

**GAMBARAN KESEHATAN MENTAL PADA IBU HAMIL
DI MASA PANDEMI COVID-19**

LITERATURE REVIEW

SKRIPSI



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**PROGRAM STUDI ILMU KEPERAWATAN
FAKULTAS ILMU KESEHATAN
UNIVERSITAS dr. SOEBANDI
JEMBER
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Untuk Memenuhi Persyaratan
Memperoleh Gelar Sarjana Ilmu Keperawatan (S. Kep.)



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**PROGRAM STUDI ILMU KEPERAWATAN
FAKULTAS ILMU KESEHATAN
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LEMBAR PERSETUJUAN

Skripsi ini telah diperiksa oleh pembimbing dan telah disetujui untuk mengikuti seminar hasil pada Program Studi Sarjana Ilmu Keperawatan Universitas
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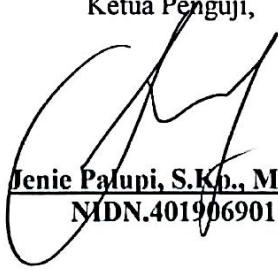
HALAMAN PENGESAHAN

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Apabila di kemudian hari terbukti atau dapat dibuktikan bahwa sebagian atau keseluruhan skripsi ini adalah karya orang lain atau ditemukan adanya pelanggaran terhadap etik keilmuan dalam skripsi, maka saya bersedia menerima sanksi atas perbuatan tersebut. Demikian pernyataan ini saya buat dengan sebenarnya.

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Yang menyatakan,



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GAMBARAN KESEHATAN MENTAL PADA IBU HAMIL DI MASA PANDEMI COVID-19 *LITERATURE REVIEW*

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PERSEMBAHAN

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MOTTO

“Bantinglah otak untuk mencari ilmu sebanyak banyaknya guna mencari rahasia besar yang terkandung di dalam benda besar Bernama dunia ini, tetapi pasanglah pelita dalam hati sanubari, yaitu pelita kehidupan jiwa.”

(Imam Al-Ghozali)

“Orang berlayar di lautan pasti bertemu ombak. Orang berjalan kaki pasti harus tergelincir. Orang naik sepeda pasti bertemu jalan tanjakan. Begitu juga hidup kadang harus melewati cobaan ujian. Tidak bisa melewati hidup mengandalkan akal dan usaha dzohir. Tapi harus diimbangi dengan doa dan usaha batin.”

(KH. Moh. Hasan Mutawakkil Alalllah)

“Berusahalah menjadi paku: tak terlihat namun bisa mengokohkan bahkan sebesar rangka atap kayu sekalipun. Atau menjadi lem perekat: tak terlihat namun bisa menyatuhkan bahkan kaca besar yang direkatkan ke dinding sekalipun.”

(KH. Moh. Hasan Naufal)

“Ketelatenan adalah sebuah hal yang paling penting, Apapun itu”

(Achmad Baydowi)

ABSTRAK

Baydowi, Achmad* Jahariyah** Hidayati, Ainul***. 2022. **Gambaran Kesehatan Mental Pada Ibu hamil di Masa Pandemi COVID-19: Literature Review**. Skripsi. Program Studi Sarjana Ilmu Keperawatan Universitas dr. Soebandi.

Latar Belakang: Ibu hamil pada umumnya merupakan kelompok yang rentan beresiko terkena COVID-19, karena perubahan imunologis yang terjadi selama kehamilan. Pada ibu hamil tidak hanya berdampak pada fisik saja tapi juga masalah kesehatan mental. Masalah kesehatan mental ibu hamil dimasa pandemi ini yaitu karena ancaman terinfeksi COVID-19 terhadap mereka dan janinnya, isolasi sosial, serta kekhawatiran apabila perawatan prenatal tidak terpenuhi dengan baik. yakni berupa kecemasan, depresi, stress, dan gangguan tidur. Tujuan literature review ini Untuk mengetahui gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19. **Metode:** Desain penelitian ini menggunakan literature review dengan pencarian *database* menggunakan *Pubmed*, *Google Scoolar*, dan *Scient Direct* tahun 2020-2022, didapat 8 artikel yang telah dilakukan proses seleksi menggunakan format PEOS (*Population/Problem, Exposure, Outcome, Study design*) dengan kriteria inklusi dan eksklusi. **Hasil:** Analisis dari 8 artikel menunjukkan masalah kesehatan mental ibu hamil yaitu depresi 8 (100%) artikel, kecemasan 8 (100%) artikel, stress 6 (75%) artikel, gangguan tidur 1 (12,5%) artikel. Hal ini disebabkan perubahan perilaku yang terjadi selama masa kehamilan di masa pandemi COVID-19 mengaibatkan rendahnya motivasi ibu hamil yaitu mengurangi kunjungan pemeriksaan oleh bidan atau dokter secara langsung, takut untuk berinteraksi diluar karena tingginya angka kejadian infeksi COVID-19. **Kesimpulan:** Gambaran masalah kesehatan mental pada ibu hamil di masa pandemi COVID-19 yaitu mengalami depresi, kecemasan, stress, dan gangguan tidur.

Kata Kunci: Kesehatan Mental, Ibu hamil, Pandemi COVID-19

*Peneliti

**Pembimbing 1

***Pembimbing 2

ABSTRACT

Baydowi, Achmad* Jahariyah** Hidayati, Ainul***. 2022. **Overview of Mental Health in Pregnant Women during the COVID-19 Pandemic: Literature Review.** Essay. dr. Soebandi University's Nursing Science Study Program.

Introduction: Pregnant women are generally a vulnerable group at risk of contracting COVID-19, due to the immunological changes that occur during pregnancy. Pregnant women not only have an impact on physical but also mental health problems. Mental health problems for pregnant women during this pandemic are due to the threat of COVID-19 infection to them and their fetuses, social isolation, and concerns if prenatal care is not met properly. namely anxiety, depression, stress, and sleep disturbances. The purpose of this literature review is to find out the mental health picture of pregnant women during the COVID-19 pandemic. **Method:** This research design uses a literature review with database searches using Pubmed, Google Scholar, and Scient Direct in 2020-2022, obtained 8 articles that have been selected using the PEOS format (Population/Problem, Exposure, Outcome, Study design) with inclusion criteria and exclusion. **Results:** Analysis of 8 articles showed mental health of pregnant women, namely depression 8 (100%) articles, anxiety 8 (100%) articles, stress 6 (75%) articles, sleep disturbance 1 (12.5%) articles. This is because behavioral changes that occur during pregnancy during the COVID-19 pandemic have resulted in low motivation for pregnant women, namely reducing direct examinations by midwives or doctors, being afraid to interact outside due to the high incidence of COVID-19 infections. **Conclusion:** The description of mental health problems in pregnant women during the COVID-19 pandemic is experiencing depression, anxiety, stress, and sleep disorders.

Keywords: Mental health, Pregnant woment, COVID-19 Pandemic

*Author

**Advisor 1

***Advisor 2

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DAFTAR SINGKATAN

ADHD	: <i>Attention deficit hyperactivity disorder</i>
ARDS	: <i>Acute Respiratory Distress Syndrome</i>
COVID-19	: <i>Coronavirus disease 2019</i>
ICTV	: <i>Internasional committee on toxonomy of viruses</i>
MERS	: <i>Middle East Respiratory</i>
MeSH	: <i>medical subject Heading</i>
OCD	: <i>Obsessive-Compulsive Disorder</i>
SARS	: <i>Syndrome Severe Acute Respiratory Syndrome</i>
SARS-CoV2	: <i>Severe Acute Syndrome coronavirus 2</i>
WHO	: <i>World Health Organization</i>

BAB 1

PENDAHULUAN

1.1 Latar Belakang

Penyakit *coronavirus disease* 2019 (COVID-19), disebabkan oleh Sindrom pernafasan akut *coronavirus* 2 (SARS-CoV-2), karena penularan yang begitu cepat *World Health Organization* (WHO) pada tanggal 11 Maret 2020 menetapkan sebagai pandemi (Gorbalenya et al., 2020). Dari 230 negara pada tanggal 22 April 2022, WHO menerima laporan sebanyak 505.035.185 kasus yang dikonfirmasi COVID-19, dengan angka kematian sebanyak 6.210.719 (WHO, 2022). Di Indonesia melaporkan pada tanggal 22 April 2022 terkonfirmasi kasus positif COVID-19 sebanyak 6.043.246 kasus, 5.866.169 dinyatakan sembuh dan sebanyak 156.040 kasus meninggal. Sedangkan jumlah kasus ibu hamil yang terkonfirmasi positif COVID-19 sebanyak (10,5%), dinyatakan sembuh sebanyak (10,3%), dan sebanyak (0,2%) kasus meninggal (Satuan Tugas Penanganan COVID-19, 2022).

Selama pandemi COVID-19 ibu hamil pada umumnya merupakan kelompok yang rentan beresiko terkena COVID-19, karena perubahan imunologis yang terjadi selama kehamilan (Schwartz & Hyg, 2020). Pada ibu hamil tidak hanya berdampak pada fisik saja tapi juga masalah kesehatan mental hal ini dikarenakan ketakutan terhadap COVID-19. Berdasarkan penelitian yang dilakukan di Cina menunjukkan bahwa masalah kesehatan mental akibat

ketakutan terhadap COVID-19 lebih membahayakan dibandingkan penyakitnya (Li et al., 2020).

Menurut data *World Health Organization* WHO (2020), sekitar (10%) ibu hamil di negara maju mengalami masalah mental selama masa COVID-19. Hal ini ditunjukkan dalam penelitian Xu et al. (2021), yang dilakukan di Wuhan Cina, dengan metode *cross-sectional* dengan 274 responden ibu hamil yaitu (16,1%) mengalami depresi, (13,9%) mengalami kecemasan, (42,7%) mengalami stres, dan (37,6%) mengalami kualitas tidur yang buruk di masa pandemi COVID-19. Menurut WHO (2020), masalah kesehatan mental ini lebih tinggi terjadi di Negara berkembang yaitu mencapai (15,6%). Hal ini ditunjukkan dalam penelitian di Indonesia oleh Zainiyah & Susanti (2020), yang dilaksanakan di Madura dengan metode *descriptive research* yaitu (44,3%) mengalami kecemasan berat di masa pandemi COVID-19. Sedangkan hasil penelitian Yuliani & Aini (2020), yang dilaksanakan di Majalengka dengan metode deskriptif yaitu 56,8% ibu hamil mengalami depresi.

Demi mencegah penyebaran COVID-19 Pemerintah di berbagai negara mulai menerapkan kebijakan dengan *social distancing* hingga *lockdown*. Isolasi dan jarak sosial dalam kehidupan sehari-hari. Tingginya penularan dan kematian COVID-19 ini dapat memicu munculnya kecemasan, khawatir, stres sampai dengan depresi, sehingga terjadinya masalah kesehatan mental di antara populasi yang rentan seperti ibu hamil (Saccone et al., 2020a). Meskipun masalah kesehatan mental pada ibu hamil telah jauh ada sebelum pandemi. Namun, selama pandemi ini keterbatasan akses ibu hamil untuk mendapatkan

pelayanan kesehatan yang rutin karena pembatasan sosial membuat ibu hamil kurangnya dukungan sosial dan keluarga secara langsung hal tersebut dapat meningkatkan masalah kesehatan mental ibu hamil (Bender et al., 2020). Masalah kesehatan mental ibu hamil dimasa pandemi COVID-19 ini yaitu karena ancaman terinfeksinya COVID-19 terhadap mereka dan janinnya, isolasi sosial, serta kekhawatiran apabila perawatan prenatal tidak terpenuhi dengan baik (Lebel et al., 2020). Dan rendahnya pelayanan kesehatan untuk pemeriksaan kehamilannya dan banyak kegiatan sosial yang harus di hindari (Dong et al., 2021).

Saat ini bangsa Indonesia memulai adaptasi kebiasaan baru agar tetap dapat hidup sehat dalam situasi pandemi COVID-19. Pelayanan alternatal di Era adaptasi kebiasaan baru, ibu hamil untuk janji temu melalui media komunikasi. Saat kunjungan ke pelayanan kesehatan dengan menggunakan masker, cuci tangan, dan jaga jarak. Sebelum masuk diskriming dengan cek suhu tubuh dan anamnesis keluhan. jika keluhan mengarah ke COVID-19 segera cek lanjutan seperti PCR/*rapid test* (Kemenkes RI, 2020).

1.2 Rumusan masalah

Rumusan masalah dalam literatur review ini adalah “Bagaimana gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19?”.

1.3 Tujuan

Untuk mengetahui gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19.

1.4 Manfaat

1.4.1 Manfaat Teoritis

Menambah wawasan dan pengetahuan tentang gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19.

1.4.2 Manfaat Praktis

a. Bagi Institusi Pendidikan

Dapat dijadikan sumber referensi bagi institusi pendidikan khususnya Universitas dr. Soebandi Jember untuk lebih memahami tentang gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19.

b. Bagi Tenaga Kesehatan

Dapat memberikan masukan dalam peningkatan mutu dan kualitas pelayanan kesehatan, salah satunya dalam memberikan asuhan keperawatan atau intervensi pada ibu hamil dengan masalah kesehatan mental di masa pandemi COVID-19.

c. Bagi Peneliti Selanjutnya

Dapat memberikan gambaran dan informasi sehingga dapat digunakan sebagai referensi untuk mengembangkan penelitian selanjutnya khususnya mengenai intervensi yang dapat diberikan pada ibu hamil dengan masalah kesehatan mental di masa pandemi COVID-19.

BAB 2

TINJAUAN TEORI

2.1 Konsep COVID-19

2.1.1 Pengertian

Penyakit *coronavirus disease 2019* (COVID-19) adalah penyakit yang menular disebabkan oleh *Severe Acute Syndrome coronavirus 2* (SARS-CoV2) (Singhal, 2020). SARS-CoV2 ini merupakan virus jenis baru yang belum pernah diidentifikasi sebelumnya pada manusia. Penyakit ini dapat menimbulkan gejala berat seperti *Middle East Respiratory Syndrome* (MERS) dan *Severe Acute Respiratory Syndrome* (SARS) (Sharma et al., 2020).

2.1.2 Etiologi

Penyebab COVID-19 adalah virus yang tergolong dalam *family coronavirus*. *Coronavirus* merupakan virus RNA strain tunggal positif, berkapsul, dan tidak bersegmen. Terdapat 4 struktur protein utama pada *Coronavirus* yaitu: protein N (nukleokapsid), glikoprotein M (membran), glikoprotein spike S (spike), protein E (selubung). *Coronavirus* tergolong ordo Nidovirales, keluarga Coronaviridae. *Coronavirus* ini dapat menyebabkan penyakit pada hewan atau manusia. Terdapat 4 genus yaitu alphacoronavirus, betacoronavirus, gammacoronavirus, dan deltacoronavirus. Sebelum adanya COVID-19, ada 6 jenis varian *coronavirus* yang dapat meninfeksi manusia yaitu HCoV-229E

(alphacoronavirus), HCoV-OC43 (betacoronavirus), HCoV-NL63 (alphacoronavirus), HCoV-HKU1 (betacoronavirus), SARS-CoV (betacoronavirus), dan MERS-CoV (betacoronavirus).

Coronavirus yang menjadi etiologi COVID-19 termasuk dalam genus betacoronavirus, pada umumnya berbentuk bundar, dan berdiameter 60-140 nm. Hasil analisis filogenetik menunjukkan bahwa virus ini termasuk dalam subgenus yang sama dengan *coronavirus* 2002-2004 silam yang menyebabkan wabah SARS, yaitu sarbecovirus. Karena itu *Internasional committee on taxonomy of viruses* (ICTV) memberikan nama SARS-CoV-2 (Shereen et al., 2020).

