

It is desired to know clearly the affectation in the work engagement in the general population (strees or burnout) in studies of good scientific quality and that there is no bias or biased opinion of the author or authors, and the articles that have evaluated mental health in

the COVID-19 pandemic.

Main outcome(s)

It is expected to review how the COVID-19 pandemic has affected the study staff, in terms of psychological distress, we hope to find high levels of psychological distress in the study population.

Measures of effect

A list of studies will be presented, classified by authors and year of publication, country, design and objective, participants, instrument and main results; in addition, the results of Joanna Briggs Institute (JBI University of Adelaide) critical evaluation tool will be added.

Additional outcome(s)

None.

Data extraction (selection and coding)

The search strategy used was collected, carried out on July 10, 2022 for each of the aforementioned databases during the

search process. Two researchers will carry out the searches independently, eliminating duplicate studies and selecting the articles likely to be included after reading the abstract and title according to the previously established criteria. Subsequently, the same two authors will review the full text of the studies potentially susceptible to inclusion in the review and the decision to include or exclude studies in it

will be made by consensus. Discrepancies will be resolved by a third author. Levels of stress, depression and anxiety will be assessed in the selected studies, the quality of the papers will be assessed using the critical appraisal tools of the Joanna Briggs Institute (JBI) for non-randomized studies at the University of Adelaide, for qualitative and quantitative papers. Prevalence, measures of association of studies using qualitative data synthesis methods will be taken into account. No meta-analysis.

Risk of bias (quality) assessment

The PRISMA methodology will be followed, there will be two reviewers, in case of disagreement or a third the party will decide. To avoid bias, original articles, meta-analyses, systematic reviews, brief/short communications and case reports will be reviewed. Articles available in full text. Peer submitted articles revision. Items that measure any of the following values and/or effects: level of burnout, level of depression, stress level and anxiety level, number of cases in the general population with stress or burnout of levels before vs COVID-19 pandemic and comparison by country/type of profession/service.

Strategy for data synthesis

The results of the selected studies will be detailed, analyzing the impact on the psychological distress in the general population during COVID-19. For it, levels of stress or burnout in the selected studies, the quality of the works will also be evaluated using the Joanna Briggs Institute (JBI) critical evaluation tools for non-randomized studies at the University of Adelaide, qualitative and quantitative works will be reviewed, prevalences will be taken into account, measures association of studies using qualitative synthesis methods data. Meta-analysis will not be performed.

Analysis of subgroups or subsets

None planned.

Contact details for further information

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Type and method of review

Epidemiologic, Systematic review

Anticipated or actual start date

10 July 2022

Anticipated completion date [1 change]

31 January 2023

Funding sources/sponsors

This study is supported by the University of Huelva, Huelva - Spain

Conflicts of interest

Language

English

Country

Ecuador, Spain

Published protocol

https://www.ssph-journal.org/articles/10.3389/ijph.2022.1605605/full

Stage of review [1 change]

Review Completed published

Details of final report/publication(s) or preprints if available [1 change]

Adanaqué-Bravo I, Escobar-Segovia K, Gómez-Salgado J, García-Iglesias JJ, Fagundo-Rivera J, Ruiz-Frutos C. Relationship between psychological distress, burnout and work engagement in workers during the COVID-19 pandemic: A systematic review. Int J Public Health [Internet]. 2023;67. Available at: http://dx.doi.org/10.3389/ijph.2022.1605605

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

Burnout, Professional; COVID-19; Humans; Psychological Distress; Surveys and Questionnaires; Work Engagement

Date of registration in PROSPERO

01 August 2022

Date of first submission

31 July 2022

Stage of review at time of this submission [1 change]

Stage	Started	Completed
Preliminary searches	Yes	Yes
Piloting of the study selection process	Yes	Yes
Formal screening of search results against eligibility criteria	Yes	Yes
Data extraction	Yes	Yes
Risk of bias (quality) assessment	Yes	Yes
Data analysis	Yes	Yes

Revision note

the paper is already published

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

01 August 2022
07 November 2022
07 November 2022
08 January 2023

8. ANEXO 2. INDICIOS DE CALIDAD Y PUBLICACIÓN DE ARTÍCULO 1

RELATIONSHIP BETWEEN PSYCHOLOGICAL DISTRESS, *BURNOUT* AND *WORK ENGAGEMENT* IN WORKERS DURING THE COVID-19 PANDEMIC: A SYSTEMATIC REVIEW

Adanaqué-Bravo I, Escobar-Segovia K, Gómez-Salgado J, García-Iglesias JJ, Fagundo-Rivera J, Ruiz-Frutos C. Relationship Between Psychological Distress, Burnout and Work engagement in Workers During the COVID-19 Pandemic: A Systematic Review. International Journal of Public Health. 2023 Jan 5;67:1605605. doi: 10.3389/ijph.2022.1605605. PMID: 36686389; PMCID: PMC9849247.

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Relationship Between Psychological Distress, Burnout and Work Engagement in Workers During the COVID-19 Pandemic: A Systematic Review

Ingrid Adanaqué-Bravo[1], *Kenny Escobar-Segovia*[2], *Juan Gómez-Salgado*[3,4]*, *Juan Jesús García-Iglesias*[3], *Javier Fagundo-Rivera*[5] *and Carlos Ruiz-Frutos*[3,4]

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Objective: The psychological distress that the COVID-19 pandemic has produced has generated negative effects on workers, and in one way or another this has affected their work engagement within companies. The aim of this research was to assess the relationship between psychological distress, burnout and work engagement in workers during the COVID-19 pandemic.

Methods: A systematic review was carried out following the PRISMA methodology, taking articles from the Scopus, Pubmed, and Web of Science databases from the beginning of the pandemic until November 2022. The methodological quality was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools for non-randomised studies.

Results: 24 articles were selected. All the articles found an association between psychological distress, burnout or other factors and work engagement.

Conclusion: The COVID-19 pandemic has had an impact on work engagement and a negative relationship with psychological distress and burnout, hence the importance of companies taking measures to minimise levels of psychological distress and burnout.

Keywords: burnout, COVID–19, psychological distress, stress, work engagement

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INTRODUCTION

As the pandemic has progressed, some studies have dealt with its negative effects, specifically concerning the psychological impact it has had on workers from different areas worldwide (1–4), as well as the impact that certain variables such as the type of work, organisational climate, among others, may have on workers (5). According to Matziari et al. (6), burnout and work engagement are psychological reactions that are developed when individual characteristics interact with job characteristics, and which are based on the Job Demands Resources Model (7). One of these variables is work engagement, which is defined as the relationship between work and the conviction of being able to perform it effectively. This variable in turn involves a series of dimensions such as

vigour (high energy level), dedication (identification with the work), and absorption (concentration on the work) (8). In this sense, work engagement is an important part of the productivity development of companies, where high standards of job satisfaction, adequate satisfaction with family life, and sufficient self-perceived health are required (9).

The COVID-19 pandemic has in one way or another affected the work engagement of workers in general, as determined by studies carried out in different countries and work areas (10–12). Likewise, other factors may also influence work engagement such as sickness presenteeism (SP) (defined as continuing to perform duties in the workplace despite working below full capacity due to illness) (13), meaningful work (10), sleep quality (14), emotional intelligence (15), etc.

It should be noted that, during the pandemic, companies had to find alternative ways of doing work, in some cases shifting to teleworking or even modifying working hours. In other companies, they switched to mixed types of hiring, i.e., people working from home and people who had to go to the office despite the confinement that was implemented in most countries, and this situation could have also affected engagement (16–18).

Psychological distress can negatively affect work engagement. In a study on non-healthcare workers, it was found that there were statistically significant differences between people with and without psychological distress. However, workers with the highest percentages of psychological distress showed low levels for the subdimensions of work engagement (vigour, dedication, and absorption) (11). It should be taken into account that chronic interpersonal work-related stress or stressors can also trigger emotional exhaustion, cynicism, or detachment from work, which may lead to chronic stress or burnout (19).

Burnout can be a predisposing indicator for the development of social and mental disorders, especially important in those people who have a certain predisposition for psychological disorders, taking medications or committing suicide attempts, among others (20). Any change can generate a stressful situation, even increased in a context of uncertainty and complexity of approach. This psychological distress, persisted over time, can lead to burnout. This can be a major public health problem in which work, family, and society interrelate and in which an interdisciplinary and community approach is needed. In fact, during COVID-19, many workers have been particularly exposed to the disease, some have lost their jobs, and many have seen their working conditions changed, with the consequent mental impact that this entails (21). For example, in a longitudinal study conducted on a sample of 1,308 Finnish workers, an increase in psychological distress and technostress was found during the COVID-19 crisis especially derived from a change in the conditions of their work, being especially greater in young women (22). Similarly, some occupational groups such as cleaners or healthcare workers have seen their workload increased in a context of greater exposition to COVID-19, in order to address emerging needs in society (23). Other professional groups have had to modify their way of working (teleworking, change of destinations and functions, etc.) and others have been forced into unemployment or temporary unemployment (24).

The aim of this research was to assess the relationship between psychological distress, burnout and work engagement in workers during the COVID-19 pandemic through a systematic review based on the PRISMA methodology.

METHODS

Study Design

A systematic review was conducted following the guidelines of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement (25). To this end, the authors relied on a protocol to carry out this systematic review, which was registered in the International Prospective Register for Systematic Reviews (PROSPERO) of the University of York, with identification code CRD42022350318.

Search Strategy

The search was carried out in the Pubmed, Scopus, and Web of Science electronic databases, based on the keywords from the research question generated by following the PICOT strategy (**Table 1**).

The Medical Subject Headings (MeSH) descriptors used were: Psychological Distress; Burnout; Work engagement; and COVID-19. In order to enlarge the scope of the search, synonymous terms were used to complete the search based on the MeSH descriptors, linked using the Boolean operators AND and OR (**Table 2**).

Table 3 shows the search strategy used, carried out on 5 November 2022, for each of the databases during the search process.

Selection Criteria

The following selection criteria were used to select the articles:

Inclusion Criteria

- Original articles published in English and Spanish.
- Type: original articles.
- Articles measuring any of the following values and/or effects: level of burnout, level of depression, level of stress and work engagement, number of cases of professionals with depression, stress and/or anxiety, comparison of levels before vs. during the COVID-19 pandemic, and comparison by country/type of profession/service.

Exclusion Criteria

- Studies written in a language other than English and Spanish.
- Population: unemployed people.
- Studies of low scientific-technical quality after applying the quality assessment tool.
- Articles that did not answer the research question and were not related to the objective of the review.
- Typology: opinion articles, editorials and letters to the editor, systematic reviews, short communications, and case reports.

TABLE 1 | PICOT format (COVID-19, Ecuador, 2020–2022).

Population	Healthcare and non-healthcare workers
Intervention	Level of stress and/or burnout
Comparator	Work engagement
Outcomes/Results	Levels by type of work, differences between healthcare staff/non-healthcare staff, differences between frontline staff vs. non-face-to-face staff
Time	During the COVID-19 pandemic
Research question	How does stress and/or burnout affect work engagement in workers during the COVID-19 pandemic?

TABLE 2 | Search terms (COVID-19, Ecuador, 2020–2022).

MeSH	Terms
Psychological Distress	Psychological Distress, Emotional Distress, Emotional Stress
Professional Burnout	Professional Burnout, Occupational Burnout, Career Burnout
Work Engagement	Work Engagement, Employee Engagement, Staff Engagement, Workplace Engagement, Employee Participation, Worker Participation, Staff Participation
COVID-19	COVID-19, 2019-nCoV Infection, SARS-CoV-2 Infection, 2019 Novel Coronavirus Disease, COVID-19 Virus Infection, Coronavirus Disease 2019, 2019-nCoV Disease, COVID-19 Pandemic

TABLE 3 | Search strategy and databases (COVID-19, Ecuador, 2020–2022).

Database	Search strategy	Search date	Results
Pubmed	((stress*[Title/Abstract] OR burnout [Title/Abstract]) AND (COVID-19 [Title/Abstract])) AND (Work engagement [Title/Abstract])	5 November 2022	63
Scopus	(TITLE-ABS-KEY (stress* OR burnout) AND TITLE-ABS-KEY (COVID-19) AND TITLE-ABS-KEY (work AND engagement))	5 November 2022	257
Web Of Science	stress* OR burnout (Topic) and COVID-19 (Topic) and Work engagement (Topic)	5 November 2022	384
Total			704

Data Collection and Extraction

Once the data extraction was completed, two authors were in charge of the selection process by independently following the established inclusion and exclusion criteria, eliminating duplicate studies, and selecting articles that could be included after reading the abstract and title. Subsequently, the same two authors reviewed the full text of the studies which were potentially eligible for inclusion in the review, reaching a consensus; discrepancies were resolved by a third author.

Assessment of Methodological Quality

After selecting the articles for the review, two reviewers independently determined the methodological quality of the selected studies using the Joanna Briggs Institute (JBI) of the University of Adelaide, Australia, critical appraisal tools for non-randomised studies (26). This allowed assessing the methodological quality of the studies and determining the extent to which a study had avoided or minimised the risks of bias in its design, conduct, and/or analysis. The cross-sectional quantitative study versions were used (27) (8 items) with a cut-off point of 6 for inclusion in this review (**Tables 4**, **5**).

RESULTS

The initial search strategies identified a total of 704 references, which were screened according to the topic of this review. A total of 24 studies (5, 10, 11, 15, 28–47) were finally selected (**Figure 1**).