2.1.3 Manifestasi Klinis

Gejala yang dialami biasanya bersifat ringan dan muncul secara bertahap. Beberapa orang yang terinfeksi tidak menunjukkan gejala apapun dan tetap merasa sehat. Gejala COVID-19 yang paling umum adalah demam, rasa lelah, dan batuk kering. Beberapa pasien mungkin mengalami rasa nyeri dan sakit, hidung tersumbat, pilek, nyeri kepala, konjungtivitis, sakit tenggorokan, diare, hilang penciuman dan pembauan atau ruam kulit. Pada kasus berat akan mengalami *Acute Respiratory Distress Syndrome* (ARDS), sepsis dan syok septik, gagal multi-organ, termasuk gagal ginjal atau gagal jantung akut hingga berakibat kematian (Levani et al., 2021).

2.1.4 Komplikasi

COVID-19 dapat menimbulkan berbagai komplikasi penyakit hingga sampai kematian, bagi beberapa pasien gejala virus ini yaitu bersifat

ringan dan sedang namun beberapa pasien mengalami komplikasi yang patut diwaspadai. Gangguan pada saluran pernapasan adalah komplikasi yang sering muncul seperti gagal pernapasan akut (*acute respiratory failure*), pneumonia (peradangan paru), dan *acute respiratory distress syndrome* (ARDS). Infeksi virus ini juga menimbulkan masalah pada organ lainnya seperti kerusakan hati, kerusakan jantung, gagal ginjal akut, dan infeksi oleh mikroorganisme lainnya seperti bakteri (Zendrato, 2020).

2.1.5 Pencegahan

Berdasarkan informasi mengenai penyebaran COVID-19 WHO (2020), merekomendasikan berbagai upaya pencegahan yang harus dilakukan secara lengkap.

- a. Selalu mencuci tangan,
- b. Jaga jarak minimal 1 meter,
- c. Selalu memakai masker ketika keluar rumah,
- d. Selalu menerapkan etika batuk dan bersin yang benar,
- e. Menghindari tempat yang ramai,
- f. Jika demam, batuk, dan kesulitan bernapas, segera cari pelayanan kesehatan terdekat.

2.2 Konsep Kehamilan

2.2.1 Pengertian

Pengertian Kehamilan menurut *Federasi Obstetri Ginekologi Internasional*, kehamilan merupakan penyatuan dari spermatozoa dan ovum dan dilanjutkan dengan nidasi atau implantasi. Kehamilan merupakan masa

yang dimulai dari masa konsepsi sampai lahirnya janin. Normalnya masa kehamilan yaitu 280 hari (40 minggu atau 9 bulan 7 hari). Kehamilan dibagi 3 trimester yaitu; 0-14 minggu kehamilan trimester pertama, 14-28 minggu kehamilan trimester kedua, dan 28-41 minggu kehamilan trimester ketiga (Hafid & Hasrul, 2021).

2.2.2 Fisiologi kehamilan

Fisiologi dan proses kehamilan terdiri sebagai berikut menurut Ekasari & Natalia (2019), yaitu:

a. Fertilisasi

1) Ovum

- a) Bisa dibuahi jika sudah melewati oogenesis
- b) Dikeluarkan oleh ovarium saat fase ovulasi, satu kali setiap siklus haid dan akan habis jika sudah masuk masa menopause
- c) Ovum punya waktu hidup selama 24-48 jam setelah dikeluarkan dari ovarium
- d) Mempunyai lapisan pelindung yaitu sel granulosa dan zona pellusida yang harus bisa ditembus oleh sperma agar dapat terjadi kehamilan

2) Sperma

- a) Dikeluarkan oleh testis dan peristiwa pematangannya disebut spermatogenesis
- b) Jumlah akan berkurang, tetapi tidak akan habis seperti pada ovum dan tetap produksi meskipun pada masa lansia

- c) Kemampuan fertilisasi selama 2-4 jam, rata rata 3 hari
- d) Terdapat 100 juta sperma setiap mililiter air mani yang dihasilkan, rata rata 3 cc setiap ejakulasi
- e) Mengeluarkan enzim hyaluronidase untuk melunakkan sel granulosa

3) Fertilasi

Proses kehamilan di mulai dari bertemunya sel telur dengan sel sperma. Tempat bertemunya ovum dan sperma paling sering terjadi didaerah ampula tuba. Terjadi 3 fase sebelum keduanya bertemu, yaitu :

- a) Tahap penembusan korona radita
- b) Penembusan zona pellusida
- c) Tahap penyatuan oosit dan membrane sel sperma

Hanya satu sperma yang mengalami proses kapasitasi dapat melintas zona pelusida masuk kedalam vitellus ovum. Setelah itu zona pelusida mengalami perubahan sehingga tidak dapat dilalui sperma lain.

b. Konsepsi

Nidasi adalah penanaman sel telur yang sudah dibuahi ke dalam dinding uterus pada awal kehamilan. Jaringan endometrium banyak mengandung sel-sel besar yang banyak mengandung glikogen, serta mudah dihancurkan oleh trofoblas. Blastula dengan bagian yang berisi massa sel dalam *inner-cell mass* akan mudah masuk kedalam desidua, menyebabkan luka kecil yang kemudian sembuh dan menutup lagi.

Umumnya nidasi terjadi pada dinding depan atau belakang rahim/korpus dekat fundus uteri.

c. Pertumbuhan dan perkembangan hasil konsepsi

Kehamilan seorang wanita mengalami peningkatan kebutuhan asupan gizi yang mencukupi kebutuhan dua orang (ibu dan janin), seperti energi, protein, mineral, kalsium, air, omega 3, vitamin, asam folat, zat besi, dan lainn sebagainya (Hartini, 2019).

Pertumbuhan dan perkembangan janin dalam rahim dipengaruhi bebrapa faktor, antara lain:

1) Faktor ibu

- a) Keadaan kesehatan ibu saat hamil
- b) Penyakit yang menyertai kehamilan penyulit kehamilan
- c) Kelainan pada uterus
- d) Kehamilan tunggal atau ganda atau triplet

2) Faktor janin

- a) Jenis kelamin janin
- b) Penyimpangan genetik seperti kelainan kongenital, pertumbuhan abnormal
- c) Infeksi intrauterine

3) Faktor plasenta

Plasenta merupakan akar janin untuk dapat tumbuh dan berkembang dengan baik dalan rahim. Untuk menjamin kesehatan janin dalam

rahim plasenta sangat penting yang ditetapkan dengan indeks plasenta/berat plasenta.

2.2.3 Perubahan masa kehamilan

Perubahan masa kehamilan ada dua, yaitu; perubahan fisiologis dan perubahan psikologis.

a. Perubahan fisiologis masa kehamilan

Banyak perubahan-perubahan setelah fertilasi dan berlanjut selama kehamilan, berikut beberapa perubahan fisiologis yang terjadi pada masa kehamilan menurut Ekasari & Natalia (2019), yaitu:

1) Perubahan sistem reproduksi

a) Vagina dan vulva

Vagina sampai minggu kedelapan terjadi peningkatan vaskularisasi serta penumpukan pembuluh darah dan pengaruh hormone estrogen yang menyebabkan warna kebiruan pada vagina. Perubahan dinding vagina meliputi peningkatan ketebalan mukosa vagina, lunaknya jaringan penyambung, dan hipertrofi (pertumbuhan abnormal jaringan) pada otot polos yang merenggang, akibat perenggangan tersebut vagina menjadi lebih lunak respon lain pengaruh terhadap hormonal yaitu sekresi sel-sel vagina meningkat, proses sekresi tersebut berwarna putih dan bersifat sangat asam karena adanya peningkatan PH asam sekitar (5,2 – 6). Kesamaan ini berguna

untuk mengontrol pertumbuhan bakteri pathogen atau bakteri penyebab penyakit.

b) Uterus

Perubahan yang sangat jelas terjadi pada uterus sebagai ruang untuk menyimpan janin yang sedang tumbuh. Hal tersebut disebabkan karena:

- (a) Peningkatan vaskularisasi dan dilatasi pembuluh darah
- (b) Hipertrofi dan hiperplasia (pertumbuhan dan perkembangan jaringan abnormal) yang menyebabkan otot rahim menjadi lebih besar
- (c) Perkembangan sel-sel selaput lendir rahim atau desidua selama kehamilan

c) Serviks

Akibat pengaruh hormon estrogen menyebabkan massa dan kandungan air meningkat sehingga mengalami peningkatan vaskularisasi dan oedem karena meningkatkan suplai darah dan terjadi penumpukan pada pembuluh darah hal tersebut menyebabkan servik menjadi lunak (goodel) dan berwarna kebiruan (chatdwic) hal tersebut dapat terjadi selama 3 bulan pertama usia kehamilan.

d) Ovarium

Manuaba mengemukakan dengan adanya kehamilan, indung telur yang mengandung korpus luteum gravidarum akan

meneruskan fungsinya sampai terbentuknya plasenta yang sempurna pada usia 16 minggu. Pada kehamilan ovulasi berhenti, corpus luteum terus tambah hingga terbentuknya plasenta yang mengambil alih pengeluaran hormon estrogen dan progesteron.

e) Kulit

Pada kulit terjadi perubahan deposit pigmen dan hiperpigmentasi karena pengaruh melanocyte stimulating hormone atau hormon yang mempengaruhi warna kulit pada lobus hipofisis anterior dan pengaruh kelenjar suprarenalis (kelenjar pengatur hormon adrenalin). Hal tersebut terjadi pada daerah perut, garis gelap mengikuti garis di perut, areola mammae, papillae mammae, pipi (leucasma gravidarum).

f) Payudara

Perubahan ini pasti terjadi karena dengan semakin dekatnya persalinan, payudara menyiapkan diri untuk memproduksi makanan pokok untuk bayi baru lahir. Perubahan yang terjadi yaitu:

- (a) Payudara membesar
- (b) Terjadi pelebaran pembuluh vena dibawah kulit payudara yang membesar dan terlihat jelas
- (c) Warna kehitaman pada puting susu yang menonjol dan keras
- (d) Payudara ibu mengeluarkan cairan apabila di pijat.

2) Perubahan sistem sirkulasi darah

Volume darah semakin meningkat karena jumlah serum lebih besar daripada pertumbuhan sel darah sehingga terjadi hemodilusi atau pengenceran darah. Volume darah ibu meningkat sekitar 35% - 50% pada kehamilan tunggal, dan 50% pada kehamilan kembar, peningkatan tersebut, adanya retensi garam dan air yang disebabkan sekresi aldosteron dari hormon adrenal oleh estrogen. Cardiac output atau curah jantung meningkat sekitar 30%, pompa jantung meningkat 30% setelah kehamilan 3 bulan dan kemudian melambat hingga umur 23 minggu setelah itu menjadi relatif stabil.

3) Perubahan sistem pernafasan

Seiring bertambahnya usia kehamilan dan pembesaran rahim ibu hamil sering mengeluh sesak, hal ini karena usus tertekan ke arah diafragma akibat dorongan rahim yang membesar selain itu kerja jantung dan paru juga bertambah berat, jantung memompa darah untuk dua orang yaitu ibu dan janin dan paru-paru menghisap zat asam pertukaran oksigen dan karbondioksida untuk pertumbuhan ibu dan janin.

4) Perubahan sistem perkemihan

Selama masa kehamilan ginjal bekerja lebih berat karena penyaringan darah yang meningkat 30% - 50%, serta pembesaran uterus yang menekan kandung kemih yang menyebabkan sering

berkemih. Faktor penekanan menyebabkan peningkatan hormone yang dihasilkan yaitu hormoekuensi berkemih. Gejala ini akan hilang pada trimester ke tiga dan diakhiri kehamilan, gangguan ini akan muncul Kembali karena turunnya kepala janin ke rongga panggul yang menekan kandung kemmih.

5) Perubahan sistem gastrointestinal

Perubahan pada sistem gastrointestinal yaitu pengaruh dan faktor hormonal selama kehamilan. Tingginya kadar progesterone mengganggu keseimbangan cairan tubuh yang dapat meningkatkan kolesterol darah dan melambatkan kontraksi otot-otot polos, hal tersebut meningkatkan Gerakan usus (peristaltik) berkurangnya dan bekerja lebih lama karena adanya desakan akibat tekanan dari uterus yang membesar sehingga pada ibu hamil trimester tiga sering mengeluh konstipasi.

6) Perubahan sistem indokrin

Plasenta sebagai sumber utama sebagai terbentuknya hormon HCG (human chorionic ganadotropim) hormon yang akan menstimulasi pembentukan esterogen dan progesteron yang di sekresi oleh korpus luteum, berperan mencegah terjadinya ovulasi dan membentuk Kembali ke kerongkongan.

b. Perubahan psikologis masa kehamilan

Selain perubahan fisiologi yang terjadi pada masa kehamilan adapun perubahan psikologi. Berikut beberapa perubahan psikologis kehamilan menurut Lalita (2013), yaitu:

- 1) Trimester I, sering dianggap sebagai periode penyesuaian pada wanita terhadap kenyataan bahwa ia sedang hamil atau mengandung. Kenyataan tersebut wanita sering merasa sedih dan ambivalen seperti mengalami kekecewaan, penolakan, kecemasan, depresi, dan kesedihan. Hal tersebut merupakan respon normal bagi wanita yang sedang mempersiapkan peran barunya.
- 2) Trimester II, sering dianggap sebagai periode menerima janin yang ada didalam kandungannya. Setelah merasakan pergerakan bayi yang ada didalam kandungannya merupakan awal hubungan peran ibu dan anak yang melibatkan sebuah tanggung jawab.
- 3) Trimester III, sering disebut periode penantian dengan penuh kewaspadaan dan ketakutan. Kecemasan dapat terjadi kibat pemikiran mengenai keselamatan diri dan anaknya dalam proses persalinan.

2.3 Konsep Kesehatan Mental

2.3.1 Pengertian

Kesehatan mental menurut Badan Kesehatan Dunia (WHO), merupakan kemampuan seseorang untuk beradaptasi dengan dirinya sendiri dan orang sekitarnya sehingga merasakan senang, bahagia, berperilaku

sosial dengan normal dan mampu menghadapi serta menerima berbagai kenyataan hidup. Menurut (*World Federation for Mental Health*) Kesehatan mental merupakan kondisi yang optimal yang memungkinkan adanya perkembangan baik secara fisik, intelektual, dan emosional (Rozali et al., 2021).

Kesehatan mental menurut Merriam Webster, merupakan suatu keadaan psikologis dan emosional yang baik, dimana individu tersebut dapat memanfaatkan kemampuan kognisi dan emosinya dapat berfungsi dalam komunitasnya, dan dapat memenuhi kebutuhan hidupnya sehari-hari (Furwasyih et al., 2021). Dapat disimpulkan dari pengertian diatas yaitu Kesehatan mental merupakan kemampuan seseorang untuk beradaptasi dengan normal baik dengan dirinya sendiri dan lingkungan, dan dapat memenuhi kebutuhan hidupnya sehari hari.

2.3.2 Karakteristik kesehatan mental

Kesehatan mental dapat dilihat dari ciri-ciri mental yang sehat, berikut ini ciri-ciri mental yang sehat menurut Rozali dkk. (2021), yaitu:

- a. Seseorang yang menyesuaikan diri terhadap lingkungan atau melakukan usaha untuk menguasai, dan mengontrol lingkungannya, sehingga tidak pasif menerima begitu saja kondisi sosialnya.
- b. Seseorang menunjukkan keutuhan kepribadiaannya dan mempertahankan integrasi kepribadian yang stabil yang diperoleh sebagai akibat dari pengaturan yang aktif.

- c. Seseorang mempersepsikan dunia dan dirinya dengan benar, independent dalam hal kebutuhan pribadi.