All the analysed studies were quantitative. Of the 24 studies, 18 were conducted in the first phase of the pandemic, i.e., from December 2019 to June 2020, and 6 were conducted based on data collected until August 2021. There were 13 of the 24 studies focused on healthcare workers, with 9,469 participants divided as follows: 6,707 were women, representing 71%. In addition, of these 13 studies, 9 were specifically focused on nurses. The remaining 11 studies were focused on general workers, including social workers, software developers, teachers, and service personnel. In 1 of the 11 studies, there were 1,038 participants, but no data by sex was offered. In the other 10 studies, there were 7,828 participants in total, of which 4,539 were women, representing 58% of the samples. Of the 24 articles, 11 were conducted in Europe and 8 in Asia, 1 in Africa, 1 in Oceania, and 3 in the Americas.

TABLE 4 | Study scoring according to the JBI tools (COVID-19, Ecuador, 2020–2022).

Study	JBI	The participants and the environment are described in detail	Inclusion criteria are clearly defined	Exposure was measured in a valid and reliable way	The criterion used to measure the condition was objective	Confounding factors were identified	Strategies for dealing with confounding factors	Validly and reliably measured results	Appropriate statistical analysis was used
(42)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(10)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(43)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(44)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(45)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(46)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(11)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(21)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(47)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(29)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(30)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(15)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(5)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(31)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(32)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(33)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(34)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(35)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(36)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(37)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(38)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(39)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(40)	6/8	YES	YES	YES	YES	NA	NA	YES	YES
(41)	6/8	YES	YES	YES	YES	NA	NA	YES	YES

DISCUSSION

The aim of this review was to assess the relationship between psychological distress (stress or burnout) and work engagement during the COVID-19 pandemic. To do so, the levels of stress, burnout, and work engagement were analysed in the 24 selected studies, and other factors were added that also influence work engagement.

All the articles carried out their studies with full-time employees over 18 years of age, but it is important to highlight the participation of women, with 71% in the group of healthcare staff and more than 50% in the case of general workers. In the case of healthcare personnel, the cause could be that most of the articles focused on nurses, a position in which women stand out.

With regard to healthcare workers, a study conducted in China among 258 nurses and 61 physicians (30) analysed the negative impact of the COVID-19 pandemic and work commitment, and the results showed that they were negatively correlated, but that if the necessary training was provided, the perception of risk decreased and work commitment increased. In another study in the same country with 1,040 nurses, it was also found that work engagement was negatively correlated with stress and burnout, and that women had lower levels of work engagement than men, with 43.02 and 47.25, respectively (35), as in the study by Jia et al. (28). Although these are values of engagement considered at a moderate level, in this study the factors that influenced to obtain better levels of work engagement were: being between 31 and 40 years old, being married, having more than two children, having a master's degree, among others. Job stress and presenteeism had a significant negative impact on task performance, which is related to two of the three dimensions of work engagement, namely absorption and dedication. In a study also conducted in China, with 4,261 physician participants, moderate levels of work engagements were found (28). The factors that influenced these results were being between 41 and 50 years old, being married, and having university education. In these studies there was a negative correlation between psychological distress and work engagement, that certain socio-demographic factors could influence, such as sex, being married, age, or years of experience, and that the assistance and training that the organisation can offer were also determinants in reducing the perception of risk and, therefore, increasing work engagement.

Directing our vision towards healthcare workers, in a study conducted in the Netherlands on burnout and work engagement, no significant differences were found between men and women (29). However, residents who were on the COVID-19 area had higher levels of burnout than those who were not assigned to the COVID-19 patients, with 16% and 7.6%, respectively. This may be due to working conditions (workload and concurrence of negative events) and the emotional impact that the pandemic had, especially in the initial stages of it (48). Regarding work engagement, residents who were assigned to intensive care patients evidenced a higher impact of the COVID-19 pandemic on their daily routine. Yet, no differences were observed before and after

TABLE 5 | Characteristics of the studies included in the systematic review (COVID-19, Ecuador, 2020–2022).

Study	Context	Study objective	Type of study	Participants	Methods	Main findings	JBI
(42)	Jilin Province, Northeast China	To evaluate the direct effects of work stress, health status and presenteeism on task performance, and further explore the mediating effects of health status and presenteeism, hoping to provide theoretical basis for improving the performance of medical staff	A cross-sectional study	4,261 medical staff	The Challenge and Hindrance-Related Self-Reported Stress scale, Short Form-8 Health Survey scale, Stanford Presenteeism Scale and Task Performance Scale	Work stress and presenteeism had a significant negative effect on task performance of medical staff, unlike health status, that had a significant positive effect on task performance. Health status and presenteeism mediated the relationship between work stress and task performance	6/8
(10)	New Zealand	To address the research gap of examining the relationship between meaningful work and dimensions of job burnout with work engagement as the mediator, especially in times of the COVID-19 pandemic	A cross-sectional study	530 social workers	The partial least squares structural equation modelling (PLS-SEM). The survey consisted of three instruments: WAMI, UWES-9 and MBI-22	Work engagement was found to have mediating effects on the relationships between meaningful work and all the dimensions of job burnout. Age does not have any moderating effect on these relationships	6/8
(43)	Netherlands	To achieve insight into COVID-care participation of surgical residents in the Netherlands, the impact of COVID-19 on the experienced quality of surgical training, and the influence on Burn out and Work Engagement compared with the non-COVID-19 period in January 2020	A cross-sectional study	317 surgical residents	Dutch questionnaire "Utrecht Burn-out Scale," derived from the MBI, was surveyed, and also the UWES was collected	The study shows a significant impact of the first months of the COVID-19 pandemic on the surgical trainee programme. The study emphasises the need for adequate guidance of all surgical residents regarding surgical training and education	6/8
(44)	Chengdu, China	To examine whether an employee's perceived COVID-19 crisis strength will decrease an employee's work engagement and taking charge at work	A multi-study	258 nurses: study 1; 61 medical professionals employed in ICU	First, hypotheses were tested by conducting a time-lagged field survey of nurses who provided care to COVID-19 patients (Study 1). Next, the research question was addressed by conducting a longitudinal field experiment (Study 2) in an intensive care unit (ICU) for COVID-19 patients in critical condition. Instruments/variables: Perceived COVID-19 Crisis Strength, Work Meaningfulness, UWES-9, and Taking Charge at Work	The research demonstrates that organizations can soften the impact of this crisis on their employees by providing interventions designed to weaken perceived COVID-19 crisis strength and strengthen work meaningfulness	6/8
(45)	Wuhan, China and United Kingdom	To examine whether mindfulness may be able to neutralise the negative effects of the COVID-19 stressors on work engagement through the mediating role of sleep duration	A multi-study	97 general workers from Wuhan, China and 140 from the United Kingdom	In Study 1, a field experiment was conducted in Wuhan, China during the lockdown between 20 February 2020, and 2 March 2020, in which state mindfulness was induced by randomly assigning participants to either a daily mindfulness practice or a daily mind-wandering practice. In Study 2, in a 10-day daily diary study in the United Kingdom between 8 June 2020, and 19 June 2020, the results were replicated from Study 1 using a subjective measure of COVID-19 stressors and a daily measure of state mindfulness	Findings of the studies contribute to the employee stress and wellbeing research as well as the emerging mindfulness research in the organizational literature. As a result, mindfulness buffers the negative effect of COVID-19 stressors on work engagement mediated by sleep duration	6/8
(46)	Turkey	To explore software professionals' mental wellbeing and work engagement and the relationships of these variables with job strain and resource-related factors in the forced home-based work setting during the COVID-19 pandemic	A cross-sectional study	321 software professionals	Survey including questions on sociodemographic characteristics, home-based work-related parameters during COVID-19, validated scales related to the participants' mental wellbeing, work engagement, sleep quality, work-related psychosocial characteristic of job strain and decision latitude, and close-ended questions for work-life balance and physical exercise habits, was administered, all in Turkish	The results indicate that despite the negative effect of job strain, the resource-related protective factors, namely, sleep quality, decision latitude, work-life balance, and exercise predict mental wellbeing. Additionally, work engagement is predicted by job strain, sleep quality, and decision latitude	6/8

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TABLE 5 | (*Continued*) Characteristics of the studies included in the systematic review (COVID-19, Ecuador, 2020–2022).

Study	Context	Study objective	Type of study	Participants	Methods	Main findings	JBI
(11)	Spain	To assess the effects of the COVID-19 on the physical and mental health of non-healthcare workers. Design: Observational descriptive cross-sectional study	A cross-sectional study	1,038 non-healthcare worker (461 worked away from home and 577 workers who were working from home)	Instruments/variables: work engagement UWES-9, sense of coherence (SOC-13), and mental health (Goldberg GHQ-12)	At low levels of engagement, the percentage of distress is higher (77.9%). Low levels of sense of coherence correspond to the highest percentages of distress (86.3%). The 94.1% believe it necessary for professionals and volunteers involved in COVID-19 to receive psychological support. Low comprehensibility is mediated by the perception of stress; if the perception is low, comprehensibility is modulated by the level of significance; if it is low, it generates 95.9% of distress	6/8
(21)	Spain	To analyse the perception of COVID-19 by nurses, especially about measures, resources, and impact on their daily work. Also, to analyse these professionals' psychosocial risks and the relationship between perception of COVID-19 and these risks	A descriptive correlational study	92 nurses	Data were collected *via* an online self-completed questionnaire during the rise of the pandemic from 29 March to 8 April, when the number of infections went from 78,797 to 146,690	There seems to be a negative and significant relationship between the information available to nurses, the measures implemented, and resources with some of their psychosocial risks, and a positive one with job satisfaction and work engagement. There is also a positive and significant relationship only between the impact of COVID-19 and their work inequality, but not for other risks	6/8
(47)	Spain	To assess psychological distress (PD) of occupational healthcare workers and its relationship with their work engagement (WE) and work environment characteristics	A cross-sectional study	499 nurses and physicians	Variables included demographic data, work environment characteristics, UWES-9, and GHQ-12	A total of 65.53% of the occupational healthcare professionals who participated had PD. No significant differences were found between physicians and nurses. However, PD was higher among women and public sector workers. Variables that facilitate developing PD were work stress, workload, the presence of labour conflict, and less job satisfaction	6/8
(29)	Punjab, Pakistan	To identify the dominance of psychosocial job demands and job resources on the wellbeing of nurses with an indirect effect on psychological health factors	A cross-sectional study	208 nurses	Time-lag strategy to collect data at the start of pandemic (Time 1) and then again 3 months later (Time 2)	Three stages were achieved through this analytic study on the nurses' samples to determine the predictive abilities for the quality of the psychosocial work environment model. And as a result, from partial to full mediation, stress and eustress significantly impact the psychosocial work environment of nurses	6/8
(30)	Wuhan, Hubei Province, China	To clarify both the potential influencing factors and the current status of front-line nurses' work engagement, and thus provide a References for targeted interventions	A cross-sectional study	1,040 nurses	A large sample survey was conducted at the end of February 2020 in a designated hospital treating coronavirus disease 2019 patients in Wuhan, the capital of Hubei Province, in China	The final model interpreted 27.3% of the variance, of which each block could explain 11.7%, 10.3% and 7.9% R2 changes including sociodemographic characteristics, stress and workload, respectively. Work engagement was negatively correlated with stress and workload	6/8
(15)	Spain	To assess the mediating role of work engagement in the direct impact of emotional intelligence on healthcare professionals' work performance	A cross-sectional study	1,549 healthcare workers (62.1% women; mean age 36.51 years) (26.9% nurses)	A total of 1,549 healthcare workers (62.1% women; mean age 36.51 years) filled the Wong and Law Emotional Intelligence Scale, the UWES, and the Individual Work Performance Questionnaire	The results demonstrated in this investigation evidence the significant direct effect of emotional intelligence toward individual work performance, as well as the mediating involvement of engagement, in a sample of Spanish healthcare professionals considering the three constructs of engagement, vigour, which emerged over dedication, and absorption as the most decisive engagement dimension	6/8
(5)	Switzerland	To examine the impact of work modalities, job-related,	A cross-sectional study	1,373 Public Employees (19–60 years)	Keeping in mind the pandemic and telework conditions, the survey	Results show that while the forced telework period positively influenced	6/8

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TABLE 5 | (*Continued*) Characteristics of the studies included in the systematic review (COVID-19, Ecuador, 2020–2022).