Berikut merupakan ciri mental yang sehat menurut Sikun dalam Fakhriyani (2019), yaitu:

- a. Memiliki perasaan aman, yang terbebas dari rasa cemas
- b. Memiliki harga diri yang kuat
- c. Spontanitas dalam kehidupan dengan memiliki emosi yang hangat dan terbuka
- d. Memiliki keinginan-keinginan duniawi yang wajar dan seimbang, dengan wajar dan seimbang
- e. Mampu belajar mengalah dan merendahkan diri dengan orang lain
- f. Tahu diri, mampu menilai kekuatan dan kekurangan dirinya baik dari fisik atau psikis
- g. Mampu memandang fakta sebagai realitas dengan memperlakukannya sebagaimana mestinya (tidak berkhayal)
- h. Toleransi terhadap ketegangan ataupun stress, tidak panik untuk menghadapi masalah sehingga tetap positif antara fisik, psikis, dan sosial
- i. Memiliki integrasi dan kemandirian dalam kepribadiannya
- j. Mempunyai tujuan hidup yang edkuat
- k. Memiliki kemampuan belajar dari pengalaman
- l. Mampu menyesuaikan diri dalam batas batas tertentu
- m. Memiliki pendirian sendiri

2.3.3 Faktor yang mempengaruhi kesehatan mental

Terdapat dua faktor yang berhubungan dengan kesehatan mental yaitu faktor biologis dan faktor psikologis menurut Notosoedirdjo (2014), sebagai berikut:

a. Faktor biologis

Beberapa faktor biologis yang secara langsung berpengaruh terhadap kesehatan mental, yaitu:

1) Otak

Diferensiasi dan keunikan yang ada pada manusia pada dasarnya tidak dapat dilepaskan dari otak manusia. Keunikan manusia terjadi justru karena keunikan otak manusia dalam mengekspresikan segenap pengalaman hidupnya. Fungsi otak yang baik akan menimbulkan kesehatan mental yang baik, sebaliknya jika fungsinya terganggu berakibat gangguan bagi kesehatan mental. Kesehatan pada otak sangat di tentukan oleh stimulus saat masa kanak-kanak dan perlindungan dari berbagai gangguan.

2) Sistem endokrin

Sistem endokrin berhubungan dengan kesehatan mental seseorang. Gangguan mental akibat sistem endokrin berdampak buruk pada mental manusia. Sebagai contoh terganggunya kelenjar adrenalin berpengaruh terhadap kesehatan mental, yaitu terganggunya “mood”, perasaannya dan tidak dapat melakukan coping stress.

3) Genetik

Genetik merupakan unsur biologis manusia yang mempengaruhi kesehatan. Genetik yang sehat dapat menghasilkan perilaku yang sehat, sementara gangguan genetik dapat memunculkan gangguan mental tertentu. Faktor genetik diakui memiliki pengaruh yang besar terhadap mental manusia. Kecendrungan psikosis yaitu schizopherenia dan manik-depresif merupakan sakit mental yang diturunkan secara genetik dari orangtuanya.

4) Sensori

Sensori merupakan alat yang menangkap stimulus dari luar. Sensori termasuk: pendengaran, pengelihatan, perabaan, pengecapan dan penciuman. Adanya gangguan sistem sensori ini akan menghambat penerimaan informasi secara baik.

5) Kondisi ibu selama kehamilan

Faktor ibu selama kandungan sangat berpengaruh terhadap kesehatan mental anak. Selama berada dalam kandungan, kesehatan janin ditentukan oleh kondisi ibu. Kandungan yang sehat memungkinkan membuahkan anak yang sehat mentalnya, sebaliknya kandungan tertentu dapat menyebabkan gangguan kepada keturunanya. Faktor-faktor ibu yang turut mempengaruhi kesehatan mental anaknya di antaranya: usia, nutrisi, obat-obatan, radiasi, penyakit yang diderita, stress dan komplikasi. Hal ini dapat menyebabkan gangguan tertentu seperti *autism spectrum disorder* (Renee A., 2020)

b. Faktor psikologis

Ada beberapa faktor psikologis yang berpengaruh terhadap kesehatan mental, yaitu:

1) Pengalaman awal

Pengalaman awal merupakan segenap pengalaman yang terjadi pada individu terutama yang terjadi di masa lalunya. Pengalaman awal ini sebagai bagian penting dan bahkan sangat menentukan bagi kondisi mental individu di kemudian hari.

2) Proses pembelajaran

Perilaku manusia adalah sebagian besar adalah proses belajar, yaitu hasil pelatihan dan pengalaman. Manusia belajar secara langsung sejak pada masa bayi terhadap lingkungannya. Karena itu faktor lingkungan sangat menentukan mental individu.

3) Kebutuhan

Motivasi seseorang dibentuk melalui kebutuhan-kebutuhan dasarnya yang tersusun secara hierarki. Kebutuhan dasar itu secara berturut-turut adalah kebutuhan fisiologis, kebutuhan rasa aman, kebutuhan dicintai, kebutuhan penghargaan, dan kebutuhan aktualisasidiri.

4) Sosial

Lingkungan sosial secara nyata mempengaruhi perilaku sehat dan sakit. Peran sehat juga berkaitan dengan nilai sosialnya. Individu akan berperan sehat atau sakit jika sesuai dengan nilai-nilai yang secara

sosiologis diterima. Demikian juga bahwa lingkungan sosial itu juga mempengaruhi pola sehat dan sakitnya, baik kesehatan secara fisik maupun mental.

2.3.4 Macam-macam masalah kesehatan mental

Terdapat beberapa macam masalah kesehatan mental dan berikut ini adalah 15 yang paling umum menurut Wijaya (2021), yaitu:

a. Kecemasan

Para ahli mendefinisikan kecemasan dengan penjelasan yang berbeda-beda didalam (Hayat, 2017). Menurut Nelson-Jones kecemasan merupakan bagian dari kondisi hidup ada pada setiap orang. Barlow mengatakan kecemasan berhubungan dengan konsep diri atau kepribadian, ciri atau sifat ini mengacu pada suatu disposisi untuk bertindak dengan penuh minat dengan beberapa konsistensi dari waktu ke waktu atau ke seberang situasi.

Menurut Lang mengungkapkan, bahwa kecemasan mungkin diterangkan dalam bentuk pemikiran, seperti “aku takut”, fisik sensasi atau perasaan seperti rasa gugup, berkeringat, tegangan, atau ungkapan perilaku seperti menghindar dari suatu situasi, lari. Individu yang berbeda pada keadaan kecemasan akan bertukar-tukar dalam kaitan dengan sistem yang dilafalkan. Izard, 1977 juga mengemukakan pandangannya, bahwa kecemasan adalah sebagai campuran dari suatu jumlah emosi, walaupun ketakutan dominan di dalam campuran itu. Emosi dasar yang paling umum mempertimbangkan untuk berkombinasi dengan ketakutan untuk menyusun

kecemasan meliputi keadaan susah/kepiluan (*distress/sadness*), kemarahan, malu, rasa bersalah, dan minat/kegembiraan (*interest/excitement*).

b. Stress

Para ahli mendefinisikan stress dengan penjelasan yang berbeda-beda didalam (Moh Muslim, 2020). Robbins menyatakan bahwa stres merupakan suatu kondisi yang menekan keadaan psikis seseorang dalam mencapai sesuatu kesempatan di mana untuk mencapai kesempatan tersebut terdapat batasan atau penghalang. Weinberg dan Gould mendefinisikan stres sebagai “*asubstantial imbalance between demand (physical and psychological) and response capability, under condition where failure to meet that demand has importance consequences*”. Artinya, ada ketidakseimbangan antara tuntutan (fisik dan psikis) dan kemampuan memenuhinya. Gagal dalam memenuhi kebutuhan tersebut akan berdampak krusial.

Hampir sependapat di atas, Sarafino mendefinisikan stress sebagai tekanan internal maupun eksternal serta kondisi bermasalah lainnya dalam kehidupan (*aninternal and external pressure and other troublesome condisition in life*). Beberapa konsep tersebut menjelaskan stress sebagai sebuah kondisi yang disebabkan oleh interaksi antara individu dengan lingkungan, menimbulkan persepsi jarak antara tuntutan-tuntutan yang berasal dari situasi yang bersumber pada sistem biologis, psikologis, dan sosial dari seseorang.

c. Depresi

Para ahli mendefinisikan depresi dengan penjelasan yang berbeda-beda didalam (Sulistyorini & Sabarisman, 2017). Menurut Davidson G Neale menjelaskan depresi sebagai suatu keadaan emosi yang ditandai dengan kesedihan yang sangat, perasaan tidak berharga dan perasaan bersalah, menarik diri dari orang lain, susah tidur, kehilangan nafsu makan, kehilangan keinginan terhadap seksual dan kehilangan minat dan kesenangan terhadap aktivitas sehari-hari. Leitenberg & Wilson menyatakan bahwa mereka yang depresi menunjukkan kontrol diri rendah, yaitu evaluasi diri yang negatif, harapan terhadap performa rendah, suka menghukum diri dan sedikit memberikan hadiah terhadap diri sendiri.

Sedangkan menurut Clark & Beck bahwa, individu yang mengalami depresi karena pada awal perkembangannya ia memperoleh skema kognitif dengan karakteristik berupa rendahnya penilaian terhadap diri sendiri dan tidak adanya keyakinan mengenai masa depannya. Kebiasaan memiliki pemikiran negatif seperti ini semakin menambah dan memperluas pengalaman negatif individu yang bersangkutan yang mengalami depresi dan mereka akan menyalahkan dirinya sendiri lebih dari yang seharusnya.

d. Gangguan Mood

Gangguan mood adalah masalah kesehatan mental yang terutama mempengaruhi keadaan emosional seseorang. Ini adalah gangguan di mana seseorang mengalami periode kebahagiaan/ kesedihan, atau keduanya. Gangguan mood atau suasana hati merupakan nada perasaan yang meresap

dan berkelanjutan yang bertahan secara internal dan yang mempengaruhi hampir semua aspek perilaku seseorang (Sekhon & Gupta, 2022).

e. Insomnia

Sebagai kesulitan memulai tidur, mempertahankan tidur, atau bangun terlalu dini. Hal tersebut menyebabkan kondisi fisik menjadi tidak cukup fit untuk melakukan aktivitas. Insomnia dapat terjadi pada semua rentang usia dan lebih rentan terjadi pada wanita dibandingkan pria, serta seseorang yang sudah lanjut usia. Faktor lain yang meningkatkan insomnia atau gangguan tidur yaitu depresi, kecemasan, dan stress (Sateia, 2014).

f. Skizofrenia

Skizofrenia adalah penyakit mental serius yang memengaruhi cara seseorang berpikir, merasa, dan berperilaku. Seseorang dengan skizofrenia mungkin tampak seperti mereka telah kehilangan kontak dengan kenyataan, yang dapat menyusahkan bagi mereka dan bagi keluarga dan teman-teman mereka. Perasaan takut dan menarik diri, dan mungkin tampak kehilangan kontak dengan kenyataan. Skizofrenia yang ditandai dengan adanya keyakinan delusi, halusinasi, dan gangguan dalam pemikiran, persepsi, dan perilaku (Hany et al., 2021).

g. Gangguan Psikotik

Gangguan psikotik adalah gejala psikologis yang mengakibatkan hilangnya kontak dengan kenyataan. Gangguan psikotik dapat terjadi akibat penyakit psikiatri primer, penggunaan zat, atau kondisi neurologis atau medis lainnya. Awal gejala yang muncul yaitu delusi, halusinasi pikiran

yang tidak teratur, perilaku tidak teratur, gejala negatif (Calabrese & Khalili, 2022).

h. Gangguan makan

Gangguan makan merupakan kondisi serius terkait dengan perilaku makan yang memberikan dampak negatif pada kesehatan, emosi, dan kemampuan untuk berfungsi dalam kehidupan sehari-hari. Kondisi ini termasuk dalam penyakit masalah kesehatan mental dapat memengaruhi kemampuan tubuh untuk mendapatkan nutrisi yang sesuai. Akibatnya, bisa membahayakan jantung, sistem pencernaan, tulang, gigi dan mulut, serta memicu penyakit lainnya.

i. *Obsessive-Compulsive Disorder (OCD)*

Obsessive-Compulsive Disorder (OCD) merupakan kondisi yang terdiri dari pikiran mengganggu yang menimbulkan perasaan tidak nyaman, OCD merupakan masalah kesehatan mental yang mendorong untuk melakukan tindakan secara berulang-ulang. Obsesi adalah ketekunan yang patologis dari suatu pikiran atau perasaan yang tidak dapat ditentang yang tidak dapat dihilangkan dari kesadaran oleh usaha logika, yang disertai dengan kecemasan. Sedangkan kompulsi adalah kebutuhan yang patologis untuk melakukan suatu impuls yang jika ditahan menyebabkan kecemasan (Brock & Hany, 2022).

j. Gangguan kepribadian

Gangguan kepribadian adalah jenis masalah kesehatan mental di mana memiliki pola berpikir, berfungsi, dan berperilaku yang kaku.

Seseorang dengan gangguan kepribadian mengalami kesulitan memahami dan berhubungan dengan situasi. Hal ini menyebabkan masalah dan keterbatasan yang signifikan dalam hubungan kegiatan sosial, pekerjaan dan sekolah.

k. *Sindrom Tourette*

Sindrom Tourette merupakan gangguan perkembangan saraf umum yang mempengaruhi beberapa tics motorik dan vokal dan dimulai pada masa kanak-kanak. Gejala yang terjadi yaitu mengalami rasa sakit fisik, isolasi sosial, gangguan emosional, dan beresiko untuk berprestasi rendah. Hal ini dapat menimbulkan masalah kesehatan mental lainnya seperti *attention deficit hyperactivity disorder* (ADHD), *obsessive-compulsive disorder* (OCD), dan gangguan kecemasan (Kurlan & Shprecher, 2022).

l. *Psikomatis*

Gangguan psikomatis adalah keluhan fisik yang timbul atau dipengaruhi oleh pikiran atau emosi, bukannya oleh alasan fisik yang jelas, seperti luka atau infeksi. Penyebab utama dari psikomatis adalah pikiran dan emosi negatif yang menimbulkan stres dan kecemasan.

m. *Factitious*

Factitious adalah gangguan buatan buatan yang merupakan masalah kesehatan mental yang serius di mana seseorang menipu orang lain dengan tampak sakit, dengan sengaja jatuh sakit atau melukai diri sendiri. penyebabnya adalah trauma namun selebihnya masih melalui proses

pengujian. Hal ini juga diduga bahwa itu mungkin turun-temurun, seperti depresi.

n. Disosiatif

Gangguan disosiatif sering kali memiliki kepribadian utama, yang mungkin pasif, tergantung, dan depresi. Perasaan kehilangan waktu atau kebingungan, memerankan dua atau lebih kepribadian, perasaan detasemen, celah memori, dan keluar dari perilaku karakter. Penyebab hal tersebut yaitu stress, trauma, dan pelecehan fisik atau seksual.

o. *Attention Deficit Hyperactivity Disorder (ADHD)*

Attention Deficit Hyperactivity Disorder (ADHD) adalah masalah kesehatan mental yang telah lama diketahui dapat mempengaruhi kemampuan fungsi anak. Individu yang menderita gangguan ini menunjukkan pola tingkat kurang perhatian, hiperaktif, atau impulsif yang tidak sesuai dengan perkembangan. Gejalanya dimulai pada usia muda dan biasanya termasuk kurang perhatian, kurang konsentrasi, kesulitan menyelesaikan tugas, pelupa, dan kehilangan sesuatu. Gejala-gejala ini harus muncul sebelum usia 12 tahun, telah berlangsung selama enam bulan, dan mengganggu aktivitas kehidupan sehari-hari (Magnus et al., 2022).

2.4 Konsep Kesehatan Mental Ibu Hamil

2.4.1 Faktor pemicu masalah kesehatan mental ibu hamil

Beberapa hal berikut ini juga dapat memicu kesehatan mental ibu hamil menurut Fajar (2022), yaitu:

1. Kehamilan pada usia remaja
2. Pengalaman mengalami trauma fisik, emosi ataupun kekerasan seksual
3. Riwayat ketergantungan obat-obatan dan rokok
4. Kurangnya dukungan sosial
5. Memiliki tingkat sosial ekonomi yang rendah
6. Pernah mengalami kekerasan dalam rumah tangga
7. Pengobatan depresi yang tidak tuntas
8. Mengalami kesulitan finansial
9. Memiliki pemikiran yang bertentangan akan kehamilan

2.4.2 Macam-macam masalah kesehatan mental ibu hamil

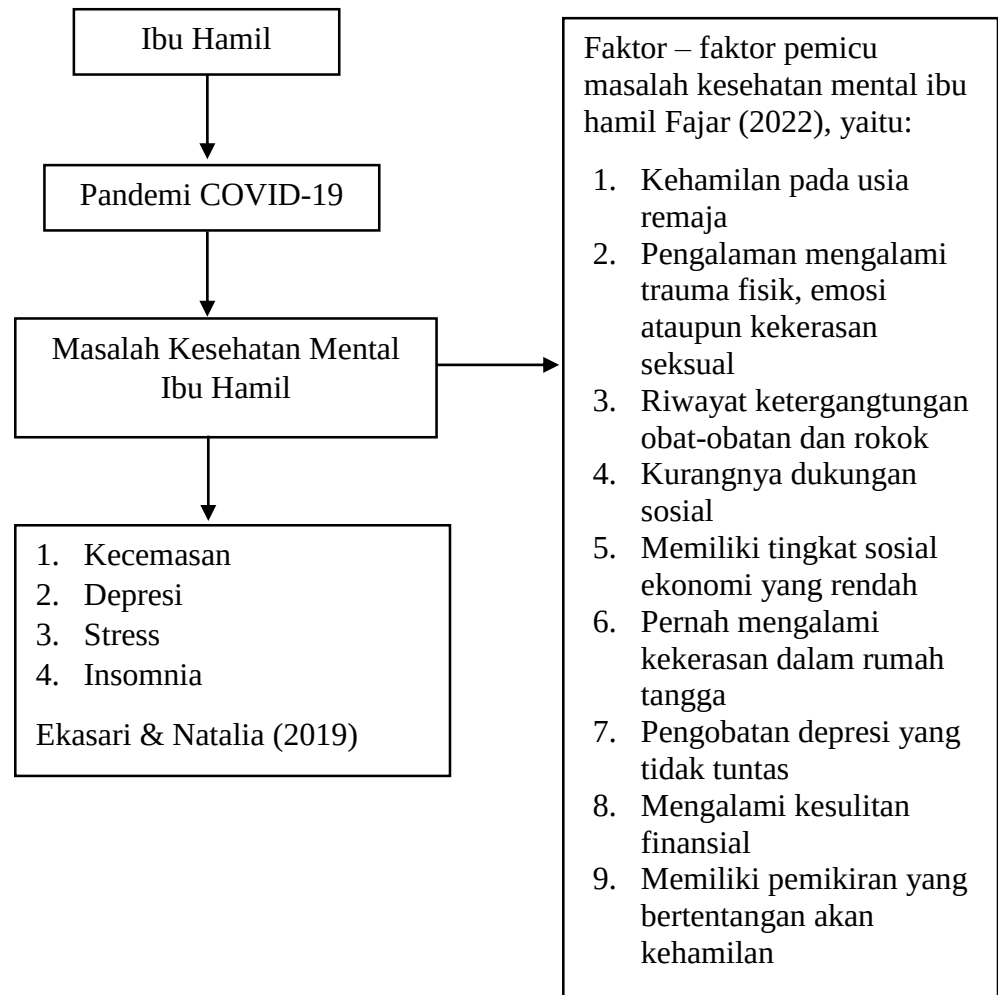
Ada beberapa macam masalah kesehatan mental pada ibu saat masa kehamilan menurut Ekasari & Natalia (2019), antara lain:

- a. Ansietas (kecemasan), kecemasan ibu hamil dimulai dari rasa khawatir yang muncul seiring dengan kehamilannya. Faktor penyebabnya biasanya berhubungan dengan kondisi kesejahteraan dirinya dan janin yang akan dilahirkan, rasa aman dan nyaman selama kehamilan, persiapan menjadi orang tua, sikap menerima kehamilan tersebut, support keluarga, keuangan keluarga, dan tenaga medis (Zulaekah & Kusumawati, 2021).
- b. Depresi, perasaan tidak semangat yang ditandai dengan perasaan yang tidak menyenangkan, menurunnya kegiatan, dan pesimis menghadapi masa depan. Penyebab timbulnya depresi ibu hamil akibat perubahan hormonal yang berhubungan dengan otak, hubungan dengan suami atau anggota keluarga, kegagalan, dan komplikasi hamil. Depresi pada ibu

hamil memiliki pola yang bervariasi. Pada trimester pertama dan ketiga, biasanya depresi akan terasa makin berat. Akan tetapi, tingkat keparahan depresi akan cenderung lebih rendah atau menurun pada trimester kedua kehamilan (Fajar, 2022).

- c. Stress, pemikiran yang negatif dan perasaan takut. Penyebab terjadinya stress ibu hamil yaitu masalah ekonomi, keluarga, pekerjaan, dan kecemasan berlebihan terhadap kehamilan maupun persalinan yang akan mereka jalani (Taslim et al., 2016).
- d. Insomnia, sulit tidur atau gangguan tidur yang diakibatkan gelisah atau perasaan tidak senang, kurang tidur, atau sama sekali tidak bisa tidur. Gangguan tidur pada ibu hamil karena kekhawatiran menjelang kelahiran. Penyebab gangguan tidur tersebut karena stres, perubahan pola hidup, penyakit, kecemasan, depresi, dan lingkungan yang ramai. Dampak gangguan tidur pada ibu hamil yaitu perasaan mudah lelah, tidak bergairah, dan mudah emosi (Ubaudillah, 2021).

2.5 Kerangka Teori



Gambar 2. 1 Kerangka Teori Gambaran kesehatan Mental Pada Ibu Hamil di Masa Pandemi COVID-19

BAB 3

METODE PENELITIAN

3.1 Strategi Pencarian *Literature*

3.1.1 Protokol dan Registrasi

Rangkuman menyuluruh dalam bentuk *literature review* mengenai gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19. Protokol dan evaluasi dari *literature review* akan menggunakan PRISMA checklist untuk menentukan penyeleksian studi yang telah ditemukan dan diselesaikan dengan tujuan *literature review*.

3.1.2 Database Pencarian

Literature review yang merupakan rangkuman menyeluruh beberapa studi penelitian yang tentukan berdasarkan tema tertentu. Pencarian *literature review* dilakukan pada bulan November 2020 – Maret 2021. Data yang digunakan dalam penelitian ini adalah data sekunder yang diperoleh bukan dari pengamatan langsung, akan tetapi diperoleh dari hasil penelitian yang telah dilakukan oleh peneliti-peneliti terdahulu. Sumber data sekunder yang didapat berupa artikel jurnal bereputasi baik nasional maupun internasional dengan tema yang sudah ditentukan. Pencarian literatur dalam *literature review* ini menggunakan tiga database, yaitu *Pubmed*, *Google Scholar*, dan *Scient Direct*.

3.1.3 Kata kunci

Pencarian artikel atau jurnal menggunakan *keyword* dan *Boolean operator* (*AND*, *OR*, *NOT*) yang digunakan untuk memperluas atau menspesifikasikan pencarian, sehingga mempermudah dalam penentuan artikel atau jurnal yang digunakan. Kata kunci dalam *literature review* ini disesuaikan dengan *medical subject Heading (MeSH)* dan terdiri dari sebagai berikut:

Tabel 3. 1 Kata Kunci *Literature review*

<i>Mental Health</i>	<i>AND</i>	<i>Pregnant women</i>	<i>AND</i>	Pandemi COVID-19
<i>OR</i>		<i>OR</i>		<i>OR</i>
Kesehatan Mental		Ibu Hamil		<i>Coronavirus Disease</i>
<i>OR</i>		<i>OR</i>		
Psikologi		<i>Pregnancy</i>		

3.2 Kriteria Inklusi dan Eksklusi

Strategi yang digunakan untuk mencari artikel menggunakan *PEOS framework*, yang terdiri dari:

- 1) *Population/problem* yaitu populasi atau masalah yang akan di analisis sesuai dengan tema yang sudah ditentukan dalam *literature review*.
- 2) *Exposure* yaitu paparan yang dalam penelitian dapat mewakili intervensi maupun paparan lain yang akan di review.
- 3) *Outcome* yaitu hasil atau luaran yang diperoleh pada studi terdahulu yang sesuai dengan tema yang sudah ditentukan dalam *literature review*.

- 4) *Study design* yaitu desain penelitian yang digunakan dalam artikel yang akan di review.

Tabel 3. 2 Format PEOS dalam *Literature Review*

Kriteria	Inklusi	Ekslusi
<i>Population/ Problem</i>	Populasi dalam penelitian adalah ibu hamil. Dengan topik gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19	Populasi dalam penelitian adalah selain ibu hamil dengan gambaran kesehatan mental di masa pandemi COVID-19
<i>Exposure</i>	Gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19	Bukan gambaran kesehatan mental ibu hamil di masa pandemi COVID-19
<i>Outcomes</i>	Adanya gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19	Tidak dijelaskan adanya gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19
<i>Study design</i>	<i>Cross-sectional, experimental study, Descriptive</i>	<i>Literature review, systematic review, cohort study</i>
<i>Publication years</i>	2020 - 2022	Sebelum tahun 2020
<i>language</i>	Inggris dan Indonesia	Selain Bahasa Inggris dan Indonesia

3.3 Seleksi studi dan penilaian kualitas

Kualitas metodologi dalam setiap studi (n= 8) dengan *checklist* daftar penilaian dengan beberapa pertanyaan untuk menilai kualitas dari studi. Penilaian kriteria diberi nilai ‘ya’, ‘tidak’, ‘tidak jelas’ atau ‘tidak berlaku’, dan setiap kriteria dengan skor ‘ya’ diberi satu point dan nilai lainnya adalah nol, setiap skor studi kemudian dihitung dan dijumlahkan. *Critical appraisal* untuk menilai studi yang memenuhi syarat dilakukan oleh para peneliti. Jika skor penelitian setidaknya 50% memenuhi kriteria *critical appraisal* dengan nilai

titik *cut-off* yang telah disepakati oleh peneliti, studi dimasukkan ke dalam kriteria inklusi. Peneliti mengecualikan studi yang berkualitas rendah untuk menghindari bias dalam validitas hasil dan rekomendasi ulasan. Dalam skrining terakhir, lima studi mencapai skor lebih tinggi dari 50% dan siap untuk melakukan sintesis.

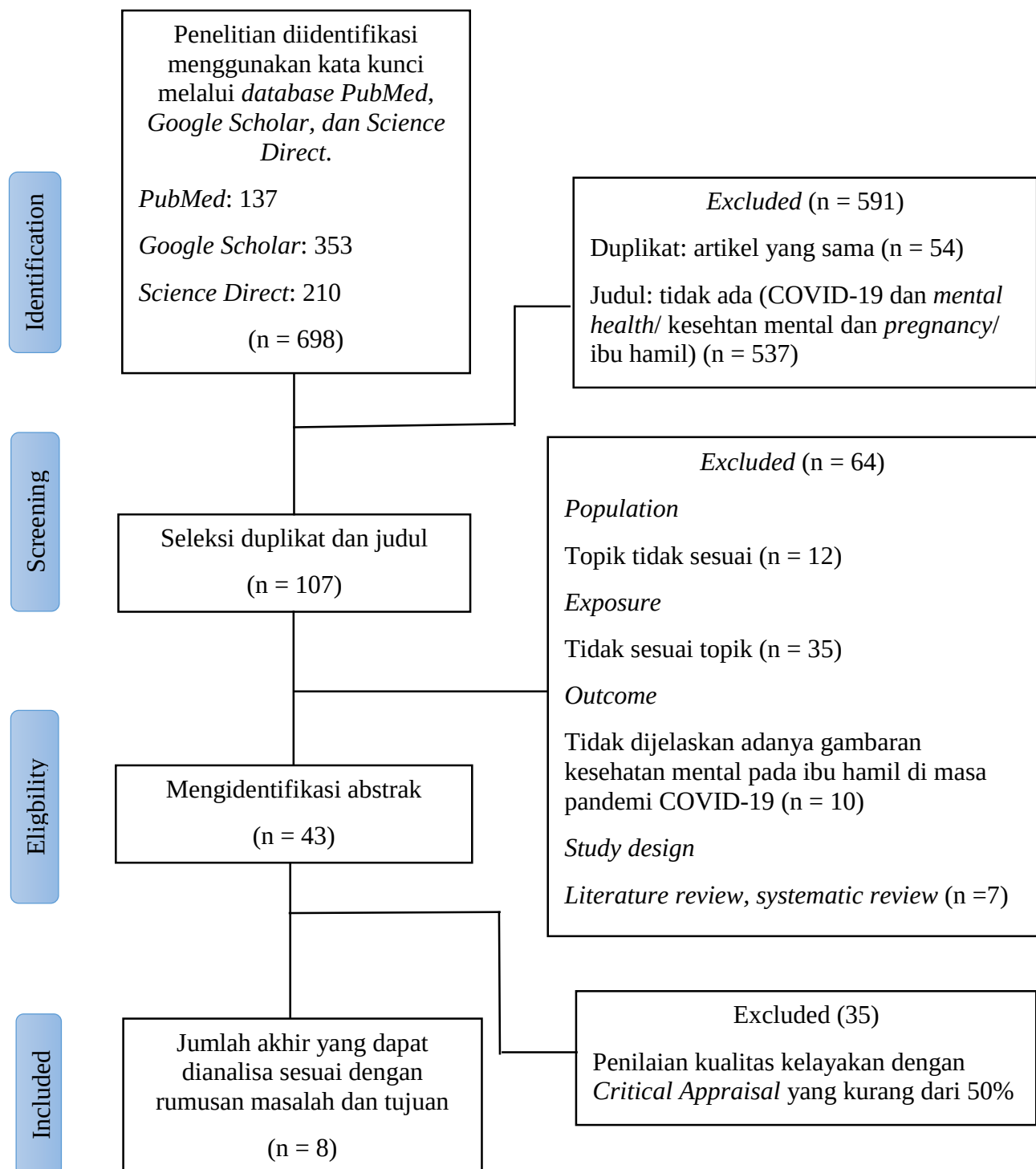
Risiko bias dalam *literature review* ini menggunakan asesmen pada metode penelitian masing-masing studi, yang terdiri dari (Nursalam, 2020):

- a. Teori: teori yang tidak sesuai, sudah kedaluarsa, dan kredibilitas yang kurang.
- b. Desain: desain kurang sesuai dengan tujuan penelitian.
- c. Sample: ada empat hal yang harus diperhatikan yaitu populasi, sampel, sampling, dan besar sampel yang tidak sesuai dengan kaidah pengambilan sampel.
- d. Variabel: variabel yang ditetapkan kurang sesuai dari segi jumlah, pengontrolan variabel perancu, dan variabel lainnya.
- e. Instrument: instrumen yang digunakan tidak memiliki sensitifitas, spesifikasi dan validitas-reliabilitas.
- f. Analisis Data: analisis data tidak sesuai dengan kaidah analisis yang sesuai dengan standar.