Study	Context	Study objective	Type of study	Participants	Methods	Main findings	JBI
		relational, and organizational climate variables on employees' engagement, exhaustion, and perceived performance both before and during the forced teleworking period			method was a quantitative methodology, which was deemed to be most suitable for collecting data from participants. Data were collected from a single Swiss Cantonal administration located in the French speaking part of the country	employees' work autonomy and work–life balance, it negatively influenced their degree of collaboration and perceived job strain but did not affect their engagement levels	
(31)	Netherlands	To study burnout and its association with work engagement and resilience among Dutch intensivists in the aftermath of the COVID-19 crisis	A cross-sectional study	162 intensivists	The questionnaire consisted of questions on personal and work-related characteristics and validated questionnaires: the MBI, the UWES, and the Resilience Evaluation Scale	A raised risk for burnout was found among Dutch intensivists in the wake of the COVID-19 crisis. However, this was still low compared to other countries. Work engagement was found to be high. Burnout was inversely related to, but not fully explained by, resilience and work engagement	6/8
(32)	Pakistan	To assess how individuals perceive WFM, which is affecting their daily work routine in the pandemic	A cross-sectional study	Teachers from government schools in Pakistan, mean age 37.2	The multilevel modelling (MLM) approach was applied for analysing the data to model the relationship between day-level social media misinformation, perceived COVID-19 threat, anxiety, social media fatigue, and work engagement	Findings revealed that misinformation and COVID-19 threat increase anxiety and social media fatigue, resulting in a lower level of work engagement. This study also found that resilience as a coping mechanism reduces the adverse effects of anxiety on work engagement	6/8
(33)	Italy	To investigate the impact that family-work conflict, social isolation, distracting environment, job autonomy, and self-leadership have on employees' productivity, work engagement, and stress experienced when WFH during the pandemic	A cross-sectional study	A total of 209; mean age 49.81; minimum: 25; maximum: 65	This cross-sectional study analysed data collected through an online questionnaire completed by 209 employees WFH during the pandemic. The assumptions were tested using hierarchical linear regression	Family-work conflict and social isolation were negatively related to WFH stress, which was not affected by autonomy and self-leadership. Individual and work-related aspects both hinder and facilitate WFH during the COVID-19 outbreak	6/8
(34)	Germany	To investigate the stress perception of German outpatient nurses during the COVID-19 pandemic. The aim was to determine associations between their pandemic related stress and variables such as sleep quality, work engagement, pandemic-related worries and concerns	A cross-sectional study	166 nurses	An online questionnaire study was conducted among German outpatient nurses from outpatient care services	Pandemic-related stress proved to be a predictor of poorer quality of sleep among outpatient nurses (H1) and Pandemic-related stress proved to be a predictor of lower work engagement among outpatient nurses (H2). Pandemic-related concerns and worries were not positively related to higher stress experience among outpatient nurses (H3)	6/8
(35)	Poland	To examine how different forms of work affect employee behaviour	A cross-sectional study	544 participants	This study applies work engagement (the key construct in organisational psychology) as the dependent variable and considers its determinants in the form of stress factors and attitudes toward remote work. UWES-9, Stress Management Standards, and Attitudes toward Remote Work were used	The obtained results indicate that there were no significant differences between groups in terms of the intensity of work engagement. For on-site workers, the most important factors were control and role definition	6/8
(36)	Zagazig, Egypt	To assess the mattering perception, feelings of burnout and work engagement amongst nurses during the coronavirus outbreak	A cross-sectional study	280 nurses	A self-administered questionnaire containing four parts: characteristics, mattering at Work Scale, Burnout scale, and Engagement scale	There was a statistically significant positive correlation between engagement and mattering perception. However, there was a statistically significant negative correlation between burning out with engagement and mattering	6/8
(37)	United States	To understand how nurses' work engagement has been affected by COVID-19	A cross-sectional study	107 nurses	A descriptive, cross-sectional design was used. A survey plus the Fear of COVID-19 scale, the Utrecht Work Engagement Scale, and three open-ended questions were used	The type of education significantly correlated with engagement scores, with in-service education having the highest scores. Nurses continue to leave the profession because of high patient census and acuity and inadequate staffing	6/8

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TABLE 5 | (*Continued*) Characteristics of the studies included in the systematic review (COVID-19, Ecuador, 2020–2022).

Study	Context	Study objective	Type of study	Participants	Methods	Main findings	JBI
(38)	Ecuador	To find the relationship between work environment factors and work engagement among the Ecuadorian general population during the first phase of the COVID-19 pandemic to assess their levels of psychological distress	A cross-sectional study	2,161 participants	Sociodemographic and work environment data, work engagement (UWES-9 scale) scores, and General Health Questionnaire (GHQ-12) scores were collected	The factors that, to a large extent (70.2%), predicted the development of PD during the first phase of the COVID-19 pandemic in Ecuador were being a woman and having low levels of the vigour work engagement dimension, high work stress, and low job satisfaction	6/8
(39)	United Kingdom (UK)	To describe the work engagement perceived by UK workers during the COVID-19 pandemic	A cross-sectional study	1,085 participants	Data were collected using an online questionnaire and the UWES-9	Participants with lower satisfaction (21.8%) gave significantly low or very low UWES-9 scores in 58.5% of the cases. Greater work engagement was obtained with more resources and less conflict, risk, and stress. In cases where there had been contact with COVID-19, this was associated with slightly lower levels of work engagement	6/8
(40)	Mainland China	To clarify the mediating mechanism and boundary conditions between risk perception and employee work engagement, explore the causal mechanism of work engagement, and provide practical organisational guidance for maintaining employee work engagement in response to the COVID-19 epidemic	A cross-sectional study	285 participants	Regression analysis and bootstrap tests were conducted on SPSS and AMOS to verify the relevant hypotheses	It is demonstrated that the moderating effects of employee psychological resilience are all positive on mediating effects of risk perception, anxiety and work engagement. For employees with high psychological resilience, the mediating effect of risk perception on work engagement is stronger through anxiety	6/8
(41)	Mexico	To identify the presence of high levels of work engagement and burnout in COVID-19 response teams (RT) during the COVID-19 pandemic in a secondary care level	A cross-sectional study	156 participants	UWES-9 and the MBI-HSS scales	High levels of work engagement were identified in 55.1% of the COVID-19 RT members, while the high levels of burnout were 3.2%. The prevalence of work engagement was higher than that of burnout, but this did not imply protection against exhaustion	6/8

WAMI, work and meaning inventory; UWES-9, Utrecht work engagement scale; MBI-22, Maslach Burnout Index.

the pandemic for residents who did not care for COVID-19 patients, possibly due to a specific training programme for surgery and strict hygiene conditions, that may lead to the high level of enthusiasm among residents in that country (29). In Spain, a study on 92 nurses found that, despite the pandemic and its impact, work engagement was moderate to high, perhaps because this group of professionals was aware of the importance of their work (47). In the same country, the study carried out on 499 nursing staff participants revealed that work engagement was 34.80 and the participants with low levels of engagement had high levels of psychological distress 76.7% (33), which indicated a negative correlation between these two variables. Meanwhile, in Germany, in a study on 166 nurses, it was found that half of the participants had low levels of stress, during the COVID-19 pandemic (39). It is worth mentioning that the data in this study were taken up to May 2021, the second year of the pandemic, which may partly explain the high level of work engagement. Also, in a Dutch study on 162 intensivists, 98 men and 64 women, burnout levels were 5.1% and 12.5%, respectively, while work engagement was assessed at low, moderate, and high levels, with men reporting 43.9% and women 31%. Although burnout values were low, women had a higher level, and women's work engagement scores were better than men's (36). In the Netherlands and Germany, similar levels were found to another study conducted in nurses in Egypt, with low levels of psychological distress were found, and moderate to high work engagement, while in Spain the levels of distress were higher with respect to the results of these countries, and work engagement was moderate. It could be deduced then that the organisational systems of each country and the allocated resources in each hospital can also influence psychological distress and, therefore, the level of work engagement, in addition to other factors such as sex, age, or being married.

In Mexico, there was a prevalence of high levels of work engagement, higher than levels of burnout, but this did not imply protection against burnout (46). The results regarding work engagement were very similar to those found in the United States (42), which may be explained by the fact that these two studies were conducted in the second year of the pandemic, by which time more was already known about how to cope with the pandemic.

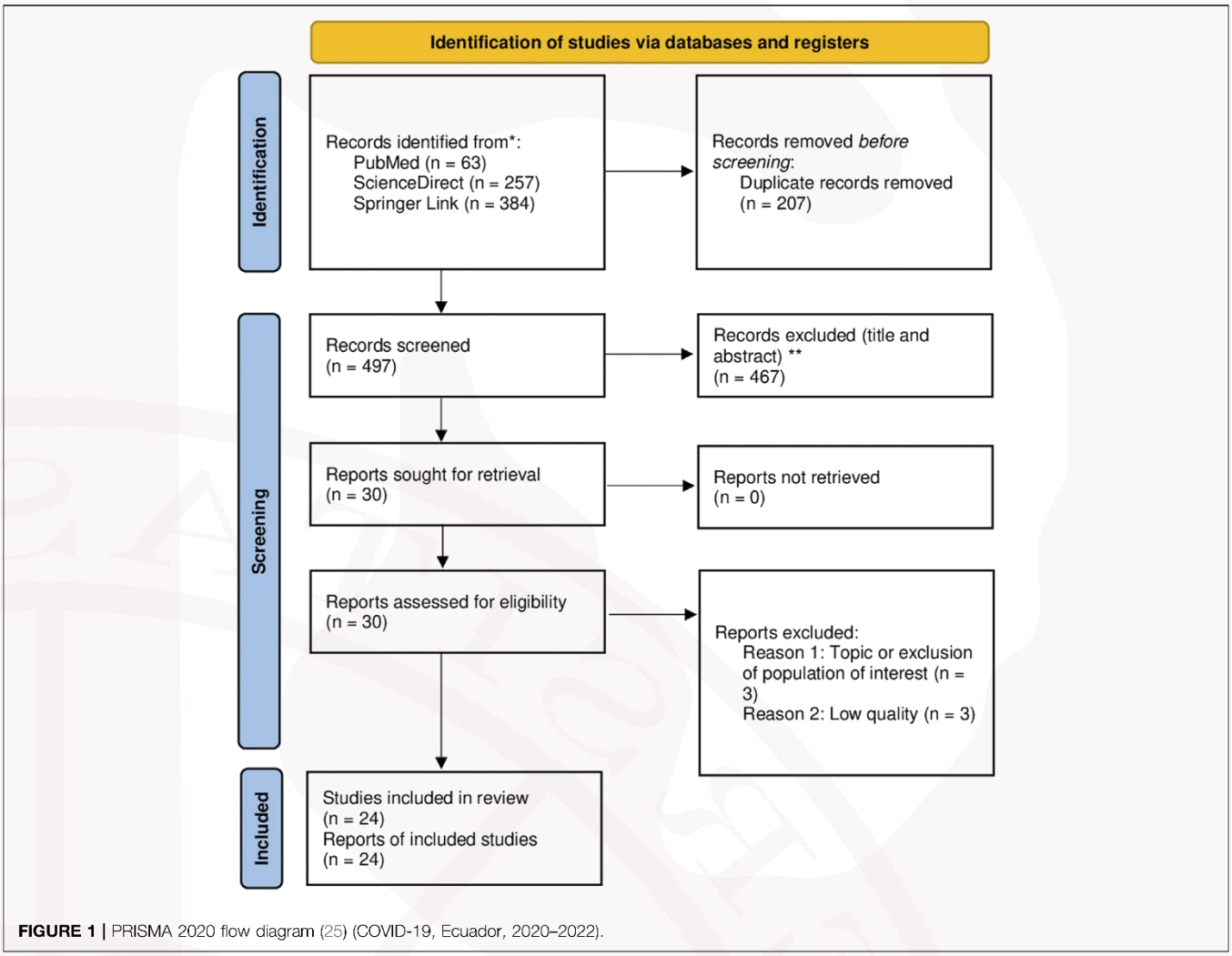

FIGURE 1 | PRISMA 2020 flow diagram (25) (COVID-19, Ecuador, 2020–2022).

With regard to general workers, a study conducted in Ecuador on 2,161 general workers determined that 62.72% of the population had psychological distress, with women having higher levels (69.1% vs. 55%) (43). As shown by studies on healthcare workers, sex, age, having children or not, level of education, and being married are also factors that influence the results (49). In another study conducted in Spain on non-healthcare workers, it was found that at low levels of engagement there were higher percentages of psychological distress (77.9%), and this same trend was observed both in the group of workers who worked away from home and among those who worked from home (11). Following this, a study conducted in the UK on 1,038 general workers (44), in line with a study conducted in New Zealand on 530 social workers (10), found that work engagement was an effective predictor of reduced burnout, cynicism, and feelings of reduced professional competence.

In general, results from several countries show that psychological distress (stress or burnout) does have a significant negative effect on work engagement. However, other factors such as presenteeism may also play a role (28). On its part, meaningful work is another factor that can influence work engagement (10) and understanding the needs of healthcare workers during a pandemic is critical to attracting and retaining them (42). On the other hand, mindfulness and the quantity and quality of sleep are also factors to be considered, as indicated by a study conducted in Wuhan, China and replicated in the UK with general workers. The results revealed that there was a positive relationship between the amount of sleep and work engagement (31). Emotional intelligence is another factor to analyse, and a study conducted with Spanish workers indicated that there was evidence of a significant direct effect of emotional intelligence on individual job performance, as well as a mediating effect regarding work engagement (15).

The present study offers a number of limitations. Firstly, it should be noted that articles that were only written in English or Spanish were included, which may have left out articles that met the rest of the inclusion criteria. Secondly, it is important to stress that 13 of the 24 articles focused on healthcare workers and the rest on general workers, yet working in administrative or service areas. Therefore, the results cannot be extrapolated to professions in other sectors such as manufacturing, construction, food, etc. The generalisation of the results of this review should be

considered with caution, as the main data come from studies in different countries, with different instruments and methodologies.

Conclusion

Based on the articles reviewed, it can be concluded that psychological distress or stress levels do have a significant impact on work engagement, as does burnout. However, there are other influencing factors such as presenteeism, meaningful work, mindfulness, and even emotional intelligence. On the other hand, with respect to healthcare workers and despite the COVID-19 pandemic, the results concerning work engagement have been moderate to high, while the results regarding psychological distress (stress or burnout) do differ among countries.

To minimize stress levels and encourage work engagement, organizations must take actions to ensure safety in the work environment, for example, promoting strategies that enable employees to understand their contribution to the goals of the organisation, their impact on the care and wellbeing of others, and their own personal growth. In addition, the ability of institutions to allocate the necessary resources and information to cope with a health crisis can be crucial to ensure that despite the heavy workload that healthcare workers have in such situations, specifically nurses and healthcare professionals, satisfaction can be derived from what they do and, at the same time, this may become a protective factor against physical and psychological harm.

AUTHOR CONTRIBUTIONS

All the authors have intellectually contributed to the work, met the conditions of authorship, and approved its final version. This work is original and has not been previously published and is not under review by any other journal. This manuscript conforms to the ICMJE recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals. Conceptualization, formal analysis, investigation, methodology, resources, visualization, writing—original draft, writing—review and editing, IA-B, JG-I, JG-S, JF-R, KE-S, and CR-F; data curation, IA-B, CR-F, and JG-I; project administration, JG-S and IA-B; software, IA-B, JG-I, and JG-S; supervision, JG-S, JG-I, JF-R, and CR-F; validation, JG-I, KE-S, JG-S, and JF-R.

CONFLICT OF INTEREST

The authors declare that they do not have any conflicts of interest.

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8. ANEXO 3. INDICIOS DE CALIDAD Y PUBLICACIÓN DE ARTÍCULO 2

PSYCHOLOGICAL DISTRESS DURING THE FIRST PHASE OF THE COVID-19 PANDEMIC IN ECUADOR: CROSS-SECTIONAL STUDY

Gómez-Salgado J, Adanaque-Bravo I, Ortega-Moreno M, Allande-Cussó R, Arias-Ulloa CA, Ruiz-Frutos C (2021) Psychological distress during the first phase of the COVID-19 pandemic in Ecuador: Cross-sectional study. PLoS ONE 16(9): e0257661. https://doi.org/10.1371/journal.pone.0257661

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RESEARCH ARTICLE

Psychological distress during the first phase of the COVID-19 pandemic in Ecuador: Cross-sectional study

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Abstract

Background

The effects of the COVID 19 pandemic on the mental health of citizens from Asia, Europe, or North America begin to be known, but there are fewer publications on its effects in Latin American countries. In this study, its impact in Ecuador is described, with data collected during the first phase of the pandemic. The objective of this study was to analyse the level of psychological distress in the population of Ecuador during the first phase of the COVID-19 pandemic.

Methods and findings

Cross-sectional observational study. The questionnaires were collected through an online self-developed questionnaire, between April 2 and May 17, 2020, using the non-probabilistic sampling methodology: snowball method. The variables considered were sociodemographic variables, physical symptoms, health status, COVID-19 contact history, preventive measures, and the General Health Questionnaire (GHQ-12). The percentage with high psychological distress (PD) (GHQ-12 $\geq$ 3) has been somewhat lower than that found in Europe, being women, young people, people with higher level of education, living without a partner, not living with children or children under 16 years of age, and with worse perception of health the groups with the highest PD. Differences have been observed with European studies regarding common symptoms, preventive measures to avoid contagion, percentage of infected relatives, or diagnostic tests performed.

Conclusions

The use of the same research instrument, validated in Europe and adapted to Ecuador, has facilitated the comparison of the found results and differences, which can be explained by

socio-economic or cultural variables, the health system, level of information, or by preventive measures put in place to prevent the pandemic.

Introduction

The SARS-CoV-2 virus disease (COVID-19) has caused a global health crisis with dramatic consequences. On 31 December 2019, the Wuhan Municipal Health Commission in China notified the World Health Organization (WHO) 27 cases of pneumonia of unknown origin [1]. On 30 January 2020, the WHO declared an international public health emergency following the COVID-19 outbreak that began in Wuhan, China. By that time, 83 cases had been identified in 18 different countries outside China [2, 3]. Following the increase in spread to more than 118,000 cases in 114 countries and 4291 deaths, on 11 March 2020, the WHO reported the pandemic status of the situation [4].

In Ecuador, the first confirmed case was reported on 29 February 2020 [5], and on 11 March, the Ministry of Health declared the State of Health Emergency in the National Health System (Agreement No. 00126–2020). Subsequently, restrictive measures were established on 16 March to prevent the spread of the virus, when the President of the Republic decreed the state of emergency (Executive Decree 1017), lasting 60 days [6]. The Committee on Emergency Operations (COE, for its acronym in Spanish) of the National Risk and Emergency Management Service, monitored compliance with quarantine and the set of measures that suspended the exercise of the right to freedom of movement, freedom of association and assembly, closure of the territory at the air, sea, and land level, implementing curfew, suspension of face-to-face working hours, and suspension of face-to-face classes in all levels nationwide. The state of emergency was renewed for 30 more days (Decree 1052), then for 60 (Decree 1074), and finally another 30 days (Decree 1126) [6], ending the state of alarm on September 13, 2020. The basic preventive measures proposed by the Emergency Operations Committee to prevent SARS-CoV-2 contagion were to keep a 2 metre-distance, cover mouth when sneezing, and to wash hands constantly [7].

The Ecuadorian National Emergency Operations Committee, together with the Decentralised Autonomous Governments (GAD, for its acronym in Spanish), coordinated the implementation of measures to prevent the spread of the virus and established protocols for economic reactivation [8]. In compliance with WHO's recommendation to act against a variant of SARS CoV-2, which resulted in increased cases due to agglomerations, a new state of emergency was declared on 21 December, 2020 (Decree 1217) [6].

Cases had been reported in Ecuador and Brazil by February 2020, and also in early March in Chile, Colombia, and Peru [9]. In May, an increase in the number of confirmed infected cases and deaths in Brazil, Peru, Chile, Colombia, Argentina, Bolivia, Uruguay, and Paraguay [10] was evident. In September, the Latin American and Caribbean countries that had reported a higher number of confirmed cases and deaths per million inhabitants were Brazil, Peru, and Chile [9]. As of March 26, 2021, Ecuador officially reported 318,656 confirmed cases and 16,582 deaths, with 141,191 vaccine doses administered. Worldwide, Brazil was in third place at the contagion level and second in deaths, followed by Colombia (11th in contagions and deaths), Argentina (12th in contagions and deaths), Peru (18th in contagions and 14th in deaths), Chile (25th in contagions and 21st in deaths), and Ecuador (47th in contagions and 24th in deaths) [11, 12].

The mental health effects of previous or current SARS-Cov-2 pandemics [13, 14] are known, with healthcare workers being the best studied group due to the dangers arising from

proximity to infected people and having to manage situations of stress and uncertainty [15]. Healthcare workers are at increased risk of developing the disease [16] and spreading it [17] due to their proximity while treating infected people. Early mental effects of the pandemic [18], with high levels of anxiety and depression [19–21], insomnia [15], emotional disorders [22], or post-traumatic stress disorder [23] have been found.

Studies in Latin America have found that 66% of respondents had had a deceased family member, friend, or acquaintance, with mental health effects affecting their degree of care, understanding, decision-making, and overall well-being [24, 25]. The vulnerable groups identified are women, young people, self-employed workers, and people with previous psychological processes with treatments that had been interrupted due to the pandemic [26]. The hypothesis is that the current pandemic generates effects on mental health, but with the need for studies to corroborate it [27], as has been found in studies conducted at the international level [28].

The objective of the study was to analyse the level of psychological distress in the population of Ecuador during the first phase of the COVID-19 pandemic, identifying the possible association with sociodemographic variables, presence of physical symptoms, and contact history in order to be able to establish preventive measures and find out whether the results differ from those found in other geographical areas.

Materials and methods

Design type and sample

Cross-sectional observational study. This investigation followed the STROBE guidelines.

The total number of questionnaires analysed was 3640, collected between 2 April and 17 May, 2020. The inclusion criteria were: being 18 years of age or older, residing in Ecuador during the pandemic, and accepting the informed consent. Questionnaires were received from the 24 provinces of Ecuador. A strict selection criterion was adopted, eliminating all questionnaires with a response rate of less than 99% (857 questionnaires out of 4497 received).

Instruments

This study is integrated into a research coordinated from Spain which is carried out in a total of 16 countries, Latin American, European, African, and Asian, at different stages of adaptation and implementation, and using a similar methodology, except for the differences generated with the adaptation to each country or the dates of data collection. The original questionnaire has been validated for the Spanish population, adapting questions from previous studies [29] and reviewing literature on publications from previous epidemics [15]. To facilitate its validation and to not delay its process over time, because of the need to collect data on the effects at the onset of the pandemic, previously validated instruments were included. The draft questionnaire was analysed by a panel of experts consisting of psychologists, occupational physicians and nurses, epidemiologists, and public health experts. A pilot test was conducted involving 57 people from different professions, educational levels, sex, age, and geographic areas, and no understandability problems or relevant incidents were identified, with a Cronbach's alpha coefficient of 0.86. Subsequently, the questionnaire was culturally adapted to the Ecuadorian population, modifying the questions that had difficulty of being understood by the citizens of the country.

The questionnaire includes sociodemographic data: sex, age, cohabiting people, level of studies, employment status, having children or not, pets, or a disability.

Psychological adjustment was measured using a widely used tool to assess mental health and psychological well-being: the Goldberg's General Health questionnaire (GHQ-12) [30].

This questionnaire consists of 12 items with four answer options. The first two are assigned a score of 0 points and the last two are assigned a score of 1 point, with a total score ranging from 0 to 12. The set cut-off point for the general population was 3, considering psychological distress for those with scores greater than or equal to 3.

Data were also collected on perceived symptoms over the last 14 days: cough, headache, rhinitis, fever, myalgia, dizziness, sore throat, chills, diarrhoea, or shortness of breath. This was provided by the World Health Organization on the most common physical symptoms associated with COVID-19. The subjects were questioned about whether they had a chronic illness or if they were taking medication at the time of answering the questionnaire; similarly, if they had been hospitalised or had required medical care in the last 14 days.

They were also asked about contact history in the last 14 days, including three items: possible contact (more than 15 min less than two metres away); casual contact with confirmed infected persons; or contact with people or materials suspected of being infected, as well as the existence of an infected family member or co-worker diagnosed by diagnostic testing. Self-perceived health status was measured with five response levels, from lousy to optimal, grouping them for the final analysis into two categories, being this a well-known good indicator for predicting mortality [31].

Preventive measures were assessed through questions with five answer choices, categorised from never to always, regarding how often the following behaviours were identified: covering mouth with elbow when coughing or sneezing; avoiding sharing utensils (e.g. fork) during meals; washing hands with soap and water; washing hands with hydroalcoholic solution; washing hands immediately after coughing, touching the nose, or sneezing; washing hands after touching potentially contaminated objects; wearing a mask regardless of the presence of symptoms; leaving at least a metre and a half distance between others.

Procedure

Data were collected through an online questionnaire, the Qualtrics storage and surveys platform®. In this way, the confinement measures established during the pandemic did not interfere with the data collection process. For sampling, the non-probabilistic sampling methodology was used: snowball methods, the same methodology chosen to carry out the study in Europe on Living, Working and COVID-19 by Eurofound [32]. Universities and scientific societies were involved in the process of disseminating information, as well as social media and the press. The questionnaires were collected in the first phase of the pandemic, between 2 April and 17 May 2020, with the health alert being decreed in Ecuador thirteen days before the start of the study (Fig 1).

Data analysis

After cleaning-up the database, frequencies, mean, and standard deviation were determined based on the type of variable. The normality study of data distribution was carried out using the Kolmogorov-Smirnov test, obtaining a value of $p>0.20$. Therefore, the chi-squared association test and the Student's T test were implemented for independent samples, which made it possible to contrast whether there was existence or not of a relationship between the different variables (sociodemographic, physical symptoms, self-perceived health status, history of contact with people infected with SARS-CoV2 virus or contaminated material, and preventive measures taken) with respect to the presence or not of psychological distress.

The binary logistic regression analysis identified among the studied variables those that played a more relevant role, and a model was built to determine whether psychological distress was present. The selection of variables was carried on forward, considering the likelihood ratio

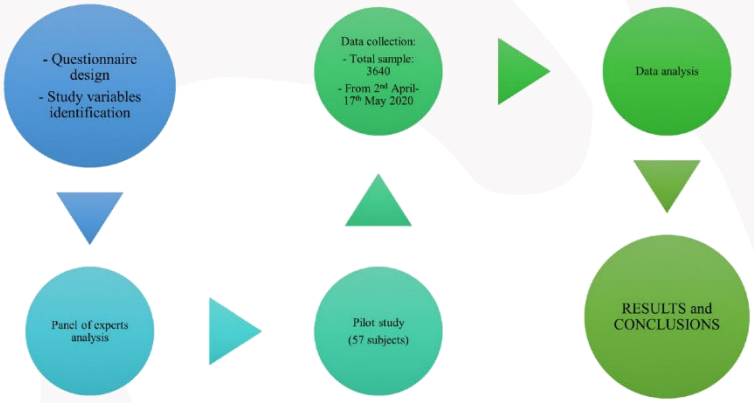

Fig 1. Study phases.

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statistic. Odd Ratios (OR) were estimated, and confidence intervals were provided for this association measure. In addition, different goodness-of-fit measures were used: Hosmer-Lemeshow test, percentage of correctly classified values, sensitivity, and specificity.

All analyses were carried out with the SPSS 26.0 statistical software (IBM, Armonk, NY, USA).

Ethical principles

The ethical principles set out in the Declaration of Helsinki have been followed. The participants' permission was obtained through an informed consent in which they expressed their voluntary desire to participate in the study. At the beginning of the online survey, subjects had to indicate that they were of legal age and that they participated voluntarily in the study in order to access the content of the study. The data was recorded anonymously and treated confidentially. The study has been authorised in Ecuador by the Research Ethics Committee of the San Gregorio de Portoviejo University (USGP-DI-049-2021), and, in Spain, by the Research Ethics Committee of Huelva, belonging to the Regional Ministry of Health of Andalusia, Spain (PI 036/20).

Results

Sociodemographic data

The sample analysed, amounting to a total of 3640 subjects, is slightly higher for the female sex (54.92%), with an age at which the percentage at 30 years or less was of 52.81%, and a marital status in which 61.43% had no partner. As regards the educational level, 74.15% had upper secondary education or lower, and 25.85% had university studies or higher. In relation to their occupation, 45.07% were public employees, 39.84% worked in a private company, and 15.09% were self-employed. In the sample, the percentage of those who didn't have children was lower (45.4%). A majority claimed to have a pet (58.27%), and only 2.36% had some kind of disability (Table 1).