3.4 Hasil pencarian dan seleksi studi

Berdasarkan hasil pencarian literatur melalui publikasi di tiga *database* dan menggunakan kata kunci yang sudah disesuaikan dengan MeSH, peneliti mendapatkan 698 artikel yang sesuai dengan kata kunci tersebut. Hasil

pencarian yang sudah di dapatkan kemudian diperiksa duplikasi dan judul, ditemukan terdapat 54 artikel yang sama dan judul tidak sesuai kunci terdapat 537 sehingga dikeluarkan dan tersisa 107 artikel. Peneliti kemudian melakukan skrining sesuai dengan PEOS dikeluarkan sebanyak 64 artikel dan tersisa 43 artikel, kemudian dilakukan penilaian *critical appraisal* memenuhi kriteria diatas 50% dan disesuaikan dengan tema *literature review*. Assessment yang dilakukan berdasarkan kelayakan terhadap kriteria inklusi dan eksklusi didapatkan sebanyak 8 artikel yang bisa dipergunakan dalam *literature review*. Hasil seleksi artikel studi dapat digambarkan dalam Diagram Flow di bawah ini:



Gambar 3. 1 Diagram Flow *Literature Review* Berdasarkan PRISMA 2009

BAB 4

HASIL DAN ANALISIS

Bab ini membahas tentang hasil penelitian yang dikaji dalam perspektif teori, pendalaman konsep serta pemunculan gagasan konsep yang baru. Topik pada penelitian ini adalah gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19.

4.1 Hasil Dan Analisis Penelitian

4.1.1 Karakteristik Studi

Berikut ini disajikan tabel analisis sintesis grid pencarian literatur dan didapatkan sebanyak delapan artikel penelitian yang relevan dengan topik penelitian yang dilakukan, yaitu sebagai berikut:

Tabel 4. 1 Karakteristik Studi

No.	Karakteristik Studi	Frekuensi	Persentase
1	Tahun Publikasi		
	1) 2020	1	12,5
	2) 2021	7	87,5
	Total	8	100
2	Sumber Artikel		
	1) Nasional	2	25
	2) Internasional	6	75
	Total	8	100
3	Desain Penelitian		
	1) Deskriptif Kuantitatif	2	25
	2) Cross-Sectional	5	62,5
	3) <i>Questionnaire survey</i>	1	12,5
	Total	8	100
4	Instrument		
	1) Kuesioner	7	87,5
	2) Survei online	1	12,5
	Total	8	100
5	Data Base		
	1) <i>Google Scholar</i>	2	25
	2) <i>Science Direct</i>	2	25
	3) <i>Pub Med</i>	4	50
	Total	8	100

4.1.2 Hasil Pencarian Artikel

Hasil penelusuran artikel pada penelitian berdasarkan *literature review* dengan judul “Gambaran Kesehatan Mental pada Ibu Hamil di Masa pandemi COVID-19” didapatkan delapan artikel. Berikut ini hasil pencarian artikel yang ditampilkan dalam bentuk tabel sebagai berikut:

Tabel 4. 2 Daftar Artikel Hasil Pencarian

No	Penulis, Tahun	Judul Artikel	Nama Jurnal	Metode (Desain, Populasi, Sampel, Variabel, Instrument, Analisis)	Database	Hasil Penelitian
1	Sartika, Hikmah Nurul, (2021)	Gambaran Kesehatan Mental Ibu Hamil di Puskesmas Pangkajene	Jurnal kesehatan Masyarakat Vol.3 No.2	D: Deskriptif Kuantitatif P: Ibu hamil yang melakukan kunjungan kehamilan selama periode pengumpulan data S: <i>Accidental sampling</i> , 117 responden V: Kesehatan mental ibu hamil I: Kuesioner DASS (<i>Depression, Anxiety, Stress Scale</i>) A: Distribusi frekuensi	<i>Google Scholar</i>	Hasil penelitian ini menemukan bahwa masalah kesehatan mental yang terjadi di Puskesmas Pangkajene adalah 52 ibu hamil (44,4%) mengalami kecemasan, 35 ibu hamil (29,9%) mengalami depresi, dan 21 ibu hamil (17,1%) mengalami stress.

2	Nurleana dkk. (2021)	Analisis Masalah Psikologis pada Ibu Hamil di Masa Pandemi COVID-19 di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021	Jurnal Doppler Vol.5 No.2	D: Deskriptif Kuantitatif P: Ibu hamil di Desa Haurseah S: <i>Total sampling</i> , 37 responden V: Masalah psikologis pada ibu hamil I: Kuesioner DASS-21 (<i>Depression Anxiety Stress Scale</i>) A: Distribusi frekuensi	Google Scholar	Hasil penelitian menunjukkan bahwa masalah psikologis ibu hamil yaitu: Kecemasan, (35,1%) mengalami kecemasan sedang, (27%) mengalami kecemasan berat, (16,2%) mengalami kecemasan ringan. Depresi, (56,8%) mengalami depresi ringan, (27%) mengalami depresi sedang, (5,4%) mengalami depresi berat. Stress, (37,8%) mengalami stress ringan, (13,5%) mengalami stress sedang, (5,4%) mengalami stress berat.
3	Perzow dkk. (2021)	<i>Mental disorders among pregnant women during the COVID-19 pandemic</i>	<i>Sao Paulo Medical Journal</i> Doi: 10.1590/15163180.2021.0356.27052021	D: Cross-Sectional P: Ibu hamil yang melakukan kunjungan di <i>Ordu University Training and Research Hospital</i> S: <i>Total sampling</i> , 356 responden V: <i>Mental disorders among pregnant</i> I: Kuesioner (<i>The Beck anxiety scale, The Beck depression scale</i>) A: <i>Bartlett</i> , Korelasi	Science Direct	Hasil menunjukkan masalah mental berupa depresi yaitu (36,2%), dimana (25,5%) mengalami depresi ringan, (7,6%) mengalami depresi sedang, (3,1%) mengalami depresi berat. dan gangguan mental berupa kecemasan yaitu (29,2%), dimana (18,3%) mengalami kecemasan ringan, (8,1%) mengalami kecemasan sedang, (2,8%) mengalami kecemasan berat.

4	Dong et al. (2021)	<i>Investigation on the mental health status of pregnant women in China during the Pandemic of COVID-19</i>	<i>Archives of Gynecology and Obstetrics</i> Doi: 10.1071/00404-020-05805-x	D: Questionnaire survey P: Ibu hamil di China S: Accidental sampling, 156 responden V: <i>The mental health status of pregnant</i> I: Kuesioner SAS (<i>self-rating anxiety scale</i>), SDS (<i>self-rating depression scale</i>) A: <i>t-test ANOVA, Mann Whitney, Chi-square</i>	<i>Pub Med</i>	Hasil menunjukkan dari 156 responden ibu hamil mengalami: Depresi, (23,7%) mengalami depresi ringan, (22,4%) mengalami depresi sedang, (4,5%) mengalami depresi berat, (8,3%) mengalami kecemasan, dan (8,3%) mengalami keduanya kecemasan dan depresi.
5.	Nwafor et al. (2021)	<i>Prevalence and predictors of depression, anxiety, and stress symptoms among pregnant women during COVID-19-related lockdown in Abakaliki, Nigeria</i>	<i>Malawi Medical Journal</i> Doi: 10.4314	D: Cross-sectional P: Semua ibu hamil yang melakukan kunjungan di <i>University Teaching Hospital, Abakaliki, Nigeria</i> S: Total sampling, 456 responden V: <i>Depression, anxiety, and stress among pregnant women</i> I: Kuesioner DASS-21 (<i>Depression Anxiety Stress Scale</i>) A: <i>Multivariable</i>	<i>Pub Med</i>	Hasil menunjukkan prevalensi depresi, kecemasan, dan stress dengan prevalensi tertinggi yaitu: Stress, (23%) mengalami stress berat, (16,7%) mengalami stress sangat berat, (11,6%) mengalami stress sedang, (5,5%) mengalami stress ringan. Depresi, (18,2%) mengalami depresi ringan, (13,4%) mengalami depresi sedang, (7,2%) mengalami depresi berat, (6,4%) mengalami depresi sangat berat. Kecemasan, (14,7%) mengalami kecemasan ringan, (11,8%) mengalami kecemasan sedang, (7,7%) mengalami kecemasan

						sangat berat, (3,3%) mengalami kecemasan berat.
6	Xu et al. (2021)	<i>Mental health among pregnant women under public health interventions during COVID-19 outbreak in Wuhan, China</i>	<i>Psychiatry Research</i> Doi: 10.1016/J.PSYCHRES.2021.113977	D: Cross-sectional P: Pregnant women in Wuhan, Cina S: Accidental Sampling, 274 responden V: Mental health among pregnant women I: Kuesioner (Edinburgh Postnatal Depression Scale EPDS, Self-Rating Anxiety Scale SAS, Chinese Perceived Stress Scale CPSS, Pittsburgh Sleep Quality Index PSQI) A: Uji Chi-square, Mann Whitney	<i>Science Direct</i>	Hasil menunjukkan kesehatan mental paa ibu hamil di masa COVID-19 di Wuhan China dengan jumlah sampel 274 yaitu: stress dengan persentase (42,7%), gangguan tidur dengan persentase (37,6%), depresi dengan persentase (16,1%), dan kecemasan dengan persentase (13,9%).
7	Effati-Daryani et al. (2020)	<i>Depression, stress, anxiety and their predictors in Iranian pregnant women during the outbreak of COVID-19</i>	<i>BMC psychology</i> Doi: 10.1186/S40359-020-00464-8	D: Cross-sectional P: pregnant women, in Irania S: Two step cluster 205 responden V: Depression, stress, anxiety and their predictor pregnant women	<i>Pub Med</i>	Hasil menunjukkan masalah depresi, stres, dan kecemasan dengan persentase tertinggi yaitu: Kecemasan, (17,6%) mengalami kecemasan ringan, (12,2%) mengalami kecemasan sedang, (7,8%) mengalami kecemasan sangat berat, (6,3%) mengalami kecemasan berat. Depresi, (12,7%)

				I: Kuesioner DASS-21 <i>(Depression Anxiety Stress Scale)</i> A: General linear model test		mengalami depresi ringan, (10,7%) mengalami depresi sedang, (7,3%) mengalami depresi berat, (2%) mengalami depresi sangat berat. Stress, (15,6%) mengalami stress sedang, (7,8%) mengalami stress ringan, (7,8%) mengalami stress berat, (1,5%) mengalami stress sangat berat.
8	Kahyaoglu Sut & Kucukkaya (2021)	<i>Anxiety, depression, and related factors in pregnant women during the COVID- 19 pandemic in Turkey</i>	<i>Perspectives in Psychiatric Care</i> Doi: 10.1111/ ppc.126 27	D: Cross-sectional P: Pregnant women in Turkey S: Accidental Sampling, 403 responden V: Anxiety, depression pregnant women I: Survei online HADS <i>(Hospital anxiety and depression scale)</i> A: Shapiro-Wilk test, Mann Whitney, Rank Spearman	Pub Med	Hasil menunjukkan prevelensi kecemasan dan depresi pada ibu hamil selama pandemi COVID-19 dengan 403 responden menunjukkan yaitu (64,5%) mengalami kecemasan dan (56,3%) mengalami depresi.

Tabel 4. 3 Daftar Instrument Artikel

	Instrument	Frekuensi	Persentase
1.	Kuesioner		
1)	DASS-21 (<i>Depression Anxiety Stress Scale</i>)	4	50
2)	<i>The Beck anxiety scale, The Beck depression scale</i>	1	12,5
3)	SAS (<i>self-rating anxiety scale</i>), SDS (<i>self-rating depression scale</i>)	1	12,5
4)	<i>Edinburgh Postnatal Depression Scale</i> EPDS, <i>Self-Rating Anxiety Scale</i> SAS, <i>Chinese Perceived Stress Scale</i> CPSS, <i>Pittsburgh Sleep Quality Index</i> PSQI	1	12,5
2.	Survei Online		
1)	<i>Hospital anxiety and depression scale</i>	1	12,5
Total		8	100

Berdasarkan tabel 4.3 diketahui dari delapan artikel menunjukkan sebagian besar instrument yang digunakan yaitu kuesioner DASS-21 (*Depression Anxiety Stress Scale*) sebanyak 4 (50%) artikel.

4.1.3 Karakteristik Responden Studi

Karakteristik responden studi merupakan faktor-faktor yang mempengaruhi variabel yang diteliti namun tidak diteliti.

Hasil review pada masing-masing artikel mengidentifikasi usia, pendidikan, pekerjaan, dan status pernikahan. Disajikan dalam bentuk tabel sebagai berikut:

Tabel 4. 4 Distribusi Frekuensi Berdasarkan Karakteristik Responden

No	Karakteristik Responden	Artikel															
		1		2		3		4		5		6		7		8	
		f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	Usia																
	1) <20 tahun	6	23	-	-	79	22,2	4	2,56	160	35,1	239	87,2	52	25,4	-	-
	2) 20-35 tahun	99	47,9	-	-	174	48,9	91	58,3	197	43,2			120	58,5	-	-
	3) >35 tahun	12	28,2	-	-	103	28,9	61	39,1	99	21,7	35	12,8	33	16,1	-	-
	Total	117	100	-	-	356	100	156	100	456	100	274	100	205	100	-	-
2	Pendidikan																
	1) SD	14	12	-	-	173	48	-	-	31	6,8			-	-	76	18,9
	2) SMP	13	11,1	-	-	125	35,1	-	-	66	14,5	71	25,9	12	5,6		
	3) SMA	49	41,9	-	-			23	14,7	224	49,1			18	8,8	327	81,2
	4) PT	41	35	-	-	125	35,1	133	85,3	135	29,6	203	74,1	175	85,4		
	Total	117	100	-	-	356	100	156	100	456	100	274	100	205	100	403	100
3	Usia Kehamilan																
	1) Trimester I	-	-	-	-	140	39,3	36	23,1	88	19,3	29	10,6	16	7,8	-	-
	2) Trimester II	-	-	-	-	95	25,7	46	29,5	209	45,8	216	78,8	85	41,5	-	-
	3) Trimester III	-	-	-	-	72	20,2	74	47,4	159	34,9	29	10,6	104	50,7	-	-
	Total	-	-	-	-	356	100	156	100	456	100	274	100	205	100	-	-

4 Pekerjaan																
1) PNS	11	9,4	-	-	-	-	-	-	63	13,8	-	-	-	-	-	-
2) Wiraswasta	4	3,4	-	-	-	-	-	-	175	38,4	-	-	-	-	-	-
3) Petani	33	28,2	-	-	-	-	-	-	101	22,1	-	-	-	-	-	-
4) Lain-lain	12	10,3	-	-	122	34,3	-	-	36	7,9	-	-	31	15,1	168	41,7
5) Tidak bekerja	57	48,7	-	-	234	65,7	-	-	81	17,8	-	-	174	84,9	235	58,3
Total	117	100	-	-	356	100	-	-	456	100	-	-	205	100	403	100
5 Status Pernikahan																
1) Menikah	-	-	-	-	330	92,7	136	87,2	426	9,34	246	89,8	205	100	-	-
2) Bercerai	-	-	-	-	26	7,3	20	12,8	30	6,6	58	10,2	-	-	-	-
Total	-	-	-	-	356	100	156	100	456	100	274	100	205	100	-	-

Berdasarkan tabel 4.4 diatas dapat diketahui terdapat 8 artikel mengidentifikasi karakteristik responden. Berdasarkan rentang usia yaitu <20 tahun, 20-35 tahun, >35 tahun, dimana dari 6 (75%) artikel menjelaskan rentang usia responden dengan persentase tertinggi pada usia 20-35 tahun yaitu (58,5%), dan selain itu 2 (25%) artikel tidak dijelaskan adanya usia responden. Berdasarkan status pendidikan responden yaitu SD, SMP, SMA, PT, dimana sebagian besar berpendidikan perguruan tinggi/PT 7 (87,5%) artikel dengan persentase tertinggi (85,4%), sebagian kecil berpendidikan SD 5 (62,5%) artikel, dan selain itu 1 (12,5%) artikel tidak dijelaskan status pendidikan responden. Berdasarkan usia kehamilan responden yaitu trimester I, trimester II, trimester III, dimana dari 5 (62,5%) artikel menjelaskan usia kehamilan responden dengan persentase tertinggi pada usia kehamilan trimester II yaitu (78,8%), dan selain itu 3 (37,5%) artikel tidak dijelaskan adanya usia kehamilan responden.