Psychological distress in the sample

As can be seen, in Table 2, 62.72% of the sample has psychological distress (PD), with a cut-off point of GHQ $\geq$ 3. The overall score on the 12 items is M = 4.41 (SD = 3.49).

Table 1. Association between sociodemographic variables and psychological distress during the pandemic.

		GHQ				
	N (%)	Yes	No	χ^2	p	Odds Ratio (Confidence Interval at the 95 level)
	(N = 3640)	(N = 2283)	(N = 1357)			
Sex						.546
Male	1641 (45.1)	55.0	45.0	76.822	< .001	(.477, .626)
Female	1999 (54.9)	69.1	30.9			
Age*						1.119
30 years old or younger	1900 (52.8)	64.1	35.9	2.650	.104	(.977, 1.281)
Older than 30	1698 (47.2)	61.4	38.6			
Marital status						1.169
Without a partner	2236 (61.4)	64.1	35.9	4.947	.026	(1.019, 1.341)
With a partner	1404 (38.6)	60.5	39.5			
Level of studies						.779
Upper secondary school or lower	941 (25.9)	58.3	41.7	10.401	.001	(.679, .907)
University or higher	2699 (74.1)	64.2	35.8			
You are**						
Self-employed	326 (15.1)	61.0	39.0	5.760	.056	
Public worker	974 (45.1)	65.3	34.7			
Private-company worker	861 (39.8)	60.0	40.0			
Children						.804
Yes	1652 (45.4)	59.9	40.1	10.087	.001	(.702, .920)
No	1988 (54.6)	65.0	35.0			
Pet						1.011
Yes	2121 (58.3)	62.6	37.4	0.025	.874	(.882, 1.159)
No	1519 (41.7)	62.9	37.1			
Disability						.907
Yes	86 (2.4)	60.5	39.5	0.191	.662	(.586, 1.405)
No	3554 (97.6)	62.8	37.2			

*Grouped variable from the median value.

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The three items with the highest rating (M>2.5) have been items 5: Have you felt constantly overwhelmed and stressed? M = 2.66 (SD = 0.94); item 7: Have you been able to develop your normal daily activities? M = 2.62 (SD = 0.92); and item 2: Have your worries made you lose a lot of sleep? M = 2.57 (SD = 1.00). In contrast, items with a lower rating (M<2 or less than 2) have been items 11: Have you thought that you are a worthless person? M = 1.39 (SD = 0.78); item 10: Have you lost confidence in yourself? M = 1.74 (SD = 0.92); and item 4: Have you felt capable of making decisions? M = 1.99 (SD = 0.78) (Table 2).

Sociodemographic data and psychological distress

Women report a higher percentage of psychological distress (69.1%) than men (55.0%), p < .001, OR = 0.546, 95% CI = (0.477, 0.626). People without a partner have higher PD (64.1%) than those who have a partner (60.5%), p = .026, OR = 1.169, 95% CI = (1.019, 1.341). Those with university studies show a higher percentage of PD (64.2%) than those with a lower level of studies (58.3%), p < .001, OR = 0.779, 95% CI = (0.679, 0.907). Not having children is associated with a higher percentage of PD, 65.0% vs. 59.9%, p < .001, OR = 0.804, 95% CI = (0.702, 0.920) (Table 1).

Table 2. Psychological distress: General health questionnaire GHQ-12.

	TOTAL (N = 3640)
Item	**M (SD)**
1. Have you been able to properly concentrate on what you were doing?	2.44 (0.76)
2. Have your worries made you lose a lot of sleep?	2.57 (1.00)
3. Have you felt you are developing a relevant role in life?	2.00 (0.88)
4. Have you felt capable of making decisions?	1.99 (0.78)
5. Have you felt constantly overwhelmed and stressed?	2.66 (0.94)
6. Have you felt unable to overcome your difficulties?	2.18 (0.96)
7. Have you been able to develop your normal daily activities?	2.62 (0.92)
8. Have you been able to properly face your difficulties?	2.23 (0.75)
9. Have you felt unhappy or depressed?	2.36 (0.98)
10. Have you lost confidence in yourself?	1.74 (0.92)
11. Have you thought that you are a worthless person?	1.39 (0.78)
12. Do you feel reasonably happy given the circumstances?	2.13 (0.79)
GHQ-12 (Score on a scale of 12)	4.41 (3.49)
Cut-off point $\geq$ 3	**N (%)**
Yes	2283 (62.72)
No	1357 (37.28)

Cronbach's $\alpha = 0.815$.

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There are no statistically significant differences in PD regarding age, type of employment (public, private, or self-employed), having a pet, or having a disability (Table 1).

Physical symptoms, health-related variables and psychological distress

Among the most common symptoms in the 14 days prior to the participation in the study (Table 3) the ones with a higher percentage of cases are headache (40.80%), coryza (24.12%), and sore throat (22.83%). In contrast, less frequent symptoms have been fever (> 38˚C for at least 1 day) 4.42%, chills (4.48%), and breathing difficulty (4.78%). The set of symptoms, with an M = 1.59 (SD = 1.86), is associated with the level of PD, M = 1.86 (SD = 1.96) for those with PD versus M = 1.14 (SD = 1.56) for those without PD, $p < .001$.

There is a statistically significant difference between having any of the studied symptoms or not and presenting PD, as can be seen in Table 3. The symptoms with a higher percentage that are found among those with PD are: dizziness 79.6%, OR = 2.52, 95% CI = (1.947, 3.274); breathing difficulty 76.4%, OR = 1.98, 95% CI = (1.390, 2.837); diarrhoea 75.5%, OR = 1.96, 95% CI = (1.536, 2.491); fever 75.2%, OR = 1.84, 95% CI = (1.281, 2.652); myalgia 74.8%, OR = 1.99, 95% CI = (1.654, 2.394); and sore throat 73.5%, OR = 1.89, 95% CI = (1.591, 2.242) (Table 3).

The number of symptoms, with a rating of M = 1.59 (SD = 1.86), is different for those with high PD, M = 1.86 (SD = 1.96) and those with low PD, M = 1.14 (SD = 1.56), $p < .001$.

83.49% of participants stated an optimal self-perceived health, relating it to the level of PD. Thus, among those with optimal health, 59.8% had PD, a percentage that increases to 77.5% among those who had mediocre or lousy health, $p < .001$, OR = 0.431, 95% CI = (.351, .529). 19.12% were taking medications, who also had a higher percentage of people with PD, 67.8%, than those who did not take medication, 61.5%, p.002, OR = 1.32, 95% CI = (1.106, 1.571). 6.10% had received medical care over the past 14 days, associated with developing PD; thus, among those who had received medical care in the last 14 days, 71.2% had PD versus 62.2%

Table 3. Association between physical symptoms, current health status, history of contacts, and psychological distress during the pandemic.

	N (%)	GHQ		χ^2	p	Odds Ratio (Confidence Interval = 95)
		Yes (N = 2283)	No (N = 1357)			
PHYSICAL SYMPTOMS						
Fever						
Yes	161 (4.4)	75.2	24.8	11.141	.001	1.843
No	3479 (95.6)	62.1	37.9			(1.281, 2.652)
Cough						
Yes	623 (17.1)	70.5	29.5	19.287	< .001	1.518
No	3017 (82.9)	61.1	38.9			(1.259, 1.830)
Myalgia						
Yes	1485 (40.8)	72.7	27.3	107.436	< .001	2.110
No	2155 (59.2)	55.8	44.2			(1.830, 2.433)
Muscle pain						
Yes	709 (19.5)	74.8	25.2	54.529	< .001	1.990
No	2931 (80.5)	59.8	40.2			(1.654, 2.394)
Dizziness						
Yes	378 (10.4)	79.6	20.4	51.583	< .001	2.525
No	3262 (89.6)	60.8	39.2			(1.947, 3.274)
Diarrhoea						
Yes	388 (10.7)	75.5	24.5	30.411	< .001	1.956
No	3252 (89.3)	61.2	38.8			(1.536, 2.491)
Sore throat						
Yes	831 (22.8)	73.5	26.5	53.778	< .001	1.889
No	2809 (77.2)	59.5	40.5			(1.591, 2.242)
Rhinitis						
Yes	878 (24.1)	69.7	30.3	24.138	< .001	1.502
No	2762 (75.9)	60.5	39.5			(1.276, 1.768)
Chills						
Yes	163 (4.5)	71.8	28.2	5.990	.014	1.539
No	3477 (95.5)	62.3	37.7			(1.087, 2.180)
Shortness of breath						
Yes	174 (4.8)	76.4	23.6	14.705	< .001	1.986
No	3466 (95.2)	62.0	38.0			(1.390, 2.837)
CURRENT HEALTH STATUS						
Self-perceived health						.431
Optimal	3039 (83.5)	59.8	40.2	67.596	< .001	
Mediocre or lousy	601 (16.5)	77.5	22.5			(.351, .529)
Chronic illness						1.177
Yes	560 (15.4)	65.9	34.1	2.850	.091	
No	3080 (84.6)	62.1	37.9			(.974, 1.422)
Currently taking medication						1.318
Yes	696 (19.1)	67.8	32.2	9.559	.002	
No	2944 (80.9)	61.5	38.5			(1.106, 1.571)
Admitted to hosp. Last 14 days						1.340
Yes	26 (0.7)	69.2	30.8	.475	.491	
No	3614 (99.3)	62.7	37.3			(.581, 3.090)

(*Continued*)

Table 3. (Continued)

		GHQ				
	N (%)	Yes (N = 2283)	No (N = 1357)	χ^2	p	Odds Ratio (Confidence Interval = 95)
Medical care last 14 days						1.502
Yes	222 (6.1)	71.2	28.8	7.222	.007	
No	3418 (93.9)	62.2	37.8			(1.114, 2.025)
CONTACT HISTORY						
Contact >15' <2m with infected person						1.504
Yes, or doesn't know	1351 (37.1)	68.6	31.4	31.941	< .001	
No	2289 (62.9)	59.2	40.8			(1.305, 1.734)
Casual contact with infected person						1.487
Yes, or doesn't know	1307 (35.9)	68.6	31.4	29.685	< .001	
No	2333 (64.1)	59.5	40.5			(1.289, 1.716)
Contact with person or material suspected of being infected						1.407
Yes, or doesn't know	1596 (43.8)	67.2	32.8	24.051	< .001	
No	2044 (56.4)	59.2	40.8			(1.227, 1.613)
Infected family member						1.353
Yes, or doesn't know	886 (24.3)	67.9	32.1	13.678	< .001	(1.152, 1.589)
No	2754 (75.7)	61.0	39.0			
Has been performed diagnostic test						.886
Yes	336 (9.2)	60.1	39.9	1.071	.301	(.704, 1.114)
No	3304 (90.8)	63.0	37.0			

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who had not received it, p.007, OR = 1.50, 95% CI = (1.114, 2.025). 15.38% had a chronic disease, and 0.71% had required hospitalisation in that time period, without having found a statistically significant association between these two variables and developing PD (Table 3).

Contact history and psychological distress

37.1% of the sample knew they had had contact with an infected person for more than 15 minutes and/or within less than 2 metres distance or did not know if they had, compared to 62.9% who claimed to not have been in such contact. The percentage with PD among those who had been in contact, or did not know, was greater (68.6%) than among those who had not (59.2%), p<,001, OR = 1.50, 95 CI = (1.305, 1.734) (Table 3).

The percentage of those who had had casual contact with an infected person or did not know if they had (35.9%) was lower than those who claimed to not have been in such contact (64.1%), with higher percentage of PD among those who had had contact (68.6%) than those who had not (59.5%), p < .001, OR = 1.48, 95% CI = 1.289, 1.716). The percentage of those who had had any contact with a person or material suspected of being infected, or did not know if they had, (43.8%) was lower than those who claimed they had not been in such situation (56.4%), with the highest percentage of PD among those who had had contact, p < .001, OR = 1.41, 95% CI = (1.227, 1.613). Similarly, the percentage of those who had had contact with an infected family member or did not know if they had (24.3%) was lower than those who had not (75.7%), p < .001, OR = 1.35, 95% CI = (1.152, 1.589) (Table 3).

9.2% had had a diagnostic test, with no statistically significant association between having PD and having been performed the diagnostic test (Table 3).

Table 4. Contrast between preventive measures and psychological distress during the pandemic.

	TOTAL (N = 3640)				
		GHQ			
	M (SD)	Yes	No	Statistical	p
Covering mouth	4.52 (0.77)	4.49 (0.80)	4.58 (0.72)	-3.244	.001
Avoiding sharing utensils	4.14 (1.23)	4.08 (1.24)	4.24 (1.19)	-3.774	< .001
Washing hands with soap and water	4.73 (0.55)	4.72 (0.57)	4.76 (0.52)	-2.359	0.018
Washing hands with hydroalcoholic solution	4.20 (0.99)	4.18 (0.99)	4.24 (0.99)	-1.817	.069
Washing hands immediately after coughing, touching the nose, or sneezing	4.14 (1.01)	4.10 (1.02)	4.20 (0.98)	-2.918	.004
Washing hands after touching potentially contaminated objects	4.65 (0.69)	4.63 (0.69)	4.68 (0.67)	-1.906	.057
Wearing a mask regardless of the presence of symptoms	4.55 (0.88)	4.52 (0.89)	4.59 (0.87)	-2.062	.039
Leaving at least a metre and a half distance between others	4.51 (0.75)	4.50 (0.74)	4.54 (0.77)	-1.475	0.140

Note: Likert-type answer scale from 1 (Never) to 5 (Always).

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Preventive measures and psychological distress

As can be seen in Table 4, the highest scoring preventive measure is "Washing hands with soap and water" M = 4.73 (SD = 0.55), followed by "Washing hands after touching potentially contaminated objects" M = 4.65 (SD = 0.69). Not too far away and with similar values, there are preventive measures such as: "Wearing a mask regardless of the presence of symptoms" M = 4.55 (SD = 0.88), "Covering the mouth" M = 4.52 (SD = 0.77), and "Keeping at least a metre and a half distance" M = 4.51 (SD = 0.75). On the contrary, the least used preventive measures are: "Washing hands with hydroalcoholic solution" M = 4.20 (SD = 0.99), "Washing hands after coughing, touching the nose or sneezing" M = 4.14 (SD = 1.01), and "Avoiding sharing utensils" M = 4.14 (SD = 1.23).

A statistically significant association has been found between having PD and using the following preventive measures: "Covering the mouth", "Avoiding sharing utensils", "Washing hands with soap and water", "Washing hands after coughing, touching the nose, or sneezing", and "Wearing a mask regardless of the presence of symptoms" (Table 4).

Prediction of psychological distress during the pandemic

Psychological stress during the pandemic in Ecuador is predicted by the variables: being female OR = 1.765, 95% CI = (1.536, 2.028); having university studies OR = 1.284, 95% CI (1.098, 1.501); not having children OR = 1.285, 95% CI = (1.118, 1.477); poor self-perceived health over the past 14 days OR = 1.628, 95% CI = (1.302, 2.037); and a higher number of symptoms OR = 1.209, 95% CI = (1.154, 1.266). These variables predict 65.5%, with a sensitivity/specificity of 25.6 / 88.9, $R^2 = 0.063$. The results of the Hosmer-Lemeshov Test are $\chi^2 = 14.629$ ($p = 0.067$) and of the omnibus test, $\chi^2 = 238.050$ ($p<0.001$).

Discussion

This study allows to know the effects of the SARS-Cov-2 pandemic on the mental health of the Ecuadorian population, in particular at the level of psychological distress (PD) presented in the first phase of the pandemic. It has been assessed how various sociodemographic factors, physical symptoms, history of contact with the virus, and preventive measures intervene in the development of PD. It was found that the results differ from those obtained in other countries, which makes it easier to identify those factors that, after working on them, can help minimise the negative effects of the pandemic for future outbreaks or in future epidemics.

It has been suggested that the limited economic support measures for the most disadvantaged groups, in much of Latin America, must have influenced the effects of COVID-19 on the citizens of these countries [33], and that socio-cultural factors should also be taken into account when analysing the effects of the legislative measures taken by the governments of those countries to combat the pandemic [11]. These are seen as aspects that may explain the differences in study results in Ecuador from those found in countries outside Latin America. A percentage with high psychological distress (GHQ-12: cut-off point $\geq$ 3) has been lower in Ecuador (62.72%) than the one found in Spain (72.0%) [34], with a total scale score (over 12 points) in Ecuador of M = 4.41 (SD = 3.49) versus M = 4.99 (SD = 3.34). These differences may be explained because, in the Ecuadorian sample, the percentage of women and participants with university studies was lower than the one found in the study carried out in Spain, being both situations (higher level of studies and being female) associated with a higher level of PD, a fact found in studies conducted both in Europe [28] and Latin America [26], with the exception of Chile, where men showed higher psychological distress than women [35]. A study in 28 European countries found that men are more optimistic than women about the pandemic and that this difference increased over time [32]. Precisely, this optimism can be related to optimal self-perceived health, as we can see when observing in the present study that an optimal perception is associated with lower PD, something that is not uncommon since it is well known that health perception is a good predictor of mortality (31). Women in Ecuador do not perceive their health as optimal in a higher percentage, statistically significant, than men (54.3% vs. 45.7%, p.074). Global statistics give a higher percentage of COVID-19 contagion lethality among men, but the World Bank says coronavirus is not gender-blind and that women are most affected by the pandemic in terms of health risks, pre-existing job inequalities, and responsibilities to care for others [36], which corresponds to the higher percentage of PD in the women of the study at hand.

Younger people have had their mental health more affected, as well as those who do not live with children and children under the age of 16. The fact that young people have been more affected has been seen in previous studies in Ecuador [35], Spain [35, 37], and Colombia [35], although in Chile the elderly were the most affected [35]. It may seem that living with children or young people generates more work, because of care needs, but this is compensated by the positive influence their company has on mental health, something that has not been seen when having a pet. Likewise, it can be understood that young people suffer from the effects of confinement and movement restriction to reduce contagion in a higher degree. Also, having any degree of disability increases PD, explainable by the low percentage, 2.4% (86 cases), that claimed to have it.

In this study, the most commonly found symptoms were: headache, sore throat, and nasal congestion, while the European study detected two other symptoms in second and third place: cough, and myalgia [34]. With regard to preventive measures to prevent contagion, three have been found with clearly greater use compared to the study carried out in Spain [28]: "Wearing a mask regardless of the presence of symptoms", "Washing hands with hydroalcoholic solution", and "Washing hands after coughing, touching the nose, or sneezing". The social customs or information received may be behind these differences, considering that the data in Ecuador were obtained in a period of time later than in Spain. For example, the use of a mask was not recommended by the WHO at the general level, nor did governments force its use at the earliest moments of the pandemic.

The percentage that claimed that no family member was infected (75.7%) was much lower than that found in previous studies in Spain (97.8%), and the percentage of those who had had a diagnostic test in the previous 14 days (9.2%) was higher than the one found at European level (6.1%) [34]. An explanation of this difference, apart from the socio-economic level and

the health system, may be the different dates for data collection or the type of diagnostic test performed.

In a study conducted in the 28 countries of Europe in two phases of the pandemic, at the beginning and after 6 months of its epidemiological evolution, it has been observed that the countries most affected by the health crisis (France, Italy, and Spain) were among those with the greatest improvement in mental well-being between April and July. The study has shown that optimism had increased more in countries that had established pandemic movement restrictions than among those that had not [32], contradicting the influence of confinement on mental health [38].

In Ecuador, the ethnicity variable is of great importance because of the number and the diversity of ethnicities existing in the country. It is known to be a variable that influences inequality with respect to healthcare services [39], so it can be inferred that it will have influenced the effects of COVID-19 on mental health during the pandemic. In the study at hand, the ethnicity variable was not contemplated, and no differences have been observed in PD either by province or by type of housing.

Having obtained data about the COVID-19 effects in the first phase of the pandemic in Ecuador will allow to complete it in a second phase and thus, know the effect differences on mental health. Moreover, as proposed by Thakur and Jain [40], it is necessary to assess the emotional distress of the population in relation to COVID-19 in order to proceed with the design of intervention strategies for the improvement of mental and public health. Therefore, this study is a first step towards understanding the impact of the pandemic in Ecuador, and its results could help the Ecuadorian authorities in the design of actions to mitigate the emotional impact of the pandemic on their population. Future research should include specific analysis of variables such as economy, culture, ethnicity, or availability of healthcare resources while studying treatment and vaccines, as well as other traditional medicine approaches, to control the pandemic [41].

On the other hand, there are new factors, still subject to effectiveness studies, that could contribute to ameliorating the mental health impact of the COVID-19 pandemic. For example, a high-fibre, plant-based diet, which happens to be consumed by the majority of the Indian population, appears to be advantageous as it confers several health benefits on the host, including enhanced immunity to the COVID-19 disease [42].

In this context, new instruments that measure fear and anxiety towards COVID-19 have been proposed, such as the short questionnaire validated in the Spanish population [43], which facilitate the rapid and reliable evaluation of the presence of anxiety and fear of COVID-19, and thus allow to obtain results in order to implement public health improvement plans.

The limitations of this study are related to the non-probabilistic sampling technique used, as well as the inequality between the percentages of participating men and women (69% of the sample was composed by women), which could affect results from a gender perspective. This issue should be considered in future studies with the aim of obtaining more significant results from a gender perspective. Also, these results should be considered with caution due to the cross-sectional design of this investigation.

Conclusions

The variables that best predict psychological distress in our study were being a woman, not living with children or children under the age of 16, having university studies, perception of the health status, and overall number of symptoms.

It has also been found that young people have had their mental health more affected, foreseeably by worse management of confinement measures or by other variables such as: living without a partner, taking medication, or requiring recent medical care.

On the contrary, among the variables that have not influenced the level of PD, there are: working in a public/private company or being self-employed, having a pet, or having some degree of disability.

The three most common symptoms have been: headache, sore throat, and nasal congestion, and the three preventive measures to prevent contagion: "Wearing a mask regardless of the presence of symptoms", "Washing hands with hydroalcoholic solution", and "Washing hands after coughing, touching the nose, or sneezing".

Differences have been observed, as compared to other European studies, in the lowest overall percentage of people with psychological distress, the type of most common symptoms, preventive measures taken to prevent contagion, infected relatives, or percentage of those who have been performed a diagnostic test. This can be justified by differences in sociodemographic variables, the moment of the pandemic when data were collected, cultural characteristics, health system, or level of received information.

The use of the same country-adapted research instrument has facilitated the comparison of results, even if large economic and socio-cultural differences between countries are maintained. A second study, to be carried out in an advanced phase of the pandemic, will allow to know the differences experienced in the mental health of Ecuadorians between the first phase and after many months of the pandemic.

Supporting information

S1 Checklist. STROBE statement—Checklist of items that should be included in reports of *cross-sectional studies*.
(DOCX)

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8. ANEXO 4. INDICIOS DE CALIDAD Y PUBLICACIÓN DE ARTÍCULO 3

WORK ENGAGEMENT, WORK ENVIRONMENT, AND PSYCHOLOGICAL DISTRESS DURING THE COVID-19 PANDEMIC: A CROSS-SECTIONAL STUDY IN ECUADOR

Ruiz-Frutos C, Adanaqué-Bravo I, Ortega-Moreno M, Fagundo-Rivera J, Escobar-Segovia K, Arias-Ulloa CA, Gómez-Salgado J. Work engagement, Work Environment, and Psychological Distress during the COVID-19 Pandemic: A Cross-Sectional Study in Ecuador. Healthcare (Basel). 2022 Jul 18;10(7):1330. doi: 10.3390/healthcare10071330. PMID: 35885856; PMCID: PMC9324772.

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Work Engagement, Work Environment, and Psychological Distress during the COVID-19 Pandemic: A Cross-Sectional Study in Ecuador

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Abstract: Work environments can interfere with the mental health of workers as generators or reducers of psychological distress. Work engagement is a concept related to quality of life and efficiency at work. The aim of this study was to find the relationship between work environment factors and work engagement among the Ecuadorian general population during the first phase of the COVID-19 pandemic to assess their levels of psychological distress. For this purpose, a cross-sectional, descriptive study using a set of questionnaires was performed. Sociodemographic and work environment data, work engagement (UWES-9 scale) scores, and General Health Questionnaire (GHQ-12) scores were collected. The variables that predicted 70.2% of psychological distress during the first phase of the pandemic were being female, with a low level of vigour (work engagement dimension), being stressed at work, and low job satisfaction. The sample showed an intermediate level of engagement in both the global assessment and the three dimensions, being higher in those without psychological distress. With effective actions on work environment factors, mental health effects may be efficiently prevented, and work engagement may be benefited. Companies can reduce workers' psychological distress by providing safe and effective means to prevent the risk of contagion; reducing the levels of work conflict, work stress, or workload; and supporting their employees with psychological measures in order to maintain ideal working conditions.

Keywords: COVID-19; Ecuador; mental health; psychological distress; work engagement; work environment

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1. Introduction

Since the SARS-CoV-2 (COVID-19) pandemic declaration by the World Health Organization on 11 March 2020, the way we live and work has changed rapidly [1–3]. In Ecuador, as of 18 April 2022, nearly 865,000 cases of COVID-19 were identified, and more than 35,000 deaths had been confirmed. These statistics placed the country among those with the highest number of cases and deaths per capita in the world [4,5]. Many studies have assessed the influence of the COVID-19 pandemic on the development of psychological distress in the general population and health care workers of Ecuador, evidencing a moderate-high level of psychological distress in both groups [6–10], in agreement with other studies in nearby Latin American countries [11–14].

The first preventive measures in the work environment adopted by agencies and institutions to stop the harmful effects of the pandemic on workers' health was social

distancing [15], since this measure was found to be effective in mitigating the spread of other infectious diseases such as influenza [16]. Following this, the Occupational Safety and Health Administration (OSHA) guidance on workplace preparedness suggested minimising movement and contact between workers, clients, and customers in general; transforming face-to-face meetings into virtual conferences; and encouraging teleworking to prevent disease transmission [17]. However, many authors concluded that Ecuadorians, although they perceived the health crisis as severe and felt greater psychological exhaustion than other countries, showed less adherence to health recommendations and reported lower levels of awareness about their relevance at work. This lack of knowledge could explain the high levels of psychological distress found in the Ecuadorian population [7,8]. In fact, a group of authors surveyed health care workers in Ecuador during the first month of the pandemic and revealed that nearly 25% of these professionals believed in conspiracy theories about the virus dissemination, prevalent belief associated with high anxiety and distress [10]. For the United Nations [18], the collateral effects of such preventive measures on people's mental health has not been sufficiently assessed: Assuming that social distancing and telework have had negative and positive effects on the population and workers, these deserve to be analysed.

In this regard, in Ecuador, studies on the effects of the pandemic on telework according to ergonomics and health effects have been published [19,20] and also regarding the work–family conflicts among the general population [21]. Among the negative effects of teleworking on health, the difficulty establishing a physical and temporal separation between work and family environments has been the main concern, affecting levels of satisfaction and commitment to work (called work engagement). On the other hand, teleworking also has positive effects, such as reduced commuting, which facilitates access to work for people, especially those with mobility deficits. Improvements in productivity and increased engagement have also been observed [19,21,22]. Other international studies on teleworkers have found that the factors that increase engagement are communication with superiors, the reduction of long working hours, and control of adequate sleep hours [23].