Berdasarkan status pekerjaan responden yaitu PNS, wiraswasta, petani, lain-lain, tidak bekerja, dimana sebagian besar tidak bekerja dan lain-lain 5 (62,5%) artikel dengan persentase tertinggi yaitu (84,9%), sebagian kecil PNS, wiraswasta, petani 2 (3,4%) artikel, dan selain itu 3 (37,5%) artikel tidak dijelaskan status pekerjaan responden. Berdasarkan status pernikahan responden yaitu katagori menikah, bercerai, dimana sebagian besar berada pada kategori menikah 5 (62,5%) artikel dengan persentase tertinggi yaitu (100%), sebagian kecil pada kategori bercerai 4 (50%) artikel, dan selain itu 3 (37,5%) artikel tidak dijelaskan status pernikahan responden.

4.1.4 Gambaran Kesehatan Mental Pada Ibu Hamil di Masa Pandemi COVID-19

Hasil review dari delapan artikel yang diambil ditemukan gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19 dapat dilihat pada tabel berikut:

Tabel 4. 5 Distribusi Frekuensi Gambaran Kesehatan Mental pada Ibu Hamil di Masa Pandemi COVID-19

No	Kesehatan Mental Ibu Hamil	Artikel															
		1		2		3		4		5		6		7		8	
		f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	Depresi											44	16,1			-	56,3
	1) Normal	82	70,1	4	10,8	227	63,8	77	49,4	250	54,8	-	-	138	67,3	-	-
	2) Ringan	12	10,3	21	56,8	91	25,5	37	23,7	83	18,2	-	-	26	12,7	-	-
	3) Sedang	15	12,8	10	27	27	7,6	35	22,4	61	13,4	-	-	22	10,7	-	-
	4) Berat	6	5,1	2	5,4	11	3,1	7	4,5	33	5,1	-	-	15	7,3	-	-
	5) Sangat berat	2	1,7	-	-	-	-	-	-	29	6,4	-	-	4	7,3	-	-

	Total	117	100	37	100	356	100	156	100	456	100	44	16,1	205	100	-	56,3
2	Kecemasan											38	13,9			-	64,5
	1) Normal	65	55,6	8	21,6	252	70,8	143	91,7	285	63,8	-	-	115	56,1	-	-
	2) Ringan	20	17,1	6	16,2	65	18,3	13	18,3	67	14,7	-	-	36	17,6	-	-
	3) Sedang	14	12	13	35,1	29	8,1	-	-	54	11,8	-	-	25	12,2	-	-
	4) Berat	9	7,7	10	27	10	2,8	-	-	15	3,3	-	-	13	6,3	-	-
	5) Sangat berat	9	7,7	-	-	-	-	-	-	35	7,7	-	-	16	7,8	-	-
	Total	117	100	37	100	356	100	156	100	456	100	38	13,9	205	100	-	64,5
3	Stress											117	42,7			-	-
	1) Normal	96	82,1	16	43,2	-	-	-	-	197	43,2	-	-	138	56,1	-	-
	2) Ringan	9	7,7	14	37,8	-	-	-	-	25	5,5	-	-	16	7,8	-	-
	3) Sedang	10	8,5	5	13,5	-	-	-	-	53	11,6	-	-	32	15,6	-	-
	4) Berat	2	1,7	2	5,4	-	-	-	-	105	23	-	-	16	7,8	-	-
	5) Sangat berat	-	-	-	-	-	-	-	-	76	16,7	-	-	3	1,5	-	-
	Total	117	100	37	100	-	-	-	-	456	100	117	42,7	205	100	-	-
4	Gangguan Tidur	-	-	-	-	-	-	-	-	-	-	103	37,6	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-	103	37,6	-	-	-	-

Berdasarkan tabel 4.5 di sampaikan hasil secara deskriptif mengenai gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19. Dari 8 (100%) artikel menunjukkan depresi dengan berbagai tingkatan terdiri dari normal 6 (75%) artikel, ringan 6 (75%) artikel, sedang 6 (75%) artikel, berat 6 (75%) artikel, sangat berat 3 (37,5%) artikel, dengan persentase tertinggi pada depresi normal yaitu (70,1%). dan selain itu, 2 (25%) artikel tidak menunjukkan tingkatan depresi. Dari 8 (100%) artikel menunjukkan kecemasan dengan berbagai tingkatan terdiri dari normal 6 (75%) artikel, ringan 6 (75%) artikel, sedang 5 (62,5%)

artikel, berat 5 (62,5%) artikel, sangat berat 3 (37,5%) artikel, dengan persentase tertinggi pada kecemasan normal yaitu (70,8%). dan selain itu, 2 (25%) artikel tidak menunjukkan tingkatan kecemasan. Terdapat 5 (62%) artikel menunjukkan stress dengan berbagai tingkatan terdiri dari normal 4 (50%) artikel, ringan 4 (50%) artikel, sedang 4 (50%) artikel, berat 4 (50%) artikel, sangat berat 2 (25%) artikel, dengan persentase tertinggi pada stress normal yaitu (82,1%). dan selain itu, 1 (12,5%) artikel tidak menunjukkan tingkatan stress. Terdapat 1 (12,5%) artikel menunjukkan gangguan tidur dengan persentase (37,6%), dan selain itu 7 (87,5%) artikel tidak menunjukkan masalah gangguan tidur.

BAB 5

PEMBAHASAN

Pada bab ini peneliti melakukan pembahasan sesuai penguasaan peneliti tentang topik yang dibahas. Lalu memadukan antara fakta dan data dari delapan artikel jurnal dengan teori yang ada. Sehingga peneliti mampu memberikan opininya terhadap pembahasan tersebut. Pembahasan ini sesuai dengan tujuan penelitian yang di jelaskan sebagai berikut:

5.1 Gambaran Kesehatan Mental Pada Ibu Hamil di Masa Pandemi COVID-19

Berdasarkan hasil telaah pada 8 artikel diperoleh hasil bahwa kesehatan mental ibu hamil dimasa pandemi COVID-19 terdapat beberapa kondisi yang menggambarkan kesehatan mental meliputi depresi, kecemasan, stress dan gangguan tidur. Dari 8 (100%) artikel menunjukkan gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19 berupa depresi dengan berbagai tingkatan terdiri dari normal 6 (75%) artikel, ringan 6 (75%) artikel, sedang 6 (75%) artikel, berat 6 (75%) artikel, sangat berat 3 (37,5%) artikel. Dari 8 (100%) artikel menunjukkan gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19 berupa kecemasan dengan berbagai tingkatan terdiri dari normal 6 (75%) artikel, ringan 6 (75%) artikel, sedang 5 (62,5%) artikel, berat 5 (62,5%) artikel, sangat berat 3 (37,5%). Terdapat 5 (62%) artikel menunjukkan gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19 berupa stress dengan berbagai tingkatan terdiri dari normal 4 (50%) artikel, ringan 4 (50%) artikel, sedang 4 (50%) artikel, berat 4 (50%) artikel,

sangat berat 2 (25%) artikel. Terdapat 1 (12,5%) artikel menunjukkan gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19 berupa gangguan tidur dengan persentase (37,6%), dan selain itu 7 (87,5%) artikel tidak menunjukkan masalah gangguan tidur. Meskipun masalah kesehatan mental ibu hamil sudah ada sebelumnya, COVID-19 ini menjadi salah satu faktor meningkatnya masalah kesehatan mental.

Peningkatan kasus COVID-19 semakin menyebar disejumlah Negara membuat pemerintah memberlakukan kebijakan untuk pencegahan penularan virus dengan menerapkan *social distancing* dan *psysical distancing* hingga *lock down* yang mengakibatkan ibu hamil terpisah dari orang terdekat seperti suami, anak, orangtua, teman rekan kerja dll. Hal ini ibu hamil mengalami masalah kesehatan mental seperti depresi, kecemasan, dan gangguan tidur (Saccone et al., 2020). Hal lain, dikarenakan perubahan perilaku yang terjadi selama masa kehamilan di masa pandemi COVID-19 mengakibatkan rendahnya motivasi ibu hamil yaitu mengurangi kunjungan pemeriksaan oleh bidan atau dokter secara langsung, takut untuk berinteraksi diluar karena tingginya angka kejadian infeksi COVID-19 (Rumfabe et al., 2020).

Peneliti berpendapat gambaran kesehatan mental seperti depresi, kecemasan, stress, dan gangguan tidur ibu hamil di masa pandemi COVID-19 di akibatkan kebijakan pemerintah di berbagai Negara, semakin banyak kebijakan pemerintah maka semakin tinggi masalah kesehatan mental ibu hamil. Seperti di Turki ibu hamil mengalami masalah kesehatan mental akan potensi berbahaya karena kontrol dokter yang tidak memadai. Seperti juga di

Cina selama pandemi COVID-19 ibu hamil harus tinggal dirumah, mereka tidak dapat menjalani pemeriksaan kehamilannya. Seperti juga di Negeria selama pandemi COVID-19 menerapkan kebijakan *lockdown* hal ini mengakibatkan rendahnya ekonomi dan sulitnya akses transportasi jika terjadi keadaan darurat. Sedangkan di Indonesia menerapkan kebijakan *social distancing* dan *pshycal distancing* hal ini masalah kesehatan mental muncul karena ketakutan dan kegelisahan akan penularan COVID-19, dimana ibu hamil harus sering kali memeriksakan kehamilannya di pusat pelayanan kesehatan sedangkan tempat tersebut merupakan resiko tinggi penularan COVID-19.

BAB 6

PENUTUP

Pada bab ini akan diuraikan kesimpulan dan saran yakni mengenai gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19 berdasarkan literature review 10 artikel.

6.1 Kesimpulan

Dari telaah 8 artikel menunjukkan gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19 yakni mengalami depresi, kecemasan, stress, dan gangguan tidur. Dimana dari 8 (100%) artikel menunjukkan adanya masalah kesehatan mental berupa depresi dan kecemasan, serta 6 (75%) artikel menunjukkan adanya masalah kesehatan mental berupa stress, sedangkan 1 (12,5%) artikel menunjukkan masalah kesehatan mental berupa gangguan tidur.

Hal ini disebabkan perubahan perilaku yang terjadi selama masa kehamilan di masa pandemi COVID-19 mengakibatkan rendahnya motivasi ibu hamil yaitu mengurangi kunjungan pemeriksaan oleh bidan atau dokter secara langsung, takut untuk berinteraksi diluar karena tingginya angka kejadian infeksi COVID-19. Dimana berbagai Negara menerapkan kebijakan *social distancing* dan *psysical distancing* hingga *lock down*.

6.2 Saran

6.2.1 Bagi Institusi Pendidikan

Hasil *literature review* ini dapat dijadikan sumber referensi bagi institusi pendidikan khususnya Universitas dr. Soebandi Jember untuk

memahami masalah kesehatan mental pada ibu hamil di masa pandemi COVID-19.

6.2.2 Bagi Tenaga Kesehatan

Hasil *literature review* ini dapat menjadi bahan evaluasi untuk melakukan upaya penurunan masalah kesehatan mental pada ibu hamil di masa pandemi COVID-19 sehingga terjadi peningkatan kinerja yang mutu pelayanan dengan baik.

6.2.3 Bagi Peneliti Selanjutnya

Hasil *literature review* ini dapat menjadi sumber data dan referensi dalam mengarahkan mengenai gambaran kesehatan mental pada ibu hamil di masa pandemi COVID-19.

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LAMPIRAAN

Lampiran 1 Artikel Penelitian

Artikel 1

KAMPURUI JURNAL KESEHATAN MASYARAKAT

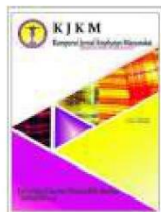
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PENERBIT

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Gambaran Kesehatan Mental Ibu Hamil di Puskesmas Pangkajene

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ABSTRACT

The COVID-19 pandemic has not only caused a public health crisis but also social, demographic and economic as well as psychosocial effects. Anxiety caused during pregnancy has a negative impact on pregnancy, such as increasing the risk of preeclampsia, depression, nausea, vomiting and even causing premature labor or negative miscarriage, including pregnant women. The purpose of this study was to determine the mental health picture of pregnant women during the covid 19 pandemic. This study is a quantitative study with a descriptive approach. The population is pregnant women who come to visit for antenatal care activities. The number of samples in this study was 117 pregnant women obtained using the Lameshow formula. the source of data is primary data from interviews using questionnaires while secondary data from MCH data at puskesmas, health offices and related journals. The results of this study found that the description of mental health disorders that occurred in Pangkajene Health Center was 35 people suffering from depression (29.9%), anxiety as many as 52 (44.4%) and stress as many as 21 people (17.1%). It is expected that the officers at the community health service center, namely midwives, doctors and nurses, will not only carry out physical examinations but also provide counseling services for pregnant women who have mental health disorders.

INTISARI

Pandemi COVID-19 tidak hanya
menyebabkan krisis kesehatan pada

masyarakat tetapi juga sosial, demografis dan ekonomi serta efek psikososial. Kecemasan yang ditimbulkan saat hamil berdampak negatif pada kehamilan, seperti meningkatkan risiko preeklamsia, depresi, mual, muntah bahkan menyebabkan persalinan prematur atau keguguran negatif termasuk wanita hamil. Tujuan penelitian ini untuk mengetahui gambaran kesehatan mental ibu hamil di masa pandemi covid 19. penelitian ini merupakan penelitian kuantitatif dengan pendekatan deskriptif. Poulasinya adalah ibu hamil yang datang berkunjung untuk kegiatan antenatal care. Jumlah sampel dalam penelitian ini sebanyak 117 ibu hamil yang diperoleh menggunakan rumus lameshow. sumber data berupa data primer dari hasil wawancara menggunakan kuesioner sedangkan data sekunder dari data KIA di puskesmas, dinas kesehatan dan jurnal terkait. Hasil penelitian ini menemukan bahwa Gambaran gangguan kesehatan mental yang terjadi di Puskesmas Pangkajene yakni sebanyak 35 orang menderita depresi (29.9%), kecemasan sebanyak 52 (44.4%) dan stress sebanyak 21 orang (17.1%). Diharapkan pada petugas di pusat pelayanan kesehatan masyarakat yakni bidan, dokter maupun perawat tidak hanya melakukan pemeriksaan fisik saja tapi juga membuka layanan konseling untuk ibu hamil yang memiliki gangguan kesehatan mental.

1. PENDAHULUAN

Pandemi covid 19 belum menunjukkan tanda-tanda penurunan kasus di Indonesia sehingga masih ada aturan terkait kontak sosial serta ketidakstabilan kehidupan ekonomi. Ketidakpastian dari Pandemi COVID-19 membuat orang rentan terhadap kecemasan parah. Penelitian telah membuktikan bahwa Ibu hamil sangat rentan terhadap kecemasan dengan prevalensi kecemasan kehamilan antara 15% dan 23% sebagai perbandingan dengan 3 sampai 5% gejala kecemasan pada populasi umum (Nath S, Ryan EG, Trevillion K, 2018). Di seluruh dunia, sekitar 10% wanita hamil dan 13% wanita yang baru saja melahirkan mengalami gangguan mental, terutama depresi. Di negara

berkembang bahkan lebih tinggi, yaitu 15,6% selama kehamilan dan 19,8% setelah melahirkan. Dalam kasus yang parah, ibu hamil dapat melakukan bunuh diri. Selain itu, ibu yang mengalami gangguan kesehatan mental tidak dapat melakukan peran dengan baik (WHO, 2020) Selain itu, Ibu hamil tercatat sebagai salah satu kelompok rentan risiko terinfeksi COVID-19 dikarenakan pada masa kehamilan terjadinya perubahan fisiologi yang mengakibatkan penurunan kekebalan parsial (Liang, H., & Acharya, 2020) dan dapat menyebabkan dampak yang serius bagi ibu hamil.