Following this, engagement is described as the positive and satisfying work-related state of mind expressed through three dimensions: vigour (desire to invest effort in work), dedication (proactive participation), and absorption (concentration during work) [24]. This multi-axial concept is closely related to the organisational environment, work resources, professional needs, work demands, and demographic variables [25]. High levels of work engagement are associated with low burnout and cynicism and with high efficiency [26]. Studies on health care professionals who were working during the COVID-19 lockdown revealed a high level of engagement, with nurses standing out [7,9,10,27]. Additionally, studies about work engagement on Ecuadorian and Peruvian health care workers during the pandemic showed that high professional self-efficacy leads to higher work engagement and in turn to increased quality of life and self-care attitudes among the professionals [9,14]. Meanwhile, in a group of Spanish non-health care workers, an association was observed between a higher level of psychological distress and lower levels of engagement in its three dimensions [28].

Despite these assessments of psychological distress and work engagement performed in Ecuadorian health care workers, studies that relate work engagement, work environment, and psychological distress have not been conducted in the Ecuadorian general population. Therefore, the aim of this study was to find the associations between psychological distress, work engagement, and the work environment during the period of COVID-19 confinement in Ecuador. Our hypothesis was that the level of work engagement and the safety provided by the work environment would be associated with the development of psychological distress in Ecuadorian workers. This study contributes to identifying the most influential occupational factors that produce psychological distress in general workers in this pandemic context, so that specific preventive measures can be introduced by health authorities and health care managers in workplaces to reduce the impacts on people's mental health and increase workers' work engagement.

2. Materials and Methods

2.1. Study Design

This was a cross-sectional study that used multiple validated questionnaires: one for sociodemographic data [29], the General Health Questionnaire (GHQ-12) [30], and the Utrecht Work Engagement Scale (UWES-9) [31].

2.2. Participants

The estimated sample size, considering the total Ecuadorian population, was 2481, with 95% confidence level, 2.2% precision, and a loss adjustment of 20%. The loss was 12.9%. Thus, the final sample consisted of 2161 participants from the 24 provinces of Ecuador at the end of the survey collection period.

Then, non-probabilistic snowball sampling was used, disseminating the study through social networks and various public institutions.

Participants could access the survey if they met the following criteria: having worked and resided in the country during the first phase of the pandemic, being over 18 years of age, and having agreed to participate voluntarily and anonymously in the study via informed consent.

2.3. Measuring Instruments

A questionnaire validated in Spain by a group of experts [29] was used to collect data based on similar studies on other pandemics that obtained a Cronbach's α coefficient of 0.86 and good psychometric properties. It was then culturally adapted to the population of Ecuador to ensure good understanding of the items and to include country-specific data. The questionnaire included sociodemographic variables such as sex, age, marital status, education level, number of children, pet ownership, and type of work, differentiating between working away from home and teleworking.

Information was also collected on eleven variables related to the work environment during the pandemic (Table 1): the effectiveness of preventive measures, perceived safety, level of labour conflict, risk of infection at work, degree of acceptance of the disease, workload, stress, degree of satisfaction, and need for psychological support for different collectives, measured with a range from 1 (never) to 10 (always).

Psychological distress was measured with the Goldberg scale using the General Health Questionnaire (GHQ-12) [30], a scale designed to assess mental health using 12 questions or items rated on Likert scales from 0 to 4, with an overall score from 0 to 12 points. A positive indication of psychological distress for all individuals was a score greater than or equal to 3 on the GHQ-12 (Cronbach's $\alpha = 0.880$).

The Utrecht Work Engagement Scale (UWES-9) (Cronbach's $\alpha = 0.935$) [31] was used to assess work engagement. This questionnaire consists of 9 questions with Likert scale answers from 0 (never) to 6 (always), distributed in 3 dimensions: vigour, dedication, and absorption. The total score of the UWES categories is standardized at Very high ($\geq$5.51) [P95, Max]; High (4.67–5.50) [P75, P95]; Intermediate (2.89–4.66) [P25, P75]; Low (1.78–2.88) [P5, P25]; or Very low ($\leq$1.77) [Min, P5]. The internal consistency obtained for the different dimensions was: $\alpha = 0.872$ for vigour, $\alpha = 0.877$ for dedication, and $\alpha = 0.781$ for absorption.

Table 1. Questions about the work environment in relation to the pandemic.

Variable	Question about Work Environment
Question 1. Effectiveness of preventive measures	Has your department, service or company provided the workers with the necessary means and material to effectively carry out their job?
Question 2. Perceived safety	Has your department, service or company provided the workers with the appropriate means and material to safely carry out their job?

Table 1. *Cont.*

Variable	Question about Work Environment
Question 3. Level of labour conflict	Have labour conflicts between partners increased in your workplace during the pandemic?
Question 4. Risk of infection at work	Is there a risk of getting infected at your profession or working environment?
Question 5. Degree of acceptance of the disease	Do you accept the risk of getting infected as part of your job?
Questions 6, 7 and 8. Need for psychological support to professionals, volunteers, patients, families and general population.	Do you believe it would be important to offer psychological support to professionals and volunteers who are actively taking part in the COVID-19 health crisis?
	Do you believe it would be important to offer psychological support to persons and their families who are directly affected by COVID-19?
	Do you believe it would be important to offer psychological support to the general population to deal with the COVID-19 health crisis?
Question 9. Workload	Do you consider there has been an increase in the workload since the health crisis started?
Question 10. Stress	Do you feel stressed about COVID-19 at work?
Question 11. Job satisfaction	Do you feel reassured at your workplace during the present COVID-19 situation?

2.4. Procedure

Data were collected through the Qualtrics® platform (Qualtrics, Seattle, WA, USA), for the survey and storage and distributed with the support of scientific associations, universities, and institutions. Social media from public institutions were used to invite participation, with information about the study and the link to access the questionnaire. As the questionnaires were not sent individually by the investigators, participants were asked to share the questionnaire with their colleagues and organisations, after completion, through snowball sampling.

The questionnaire could be accessed using different electronic means with internet access (computer, tablet, or mobile phone). Data collection took place during the first phase of the pandemic, between 2 April and 17 May 2020.

A total of 320 questionnaires whose response rate was less than 99% of the items completed were discarded to avoid calculation bias.

2.5. Data Analysis

Once the database was cleaned, descriptive measures were determined according to the type of variable. The existence or not of a relationship between the different variables (sociodemographic, UWES dimensions, and work environment) with respect to the presence or absence of psychological distress was assessed using the chi-squared test of association and Student's t-test for independent samples.

A binary logistic regression analysis allowed for identifying those variables that played a more relevant role with respect to psychological distress. The Kolmogorov–Smirnov test rejected the normality of the variables included in the model; however, the skewness and kurtosis coefficients presented low values, lower than two in absolute value, for all the quantitative variables included in the model. Forward selection was performed by considering the likelihood ratio statistic, estimating odd ratios (ORs). Confidence intervals were provided for this measure of association. In addition, different goodness-of-fit measures were used: the Hosmer–Lemeshow test, percentage of correctly classified values, sensitivity, and specificity. Multivariate normality and multicollinearity issues were taken into account in the data analysis. The independent variables in the model showed

moderate collinearity, i.e., minimal correlation between covariates, and therefore were not eliminated.

All analyses were performed with SPSS 26.0 statistical software (IBM, Armonk, NY, USA).

2.6. Ethical Considerations

Informed consent was obtained from all study participants prior to the start of the questionnaire. The ethical principles established in the Declaration of Helsinki of 1964 and its newest declaration of Fortaleza in 2013 were followed. The study was authorised in Ecuador by the Ethics Research Committee of the Universidad San Gregorio de Portoviejo (USGP-DI-049-2021) and in Spain by the Ethics Committee of Huelva, belonging to the Ministry of Health of Andalusia, Spain (PI 036/20).

3. Results

A total of 2161 participants formed the sample of this study. Among them, 53% were women, and the mean age of more than half of the sample was 32 years or younger (median: 32). Additionally, 54% were unmarried at the time of the survey, although 52% had at least one child. Most, 84%, of the sample had university studies or higher, and there were similar numbers of public (45%) and private employees (40%). About half, 52.8%, of the sample worked from home during the study, and 47.2% worked outside the home.

As can be seen in the GHQ-12 analysis in Table 2, 62.6% of the sample had a high level of psychological distress (PD) (GHQ-12 $\geq$ 3), M = 4.31 (SD = 3.41).

Table 2. Psychological Distress: General Health Questionnaire GHQ-12.

N	2161
Mean (SD)	4.31 (3.41)
Minimum/Maximum	0/12
P25/P50/P75	1/4/7
GHQ $\geq$ 3	*N* = 1352 (62.6%)
GHQ < 3	*N* = 809 (37.4%)

Observing the associations between the sociodemographic variables and PD, a higher level of PD (with $p < 0.001$) was found among women (OR = 1.908; 95% CI = 1.600–2.276) and among individuals with university studies or higher (OR = 1.524; 95% CI = 1.205–1.926), with no statistically significant difference found with respect to the other variables (age, marital status, number of children, having a pet, organisation they worked for, or telework) (Table 3).

As can be seen in Table 4, the overall mean for work engagement (UWES) was M = 4.5 (SD = 1.2), which is considered an intermediate level of engagement in the UWES-9, being lower among those with PD (M = 4.2; SD = 1.2) than among those without PD (M = 4.9 (SD = 1.0), who reported high engagement with $p < 0.001$.

This association is also significant with respect to the three dimensions of work engagement: Vigour at work had the lowest mean score (M = 4.2; SD = 1.4) and the lowest score for those with PD (M = 3.9; SD = 1.4), although the effect size and statistical power were higher than others. Dedication received the highest mean score (M = 4.7; SD = 1.3) and also the highest score for those who did not show PD (M = 5.1; SD = 4.4). Absorption stayed within the mean (M = 4.5; SD = 1.2) and received higher scores for those without PD (M = 4.8; SD = 4.4 vs. M = 4.4; SD = 1.2).

Table 3. The associations between the sociodemographic variables and psychological distress (N = 2161).

	N (%)	Psychological Distress by GHQ-12		Statistical	Odds Ratio (Confidence Interval at the 95 Level)
		NO	YES		
Sex					
Male	1015 (47.0)	45.4	54.6	52.069 *	1.908 (1.600, 2.276)
Female	1146 (53.0)	30.4	69.6		
Age (median = 32) (N = 2143)					
32 or younger	1137 (53.1)	35.8	64.2	3.062	0.855 (0.718, 1.019)
Older than 32	1006 (46.9)	39.5	60.5		
Marital status					
With a partner	979 (45.3)	38.4	61.6	0.719	1.079 (0.906, 1.285)
Without a partner	1182 (54.7)	36.6	63.4		
Educational level					
Without university studies	337 (15.6)	46.0	54.0	12.484 *	1.524 (1.205, 1.926)
University studies or higher	1824 (84.4)	35.9	64.1		
Children					
Yes	1127 (52.2)	38.8	61.2	1.803	1.127 (0.946, 1.342)
No	1034 (47.8)	36.0	64.0		
Pet					
Yes	1221 (56.5)	38.2	61.8	0.405	1.059 (0.888, 1.262)
No	940 (43.5)	36.9	63.1		
Job situation					
Self-employed	326 (15.1)	39.0	61.0	5.760	-
Public employee	974 (45.1)	34.7	65.3		
Working for a private company	861 (39.8)	40.0	62.6		
Teleworking or not					
From home	1141 (52.8)	36.5	63.5	0.817	0.923 (0.775, 1.099)
Away from home	1020 (47.2)	38.4	61.6		

* $p < 0.001$.

Table 4. The associations between the UWES dimensions and psychological distress (N = 2161).

UWES Score Categories			Psychological Distress by GHQ-12			
	Min/P25/P50/P75/Max	Mean (SD)	NO M (SD)	YES M (SD)	Statistical	Effect Size
Vigour	0/3.33/4.33/5.33/6	4.2 (1.4)	4.8 (1.1)	3.9 (1.4)	15.960 **	0.64
Dedication	0/4.00/5.00/5.67/6	4.7 (1.3)	5.1 (1.1)	4.4 (1.3)	12.194 **	0.50
Absorption	0/3.67/4.67/5.67/6	4.5 (1.2)	4.8 (1.1)	4.4 (1.2)	8.638 **	0.30
Total	0/3.67/4.77/5.44/6	4.5 (1.2)	4.9 (1.0)	4.2 (1.2)	13.375 **	0.55

M: Mean; SD: Standard Deviation; ** $p < 0.001$.

It is possible to observe the UWES scores at the P75 percentile, where the effect sizes are considered high. In this case, absorption was 'very high' (5.67) and dedication (5.67) along with vigour (5.33) were 'high'.

Table 5 shows that it is indeed the need for psychological support that has the highest values, for people and their families affected by the disease (M = 9.2; SD = 1.7), for professionals and volunteers (M = 9.0; SD = 2.0), and also for the general population (M = 8.9; SD = 1.9).

Table 5. The associations between work environment and psychological distress (N = 2161).