Informasi tentang COVID-19 hingga saat ini masih sangat terbatas termasuk data ibu hamil yang terkonfirmasi positif COVID-19 belum dapat disimpulkan di Indonesia (Afritayeni et al., 2018). Hasil penelitian dari 55 wanita hamil dan 46 neonatus yang terinfeksi COVID-19 tidak dapat dipastikan adanya penularan vertikal dan belum diketahui apakah meningkatkan kasus keguguran dan kelahiran mati (Rezaee & Framarzi, 2014). Berdasarkan data saat ini, Covid 19 tidak menyebabkan infeksi yang parah pada wanita hamil karena mereka biasanya masih muda dan tanpa penyakit penyerta. Namun, pandemi COVID-19 tidak hanya menyebabkan krisis kesehatan pada masyarakat tetapi juga sosial, demografis dan ekonomi serta efek psikososial negatif termasuk wanita hamil.

Kecemasan yang ditimbulkan saat hamil berdampak negatif pada kehamilan, seperti meningkatkan risiko preeklamsia, depresi, mual, muntah bahkan menyebabkan persalinan prematur atau keguguran (Sasaki T-K, Yoshida A, 2013). Kecemasan ibu hamil juga dapat menyebabkan efek buruk pada bayi baru lahir, seperti berat badan lahir rendah, hambatan pertumbuhan atau skor APGAR rendah (Abazarnejad T, Ahmadi A, Nouhi E, 2019).

Pada survey awal dilakukan wawancara singkat terhadap Bidan dan perawat di Bidang KIA (Kesehatan Ibu dan Anak) serta ibu hamil yang datang untuk kunjungan kehamilan di Puskesmas Pangkajene dengan jumlah 8 orang. Informasi yang didapatkan

dari bidan Puskesmas bahwa Persentase kunjungan ANC Menurun drastis di masa Pandemi Covid 19, yang sebelumnya rata-rata kunjungan bulanan sebanyak 200-300 orang, sekarang hanya di rentang 100 kunjungan. Sedangkan dari Ibu hamil sendiri didapatkan informasi bahwa mereka sebenarnya takut dan cemas untuk ke Puskemas dan khawatir dengan kondisi kehamilan mereka selama pandemi covid 19. Hasil pengukuran kuesioner HARS pada 8 ibu hamil adalah 6 orang mengalami kecemasan yakni 2 kecemasan berat, 3 kecemasan sedang dan 1 orang kecemasan ringan. Informasi tambahan yang didapatkan, sekitar 75 persen dari ibu hamil tersebut tidak mengetahui protokol pencegahan COVID-19.

Penelitian ini merupakan penelitian kuantitatif dengan pendekatan deskriptif. Adapun tujuan penelitian untuk menggambarkan kesehatan mental ibu hamil selama masa pandemi Covid 19 di Puskesmas Pangkajene.

2. METODE PENELITIAN

Jenis penelitian yang digunakan adalah penelitian kuantitatif dengan pendekatan deskriptif untuk memberikan gambaran kesehatan mental ibu hamil di lokasi penelitian yakni Puskesmas Pangkajene Kabupaten Sidenreng Rappang Provinsi Sulawesi Selatan yang dimulai dari Januari 2021 sampai Maret 2021. Variabel dalam penelitian ini adalah karakteristik demografik responden yang terdiri dari umur, tingkat pendidikan dan jenis pekerjaan responden serta kesehatan mental responden yang terdiri dari gangguan stress, kecemasan, dan depresi. Variabel kesehatan mental diukur menggunakan kuesioner DASS (*Depression, Anxiety, Stress Scale*) yang terdiri dari 42 item pernyataan dengan rentang skor jawaban 0-3. Selain untuk mengidentifikasi kondisi kesehatan mental, Kuesioner DASS juga bisa mengidentifikasi tingkatan kesehatan mental ibu hamil yang terdiri dari tingkatan ringan, sedang, parah dan sangat parah. Populasi dalam penelitian ini adalah semua ibu hamil yang melakukan kunjungan kehamilan selama periode pengumpulan data.

Perhitungan jumlah sampel *minimal size* (sampel minimal penelitian) menggunakan rumus Lameshow sehingga dihasilkan jumlah sampel sebesar 117 responden.

$$n = \frac{4 \cdot p \cdot q}{d^2}$$

Keterangan:

n = besar sampel

p = proporsi kejadian gangguan kesehatan mental pada ibu hamil yaitu 0,09% (tahun 2020)

q = 1 - p (proporsi ibu hamil yang tidak mengalami gangguan kesehatan mental)

d = limit dari error 0,05% atau 5%

$$n = \frac{4 \cdot 0,09 \cdot 0,81}{0,05^2}$$

$$n = \frac{0,2916}{0,0025}$$

$$n = 116,64 = 117 \text{ responden}$$

Teknik pengambilan sampel yang digunakan adalah metode *Accidental sampling* yaitu suatu metode penentuan sampel dengan mengambil responden yang kebetulan ada atau tersedia di suatu tempat sesuai dengan konteks penelitian (Notoatmodjo, 2010). Dalam hal ini, sampel merupakan ibu hamil yang datang di puskesmas Pangkajene pada saat peneliti melakukan pengumpulan data. Metode pengumpulan data dilakukan dengan melakukan observasi dan wawancara responden menggunakan kuesioner. Sumber data dalam penelitian ini terdiri dari data primer dan data sekunder. Data primer berasal dari data yang didapatkan langsung melalui wawancara dengan responden sedangkan data sekunder berupa data jumlah kunjungan ibu hamil di puskesmas serta data jumlah kasus kesehatan mental ibu hamil melalui berbagai buku dan jurnal penelitian terkait. Data hasil penelitian yang telah dikumpulkan kemudian dimasukkan ke dalam aplikasi pengolah data setelah itu ditabulasi kemudian diolah menggunakan komputer program SPSS. Data kuantitatif tersebut selanjutnya diolah secara univariat untuk melihat distribusi frekuensi variabel penelitian

3. HASIL

Penelitian dilaksanakan di Puskesmas Pangkajene pada bulan Januari-Maret 2021. Jumlah responden yang berhasil dikumpulkan dalam penelitian ini sebanyak 117 ibu hamil yang melakukan kunjungan kehamilan di Puskesmas Pangkajene. Hasil Penelitian sebagai berikut : karakteristik umum sampel menurut umur responden pada penelitian ini dibagi dalam tiga kelompok umur yakni kelompok umur <20 tahun, 20-35 tahun, >35 tahun, tabel tersebut menunjukkan bahwa responden yang berumur 20-35 tahun paling banyak dibandingkan kelompok umur yang lain yakni sebesar 47,9%, sedangkan kelompok umur <20 tahun paling sedikit yakni sebesar 23,9%. Karakteristik sampel menurut tingkat pendidikan sampel pada penelitian ini dibagi dalam 6 tingkatan yaitu tidak pernah sekolah, tidak tamat SD, tamat SD, tamat SMP, tamat SMA dan tamat Akademi/PT. Umumnya responden penelitian ini tamat SMA sebanyak 41 orang (41,9 %) dan yang paling sedikit adalah yang tamat SMP sebanyak 11 orang (11,1 %). Karakteristik sampel menurut jenis pekerjaan yang paling banyak adalah yang tidak bekerja atau sebagai ibu rumah tangga sebesar 57 orang (48,7%), yang paling sedikit sebagai petani yakni 4 orang (3,4%).

Tabel 1 Karakteristik Umur dan Pendidikan Ibu Hamil di Puskesmas Pangkajene

Karakteristik Umum	n	%
Umur		
<20 tahun	6	23,9
20-35 tahun	99	47,9
>35 tahun	12	28,2
Pendidikan Terakhir		
Tamat SD	14	12,0
Tamat SMP	13	11,1
Tamat SMA	49	41,9
Tamat akademi/ PT	41	35,0
Total	117	100

Sumber : Data Primer, 2021

Tabel 2 Karakteristik jenis pekerjaan Ibu Hamil di Puskesmas Pangkajene

Karakteristik Umum	n	%
Jenis pekerjaan		
PNS	11	9,4
Petani	4	3,4
Wiraswasta	33	28,2
Lain-lain	12	10,3
Tidak bekerja	57	48,7
Total	117	100

Sumber : Data Primer, 2021

Tabel 3 menunjukkan bahwa gangguan kesehatan mental pada ibu hamil yang ditemukan dalam penelitian ini adalah sebanyak 35 ibu hamil mengalami depresi (29,9%), yang mengalami kecemasan sebesar 52 orang (44,4%), dan yang mengalami stress sebanyak 21 orang (17,1%).

Tabel 3 Gangguan Kesehatan Mental pada Ibu Hamil di Puskesmas Pangkajene

Gangguan Kesehatan Mental	Ya		Tidak	
	n	%	n	%
Depresi	35	29,9	82	70,1
Kecemasan	52	44,4	65	55,6
Stres	21	17,1	91	82,9

Sumber: Data Primer, 2021

Tabel 4 menunjukkan gangguan kesehatan mental berupa depresi lebih banyak diderita pada tingkatan depresi sedang yakni 15 orang (12,8%) dan paling sedikit diderita pada depresi sangat parah yakni 2 orang (1,7%). Gangguan mental berupa kecemasan lebih banyak diderita pada tingkatan ringan yakni 20 orang (17,1%) dan paling sedikit pada tingkatan sangat parah dan parah yakni 9 orang (7,7%). Sedangkan pada gangguan mental berupa stress, umumnya lebih banyak diderita ibu hamil pada tingkatan stress sedang dan tidak ada responden yang mengalami stress yang sangat parah.

Tabel 4 Gangguan Kesehatan Mental pada Ibu Hamil di Puskesmas Pangkajene

Gangguan Kesehatan Mental	Tingkatan	N	%
Depresi	Sangat Parah	2	1,7
	Parah	6	5,1
	Sedang	15	12,8
	Ringan	12	10,3
Kecemasan	Normal	82	70,1
	Sangat Parah	9	7,7
	Parah	9	7,7
	Sedang	14	12,0
Stres	Ringan	20	17,1
	Normal	65	55,6
	Sangat Parah	0	0,0
	Parah	2	1,7
Stres	Sedang	10	8,5
	Ringan	9	7,7
	Normal	96	82,1
Jumlah		117	100,0

Sumber: Data Primer, 2021

4. PEMBAHASAN

Kehamilan merupakan suatu proses panjang yang dihadapi oleh seorang wanita dan tidak lepas dari perubahan tidak hanya dalam bentuk fisik tetapi juga mental. Beberapa karakteristik yang melekat pada ibu hamil bisa menjadi salah satu hal yang mempengaruhi tinggi rendahnya respon terkait mental pada ibu hamil. Salah satu nya adalah umur. Umur ibu hamil memiliki kontribusi terhadap risiko kejadian kesehatan mental ibu hamil. Berdasarkan teori, kehamilan pada umur yang terlalu muda dan tua termasuk dalam kriteria kehamilan risiko tinggi. Keduanya berperan dalam peningkatan angka morbiditas dan mortalitas pada ibu maupun janin. Kehamilan di umur muda (kurang dari 20 tahun) berkaitan dengan peningkatan kejadian komplikasi medis dan komplikasi obstetrik karena kondisi fisik belum 100 % siap dalam menjalani kehamilan. Sia 35 tahun keatas pun

dianggap menjadi risiko tinggi untuk menjalani kehamilan karena kemungkinan terjadinya kelainan bawaan dan beberapa penyulit di waktu bersalin nantinya. Di kurun waktu ini angka mortalitas ibu dan janin juga tinggi sehingga bisa mengganggu kesehatan mental ibu hamil khususnya untuk respon kecemasan. Umur yang dianggap paling aman menjalani kehamilan dan persalinan adalah 20-35 tahun. Di rentang umur ini kondisi fisik wanita dalam keadaan prima. penelitian ini sejalan dengan penelitian Heriani (2016) tentang hubungan yang signifikan antara umur ibu dengan kecemasan yang dialaminya (Heriani, 2016). Yasin (2019), juga menemukan ada hubungan yang bermakna antara umur ibu dengan tingkat kecemasan dalam menghadapi masa persalinan (Yasin Zakiyah, Sumarni Sri, 2019).

Karakteristik tingkat pendidikan turut memberikan pengaruh terhadap respon kesehatan mental ibu hamil. Orang dengan tingkat pendidikan tamat akademi/ perguruan tinggi termasuk orang dengan pendidikan yang tinggi. Menurut teori, tingkat pendidikan seseorang berpengaruh dalam memberikan respon terhadap sesuatu yang datang baik dari dalam maupun dari luar. Orang yang akan mempunyai pendidikan tinggi akan memberikan respon yang lebih rasional dibandingkan mereka yang berpendidikan lebih rendah atau mereka yang tidak berpendidikan. Kecemasan adalah respon yang dapat dipelajari. Dengan demikian pendidikan yang rendah menjadi faktor penunjang terjadinya kecemasan. Penelitian yang dilakukan oleh WHO, menyatakan bahwa pendidikan menengah ke bawah cenderung mendapat kecemasan daripada tingkat pendidikan menengah ke atas. Hal tersebut dikarenakan responden yang pendidikan menengah ke atas berfikir lebih objektif dan berwawasan luas serta lebih mampu memikirkan penjelasan masalahnya.

Selain itu, tingkat pendidikan yang tinggi akan memperluas pandangan dan ruang lingkup pergaulan, sehingga tingkat pendidikan yang lebih tinggi akan mempermudah seseorang untuk menerima informasi tentang kesehatan sehingga akan

menurunkan tingkat kecemasan. Dorongan moril maupun materil yang diberikan anggota keluarga untuk mewujudkan suatu rencana merupakan hal yang dapat memberikan keuntungan emosional atau pengaruh pada tingkah laku seseorang. Temuan penelitian ini tidak sejalan dengan teori yang telah dipaparkan sebelumnya, hal ini dikarenakan bahwa dengan status pendidikan yang cukup tinggi untuk perempuan maka pemikirannya akan bercampur dengan keinginannya untuk mengejar dan mengembangkan karir. Selain itu, di masa pandemic Covid 19, kemampuan memahami informasi tentang COVID-19 akan meminimalkan kecemasan pada ibu hamil sehingga akan meningkatkan kemungkinan ibu untuk patuh dalam memeriksakan kehamilannya (Nugraheni et al, 2021). Namun, dalam penelitian ini tidak sejalan dengan pernyataan tersebut. Berdasarkan hasil observasi dan wawancara ibu hamil, mereka bahkan lebih takut dan cemas karena informasi tentang Covid 19 malah membuat mereka semakin takut dengan kesehatannya juga bayi dalam kandungannya. Ketakutan ini juga didukung dengan munculnya kluster penderita Covid 19 pada bidan-bidan yang bekerja di wilayah tersebut. Beberapa responden berpendapat bahwa orang yang berkecimpung di dunia kesehatan dan memiliki pengetahuan memadai tentang pencegahan Covid 19 bisa terinfeksi Covid 19.

Pekerjaan merupakan salah satu karakteristik responden. Umumnya responden dalam penelitian ini memiliki status tidak bekerja atau sebagai ibu rumah tangga. Secara logis, ibu yang tidak bekerja seharusnya tidak mengalami kecemasan karena kegiatannya hanya berfokus sekitar rumah tangga saja. Namun persentase tertinggi penderita kecemasan berada pada kelompok yang tidak bekerja. Setelah mewawancarai beberapa responden, diketahui bahwa kehidupan mengurus rumah tangga memiliki tekanan yang cukup besar. Responden kurang berkomunikasi dan berbagi dengan orang lain sehingga rasa ketidaknyamanan yang dirasakannya hanya dipendam. Apalagi untuk responden yang memiliki balita dengan rentang umur yang

tidak terlalu jauh yang sedang mengalami masa aktif dalam bermain.