	Psychological Distress by GHQ-12				
	M (SD)	**NO M (SD)**	**YES M (SD)**	**Statistical**	**Effect Size**
Question 1. Effectiveness of preventive measures	6.8 (2.9)	7.3 (2.7)	6.6 (3.0)	5.930 **	0.26
Question 2. Perceived safety	6.9 (2.9)	7.3 (2.7)	6.6 (3.0)	5.396 **	0.23
Question 3. Level of labour conflict	5.3 (3.1)	4.8 (3.1)	5.7 (3.1)	−6.760 **	0.30
Question 4. Risk of infection at work	7.0 (3.2)	6.8 (3.2)	7.1 (3.2)	−2.170 *	0.10
Question 5. Degree of acceptance of the disease	5.0 (3.5)	5.1 (3.5)	4.9 (3.5)	1.790	0.08
Question 6. Need for psychological support (professionals and volunteers)	9.0 (2.0)	8.8 (2.2)	9.1 (1.8)	−3.658 **	0.17
Question 7 Need for psychological support (patients and families)	9.2 (1.7)	9.1 (1.9)	9.3 (1.6)	−2.943 **	0.14
Question 8. Need for psychological support (general population)	8.9 (1.9)	8.8 (2.0)	9.0 (1.9)	−1.949	0.09
Question 9. Workload	7.1 (3.1)	6.6 (3.1)	7.4 (3.0)	−5.595 **	0.25
Question 10. Stress	7.0 (3.1)	5.7 (3.2)	7.7 (2.7)	−14.862 **	0.65
Question 11. Job satisfaction	6.6 (2.5)	7.2 (2.4)	6.3 (2.5)	8.545 **	0.37

* $p < 0.05$; ** $p < 0.001$.

When analysing the possible associations between workplace characteristics in relation to the response to the pandemic and the likelihood of developing PD, different effect sizes occur. The higher effect size was found for the association between stress at work and PD, and job satisfaction and level of labour conflicts were also relevant (Table 5).

There was a higher level of PD in workplaces where an increase in work conflicts occurred (M = 5.7; SD = 3.1 vs. M = 4.8; SD = 3.1); $p < 0.001$; in places where the risk of becoming infected was high (M = 7.1; SD = 3.2 vs. M = 6.8; SD = 3.2); $p < 0.05$; and in environments where higher workload (M = 7.4; SD = 3.0 vs. M = 6.6; SD = 3. 1) and more stress at work were perceived (M = 7.7; SD = 2.7 vs. M = 5.7; SD = 3.2), $p < 0.001$. Likewise, the level of PD was higher among those who thought that psychological support was needed for people and families affected by the disease (M = 9.3; SD = 1.6 vs. M = 9.1; SD = 1.9), $p < 0.001$, as well as among those who thought psychological support was needed for professionals and volunteers (M = 9.1; SD = 1.8 vs. M = 8.8; SD = 2.2), $p < 0.001$. No statistically significant difference was observed with respect to the need for psychological support in the general population (Table 5).

On the contrary, there was a lower level of PD in workplaces where the effectiveness of preventive measures to perform work effectively exist (M = 7.3; SD = 2.7), in workplaces that provided the means to perform work safely (M = 7.3; SD = 2.7), and among those individuals with higher job satisfaction (M = 7.2; SD = 2.4 vs. M = 6.3; SD = 2.5), $p < 0.001$. The degree of acceptance of the disease reached very similar results (M = 5.1; SD = 3.5 vs. M = 4.9; SD = 3.5) (Table 5).

Table 6 shows that the variables that predict psychological distress among Ecuadorian workers, with a percentage of 70.2%, are being a woman (OR = 1.546; 95% CI = 1.273–1.876), with a low level of vigour (OR = 0.874; 95% CI = 0.850–0.900), being stressed at work

(OR = 1.190; 95% CI = 1.152–1.230), and low reassurance with their work in the current COVID-19 situation (OR = 0.901; 95% CI = 0.86–50.939).

Table 6. Binary logistic regression results for psychological distress (N = 2161).

	Odds Ratio (Confidence Interval at the 95% Level)
SEX (ref. Male)	1.546 ** (1.273, 1.876)
UWES: Vigour	0.874 ** (0.850, 0.900)
Question 10. Stress	1.190 ** (1.152, 1.230)
Question 11. Job satisfaction	0.901 ** (0.865, 0.939)
Sensitivity/Specificity	84.2/46.8
Correctly classified percentage	70.2
R^2	0.235
Hosmer-Lemeshov test	$\chi^2 = 2.445$ ($p = 0.964$)
Omnibus test	$\chi^2 = 407.903$ ($p < 0.001$)

** $p < 0.001$.

4. Discussion

The present study revealed a number of factors that were associated with psychological distress caused by COVID-19 in the occupational context. Considering, first, the relevance of the perception of stress in the work environment caused by the pandemic, it directly affected the satisfaction of the employee with the organisation and the job position. This may affect the efforts and contributions made by the worker on a daily basis, generating an emotional and physical negative influence that could be perceived as psychological distress.

Women showed significantly higher levels of depression, anxiety, and stress than males, a common finding in most studies around the world [10–12,32,33]. Restrictive measures regarding schools and day-care centres may significantly increase the burden on women at home, leading to fatigue and a reduction in their work performance [12,21,27]. On the other hand, an increase in domestic violence against women during quarantine due to the pandemic and a higher risk of losing their jobs and incomes could be the reasons for our findings. In fact, we found inverse correlations between age and the levels of depression, anxiety, and stress. The reason may be that younger individuals tend to be more concerned about future consequences and the negative impacts of the pandemic on the global economy and job availability [11,34]. Likewise, young people have greater and more continuous access to inaccurate information due to their use of social media, which can affect their mental health [33].

In relation to evidence from previous studies [27,28], work engagement in this study appears in an intermediate level in its global assessment as well as in its three dimensions. Better scores on the UWES-9 are associated with lower levels of PD, confirming the role played especially by the vigour dimension in predicting the level of PD generated during the COVID-19 pandemic. These results could be compared with the findings of a study on Ecuadorian health care workers, whose levels of vigour were high and positively related to age, years of working experience, and salary [9].

Although we also confirmed+ the existence of psychological distress in the studied setting, its level (GHQ $\geq$ 3 = 62.6%) is not very different from that observed in other countries where the same instrument was used, such as Argentina (60.9%) [13], Spain (65.2%) [35], Peru (59.68%) [11], and Portugal (57.2%) [36], and it was lower than in Chile (78.83%) [12]. This study also found a perceived need for psychological support in professionals and volunteers involved in responding to the pandemic, including those affected by the disease and their families, a fact that has been previously reported in health care workers [37] and non-health care workers [28]. In this regard, the incidence of the disease in Ecuador may have produced an engaged health care force, with high levels of the three dimensions of

engagement, a fact that some authors have related to the promotion of social support as a protective factor of psychological well-being [9]. However, another study on the Ecuadorian general population identified an acceptable level of knowledge about COVID-19 but stated that this was not enough to motivate a change of attitude towards the pandemic and how to deal with it [38]. Therefore, the emergence of possible long-term effects on mental health is still to be clarified in the general population; the rapid availability of psychosocial support resources is also needed to prevent long-term negative effects of the pandemic [33,39,40].

Another interesting finding of this study points to the association between workers' perceived insecurity in their workplaces regarding protecting themselves from possible infection and higher levels of PD, which corroborates previous evidence on the mental health effects of COVID-19 presence in the work environment [41]. Those responsible for protecting workers' health in companies should take these aspects into account, considering that the immediate availability of preventive contact and respiratory measures could reduce the potential spread of the disease. This is not the only factor to consider in reducing the levels of PD in workers. It has been shown that the level of conflict in the company, the workload, work stress, and the degree of satisfaction with the work are also factors intrinsically associated with mental health in times of pandemic. The perceived safety of the workplace and the effectiveness of the preventive measures given at work have also been identified as the most influential factors in reducing the impacts on mental health [39].

In the present study, no differences were found between the perceived PD of those who teleworked and those who worked away from home, something that has been found in other studies where PD was higher among those who worked away from home [29]. This could be justified by the presence of psychosocial stressors in teleworking [19] and by the risk of contagion during the essential activities of those working away from home [42].

The limitations of this study are related to the non-probabilistic sampling technique used, as well as the inequality between the percentages of participants with and without university studies or higher (84.4% of the sample was composed of people with university studies), which could have affected the results from the perspective of the use of information and shared beliefs. For the correct interpretation of the results, it should be kept in mind that the data were obtained during the first phase of the pandemic, when a strict confinement system was imposed [15]. The differences of this study with other internationally published studies have been considered and can be explained by variations in the percentage of people affected, the type of health system, and the movement restriction measures adopted, as well as whether or not the population analysed were exclusively health workers. It is necessary to remember that this is a cross-sectional study that does not allow establishing a cause–effect relationship.

With effective action on work environment factors, mental health effects may be efficiently prevented, while work engagement may increase. This investigation should encourage those responsible for managing occupational health and safety in companies to reduce the levels of psychological distress among workers by both providing preventive measures to reduce contagion and increasing awareness of the disease and its prevention. Likewise, self-efficacy in the control of stress and workload while maintaining low levels of work-family conflicts would lead to an increase in job satisfaction. Organisations can increase their employees' work engagement by encouraging virtual meetings, refresher courses, webinars to manage anxiety and stress, or informal conversation sessions, tools that have been found to be effective during the current pandemic and may help even in a post-COVID-19 phase [43]. Similarly, family and peer support, self-efficacy enhancement, and worker resilience have been shown to increase engagement during stressful situations [44]. Specifically, in health care workers involved in the pandemic, psychological support has been found to be a highly effective measure for reducing negative mental health effects [37] and is valid for the general population [45]. Moreover, persistent COVID-19 has led to the development of specific guidelines to minimise its effects at work and help workers recover [46].

This research has been performed within the same research project that is being developed in 18 countries in Latin America and Europe, which will facilitate comparisons in the near future.

5. Conclusions

The presence of psychological distress in the Ecuadorian sample of this study reached 2.6%, which is a similar value to the one found in studies in other Latin American countries like Argentina and Peru.

The factors that, to a large extent (70.2%), predicted the development of PD during the first phase of the COVID-19 pandemic in Ecuador were being a woman and having low levels of the vigour work engagement dimension, high work stress, and low job satisfaction.

In relation to work engagement, an intermediate level was reached by the sample in its global assessment as well as in its three dimensions. However, individuals with higher levels of engagement had lower levels of psychological distress.

Lastly, in relation to the work environment, most of the sample agreed on the need for psychological support for those who care for patients and their families. Furthermore, most of the participants corroborated the importance of reducing the risk of contagion at work, both with appropriate preventive measures and by increasing the safety of the workplace. Reducing labour–family conflicts, workloads, and work stress could be beneficial for increasing job satisfaction during this pandemic as well.

Author Contributions: Conceptualization, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Data curation, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Formal analysis, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Investigation, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Methodology, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Project administration, C.R.-F., I.A.-B. and J.G.-S.; Resources, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Software, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Supervision, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Validation, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Visualization, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Writing—original draft, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S.; Writing—review & editing, C.R.-F., I.A.-B., M.O.-M., J.F.-R., K.E.-S., C.A.A.-U. and J.G.-S. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement: The ethical principles established in the Declaration of Helsinki of 1964 and its newest declaration of Fortaleza in 2013 were followed. The study was authorised in Ecuador by the Ethics Research Committee of the Universidad San Gregorio de Portoviejo (USGP-DI-049-2021) and in Spain by the Ethics Committee of Huelva, belonging to the Ministry of Health of Andalusia, Spain (PI 036/20).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Datasets available upon reasonable request to the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

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8. ANEXO 5. AUTORIZACIÓN DEL COMITÉ DE ÉTICA

UNIVERSIDAD
SAN GREGORIO
DE PORTOVIEJO

USGP-DI-049-2021

Portoviejo, 4 de agosto de 2021

Ref: Informe de Comité de Ética del proyecto:

Evaluación del impacto de la pandemia de COVID-19 en el bienestar emocional y ajuste psicológico de profesionales sanitarios y población general

De mi consideración:

Me refiero al proyecto de investigación "Evaluación del impacto de la pandemia de COVID-19 en el bienestar emocional y ajuste psicológico de profesionales sanitarios y población general" liderado por los docentes investigadores: MSc. Cristian Arturo Arias Ulloa (Ecuador), MSc. Ingrid Elsa Adanaqué Bravo (Ecuador), MSc. Kenny Fernando Escobar Segovia (Ecuador), Ph.D Carlos Ruíz-Frutos (España), y Ph.D Juan Gómez Salgado (España)

Atendiendo la solicitud del responsable del proyecto, MSc. Cristian Arturo Arias Ulloa, para evaluar la idoneidad ética del proyecto en mención, el Comité de Ética en la Investigación de la Universidad San Gregorio de Portoviejo resuelve emitir informe favorable. Ello implica que el proyecto cumple con los lineamientos de la Universidad en materia de investigación y ética, los cuales se sustentan en la normativa internacional vigente.

Atentamente,

Ignacio Loor Colamarco
Departamento de Investigación
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Las pandemias han azotado a la humanidad desde sus inicios, con consecuencias devastadoras muy similares a la de las guerras, siendo su impacto más visible a nivel económico, social y político; sin olvidar los efectos a nivel de salud mental que una pandemia provoca. El coronavirus del síndrome respiratorio agudo grave de tipo 2 causante del síndrome respiratorio agudo severo (SARS-CoV-2) que provoca la enfermedad COVID-19, ocasionó una crisis de salud a nivel mundial con consecuencias dramáticas, siendo declarada pandemia por la Organización Mundial de la Salud el 11 de marzo de 2020. A partir de este momento investigadores de todo el mundo tomaron la iniciativa de estudiar el malestar psicológico que la COVID-19 estaba generando en las diferentes poblaciones y su relación con otros factores como el compromiso laboral, el ambiente de trabajo, el sentido de coherencia, entre otros.

Ingrid Elsa Adanaqué Bravo

Universidad de Huelva