Menurut Takegata, Ohashi, Lazarus dan Kitamura (2017), sejumlah faktor yang berperan dalam munculnya persoalan psikologis pada masa perinatal diantaranya adalah: faktor biologis (seperti anemia); faktor demografis (misalnya, kemiskinan); hubungan interpersonal (misalnya, KDRT, kehamilan yang tidak diharapkan); faktor kepribadian yang lemah (seperti, keyakinan diri dan penghargaan diri yang rendah). Selain itu juga terdapat faktor-faktor yang terkait dengan budaya, terutama pada masyarakat Asia, seperti preferensi terhadap jenis kelamin tertentu. Kondisi pandemi covid 19 tidak hanya berdampak pada gangguan kesehatan mental ibu hamil tapi juga berdampak pada kesehatan mental seluruh golongan masyarakat secara umum. Namun, ibu hamil merupakan golongan rentan terhadap segala perubahan yang terjadi di dalam tubuhnya baik itu perubahan fisik maupun mentalnya.

Kecemasan merupakan salah satu bentuk gangguan kesehatan mental yang paling banyak ditemukan dalam penelitian ini dibandingkan bentuk gangguan mental lainnya yakni depresi dan stress. Hal ini dikarenakan masa kehamilan merupakan kondisi rentan terjadi perubahan emosi. Kecemasan merupakan respon individu terhadap suatu keadaan yang tidak menyenangkan dan dialami oleh semua makhluk hidup dalam kehidupan sehari-hari dan pada saat pengambilan data sedang terjadi pandemic covid 19 yang menjadi salah satu pemicu ketakutan dan kegelisahan ibu hamil yang harus sering kali memeriksakan kehamilannya di pusat pelayanan kesehatan yang dalam anggapan mereka merupakan salah satu tempat dengan risiko tinggi penularan covid 19. Hasil penelitian ini sejalan dengan temuan Suparman, Sapruddin dan Mamlukah (2020) di Puskesmas Sindangwangi, Kabupaten Majalengka yang menunjukkan responden yang memiliki kecemasan normal sebanyak 10 %, kategori ringan sebanyak 38,3 %, kategori sedang 48,4 % dan kategori berat sebanyak 3,3 %.

Gangguan kesehatan mental depresi juga ditemukan di penelitian ini meskipun jumlahnya tidak sebanyak gangguan kecemasan. Namun, angka kejadiannya tetap berada dalam kondisi mengkhawatirkan. Pada situasi sebelum terjadi pandemic Covid 19, frekuensi kejadian depresi secara global sekitar 10% terjadi pada ibu hamil bahkan di beberapa Negara berkembang lebih tinggi yakni 16% (Zhang et al., 2020). Palagi pada situasi pandemic Covid 19, ketika ibu hamil kemungkinan akan sulit mengakses pelayanan kesehatan khususnya konseling terhadap kesehatan mental dan beberapa ketakutan dan kondisi yang dirasakan selama hamil. Di China, sebanyak 5,3% ibu hamil mengalami gejala depresi, 6,8% mengalami kecemasan, 2,4% mengalami ketidaknyamanan fisik, 2,6% mengalami insomnia, dan 0,9% mengalami Post-Traumatic Stress Disorder (PTSD) (Zhou et al., 2020).

Kejadian postpartum blues dan depresipada ibu hamil sudah ada sebelum pandemic Covid 19 sehingga ibu hamil untuk harus berkunjung ke fasilitas kesehatan, dan berkonsultasi dengan tenaga kesehatan untuk mendapatkan pelayanan prenatal dan antenatal. Pandemi Covid 19 menempatkan posisi ibu hamil sebagai pihak yang rentan. Kerentanan itu berasal dari kekhawatiran ibu hamil terhadap potensi penularan virus Covid 19 pada saat ke pusat pelayanan kesehatan melalui tenaga kesehatan kesehatan mental dan kurangnya interaksi dengan keluarga dan dukungan sosial selama kehamilan, persalinan, dan masa nifas dalam pandemi saat ini. Berbagai pembatasan aktifitas social diterapkan pada masa pandemic Covid 19 (Bender et al., 2020).

Peningkatan stres juga terjadi selama masa pandemi penyakit menular Covid 19 (Saccone et al., 2020). Enam dari delapan wanita (75%) yang dites positif melaporkan pengalaman negatif di rumah sakit akibat kurangnya dukungan penyedia dan pasangan dan pemisahan neonatal setelah lahir. Di antara 310 wanita, sebanyak 34,4% wanita multipara melaporkan peningkatan kecemasan pascamelahirkan dibandingkan

dengan persalinan sebelumnya karena kekhawatiran tentang paparan infeksi di rumah sakit dan kurangnya dukungan sosial (Bender et al., 2020)

5. KESIMPULAN

Gangguan kesehatan mental pada ibu hamil yang ditemukan dalam penelitian ini digolongkan menjadi 3 yaitu gangguan depresi, kecemasan dan gangguan stress. Adapun frekuensi kejadiannya yakni sebanyak 35 ibu hamil mengalami depresi (29,9%), yang mengalami kecemasan sebesar 52 orang (44,4%), dan yang mengalami stress sebanyak 21 orang (17,1%). Dari angka tersebut bisa diketahui bahwa kesehatan mental pada ibu hamil merupakan suatu isu yang harus mendapat perhatian khusus apalagi dengan kondisi pandemic covid 19 yang menjadi salah satu faktor meningkatnya gangguan kesehatan mental. Adapun keterbatasan penelitian ini adalah

Diharapkan tenaga kesehatan khususnya bidan tidak hanya memperhatikan masalah kesehatan fisik ibu dan janin, tapi juga masalah kesehatan mental ibu hamil sehingga Kecemasan selama kehamilan bisa segera diidentifikasi dan mendapatkan perhatian khusus dalam rangka pencegahan ke tahap yang lebih parah. Selain itu, Penelitian selanjutnya diharapkan dapat mengidentifikasi faktor-faktor lain yang mempengaruhi Kecemasan pada ibu hamil yang tidak termasuk dalam penelitian ini.

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Artikel 2

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ANALISIS MASALAH PSIKOLOGIS PADA IBU HAMIL DI MASA PANDEMI COVID-19 DI DESA HAURSEAH WILAYAH KERJA UPTD PUSKESMAS ARGAPURA KABUPATEN MAJALENGKA TAHUN 2021

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ABSTRAK

Pandemi Covid-19 berdampak menyebar secara luas di masyarakat termasuk pada ibu hamil yang mengakibatkan masalah psikologis seperti depresi, cemas dan stress. Penelitian ini bertujuan untuk menganalisis masalah psikologis pada ibu hamil di masa pandemi Covid-19 di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021. Jenis penelitian ini adalah penelitian deskriptif kuantitatif. Sampel pada penelitian ini adalah semua ibu hamil di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka bulan Mei-Juni 2021 sebanyak 37 orang (total populasi). Penelitian dilaksanakan di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka pada bulan Mei-Juni 2021. Pengumpulan datanya menggunakan kuesioner dengan protokol kesehatan Covid-19. Analisis univariat menggunakan distribusi frekuensi. Hasil penelitian menunjukkan bahwa sebagian kecil (5,4%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi mengalami depresi berat. Kurang dari setengah (27,0%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi cemas mengalami cemas berat. Sebagian kecil (5,4%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi mengalami stres berat. Bagi petugas kesehatan untuk memberikan motivasi dan penyuluhan kepada ibu hamil tentang pencegahan Covid-19 di masa pandemi agar proses kehamilannya berjalan dengan lancar dan ibu hamil agar melaksanakan protokol kesehatan Covid-19 selama proses kehamilan terutama ketika keluar rumah, mengurangi beban pekerjaan yang terlalu berat, dan berkonsultasi dengan petugas kesehatan untuk mendapatkan informasi yang adekuat.

Keywords: Masalah Psikologis, Ibu Hamil, Pandemi Covid-19

PENDAHULUAN

Sindrom Pernafasan Akut Coronavirus 2 (SARS-CoV-2) adalah virus baru yang dapat menyebabkan penyakit paru-paru dan kematian. Penyakit ini lebih sering dialami oleh orang tua dan individu dengan komorbiditas kardiologis, pemapasan, ginjal, dan metabolik. Infeksi SARS-CoV-2 dapat meningkatkan risiko pneumonia pada wanita hamil dibandingkan dengan wanita yang tidak hamil (WHO, 2021).

World Health Organization atau WHO melaporkan virus ini pertama kali ditemukan di Wuhan. Berdasarkan laporan WHO sampai dengan tanggal 6 Maret 2021, tercatat sebanyak 116,135,492 terkonfirmasi positif Covid-19, dengan kematian sebanyak 2,581,976

kasus (WHO, 2021). Jumlah kasus Covid-19 di Indonesia sampai dengan 6 Maret 2021, tercatat sebanyak 1.373.836 kasus yang terkonfirmasi positif, sebanyak 147.172 kasus aktif dari kasus yang terkonfirmasi, sebanyak 1.189.510 sembuh dari jumlah kasus yang terkonfirmasi dan sebanyak 37.154 yang meninggal dari jumlah kasus yang terkonfirmasi. Sedangkan jumlah kasus ibu hamil pada tahun 2020 yang terkonfirmasi positif sebanyak 4.442 ibu hamil (5,8%) yang didiagnosis positif Covid-19 dari jumlah ibu hamil yang melakukan test swab sebanyak 76.483 orang (Komite Penanganan Covid 19 dan Pemulihan Ekonomi Nasional, 2021).

Jumlah kasus Covid-19 di Provinsi Jawa Barat, sampai dengan tanggal 6 Maret 2021, tercatat sebanyak 221.034

kasus yang terkonfirmasi positif Covid-19, sebanyak 36.066 pasien yang dalam perawatan (isolasi), sebanyak 182.453 orang yang sembuh dan yang meninggal sebanyak 2.515 kasus. Adapun dari jumlah 1.335 ibu hamil yang melakukan swab test di Provinsi Jawa Barat diketahui terdapat 123 ibu hamil (9,2%) positif Covid-19 (Pusat Informasi dan Koordinasi Covid-19 Provinsi Jawa Barat, 2021).

Jumlah kasus Covid-19 di Kabupaten Majalengka sampai tanggal 5 Maret 2021 sebanyak 2.033 kasus terkonfirmasi positif, 227 kasus aktif, sebanyak 1642 sembuh dan 171 meninggal dunia, dan jumlah ibu hamil yang terkonfirmasi positif sebanyak 37 orang (10,5%) dan jumlah ibu hamil yang 350 orang. Adapun jumlah ibu hamil pada tahun 2020 secara keseluruhan di Kabupaten Majalengka tercatat sebanyak 19.165 orang (Pusat Informasi & Koordinasi Covid-19 Kabupaten Majalengka, 2021).

Jumlah kasus Covid-19 di Kecamatan Argapura sebanyak 54 kasus dan yang meninggal sebanyak 8 kematian, sedangkan di Kecamatan Maja jumlah kasus Covid-19 sebanyak 54 kasus dan yang meninggal sebanyak 4 kematian. Kematian akibat Covid-19 di Kecamatan Argapura lebih tinggi dibanding dengan Kecamatan Maja. Adapun jumlah ibu hamil yang terkonfirmasi positif Covid-19 di Kecamatan Argapura sebanyak 5 orang (33,3%) dari ibu hamil yang dilakukan test swab sebanyak 15 orang. Sedangkan jumlah ibu hamil di Kecamatan Argapura secara keseluruhan sebanyak 981 orang (Pusat Informasi & Koordinasi Covid-19 Kabupaten Majalengka, 2021).

Wanita hamil dan janin merupakan populasi berisiko tinggi selama wabah penyakit menular. Angka fatalitas kasus infeksi SAR-CoV pada wanita hamil mencapai 25%. Dampak lanjut dari infeksi Covid-19 pada ibu hamil adanya munculnya kekhawatiran terkait pertumbuhan dan perkembangan serta

neonatal. Oleh karena itu ibu hamil memerlukan perhatian khusus terkait pencegahan, diagnosis, dan penatalaksanaan (Siregar & Anita, 2020). Dampak pandemi Covid-19 menyebar secara luas di masyarakat. Semakin banyak orang merasa cemas bahkan depresi diakibatkan pandemi ini. Kekhawatiran besar juga terjadi pada mayoritas ibu. Hasil penelitian Corbett dalam (Purwaningsih, 2020), didapatkan 83,1% wanita mengalami kekhawatiran tentang kesehatan mereka sejak terjadinya pandemic Covid-19, sedangkan pada wanita hamil mengalami peningkatan kekhawatiran lebih dari 50,7%. Kekhawatiran ini meliputi kekhawatiran tentang kehamilan 66,7% dan perawatan bayi sebanyak 35%. Penelitian lain menyebutkan sebagian besar wanita hamil mengkhawatirkan masalah kesehatan mereka dan janin yang dikandung sepanjang waktu.

Secara umum perubahan fisiologis dan mekanis pada kehamilan meningkatkan kerentanan terhadap infeksi terutama bila sistem kardiorespirasi terpengaruh, dan mendorong perkembangan yang cepat hingga gagal napas pada ibu hamil. Adanya perubahan psikologis ini dapat mempengaruhi ibu hamil selama perawatan sampai dengan masa pasca persalinan (post partum) (Tantona, 2019).

Psikologis ibu hamil diartikan sebagai periode krisis, saat terjadinya gangguan dan perubahan identitas peran. Definisi krisis merupakan ketidakseimbangan psikologi yang disebabkan oleh situasi atau tahap perkembangan. Awal perubahan psikologi ibu hamil yaitu periode syok, menyangkal, bingung, dan sikap menolak. Persepsi wanita bermacam-macam ketika mengetahui dia hamil, seperti kehamilan suatu penyakit, kejelekan atau sebaliknya yang memandang kehamilan sebagai masa kreatifitas dan pengabdian kepada keluarga (Varney, 2017).

Dimensi psikologis ada tiga yaitu

depresi, stress dan cemas. Depresi merupakan gangguan mood yang muncul pada ibu atau wanita yang sedang hamil. Hampir 10% wanita hamil mengalami depresi berat atau ringan dan depresi sering terjadi dalam trimester pertama (Nuryaningsih & Fatimah, 2017).

Stres merupakan pemikiran yang negatif dan perasaan takut dan hal tersebut akar penyebab terjadinya reaksi stres. Stres selama hamil mempengaruhi perkembangan fisiologis dan psikologis bayi yang dikandungnya. Sedangkan kecemasan merupakan perasaan tidak berarti pada ibu hamil memiliki ciri-ciri sebagai berikut: sikap sinisme, adanya keinginan untuk mengakhiri hidup, mempertanyakan akan penderitaannya, perasaan tidak berguna, gangguan aktivitas seksual dan adanya keinginan untuk terus merusak diri sendiri (Nuryaningsih & Fatimah, 2017).

Hasil penelitian (Purwaningsih, 2020) tentang analisis masalah psikologis pada ibu hamil selama masa pandemi covid-19 menunjukkan bahwa sebagian besar perubahan wanita hamil mengalami perubahan psikologis berupa kecemasan dan depresi. Sedangkan penelitian (Tantona, 2019) menunjukkan bahwa adanya peningkatan kecemasan pada wanita hamil pada masa pandemi COVID-19. Sedangkan penelitian yang dilakukan oleh (Tambaru, 2020) di Bidan Praktik Mandiri Hj. Rusmawati di Muara Badak menunjukkan bahwa sebagian besar mengalami cemas Covid-19 berjumlah 22 orang (59,5%) dan tidak cemas Covid-19 berjumlah 15 orang (40,5%).

Hasil studi pendahuluan di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura pada bulan Januari 2021 tercatat jumlah ibu hamil di Desa Haurseah wilayah kerja UPTD Puskesmas Argapura Kabupaten Majalengka sebanyak 35 orang, selanjutnya peneliti melakukan wawancara dengan memperhatikan protokol kesehatan menggunakan masker dan jaga jarak

terhadap 10 ibu hamil, didapatkan sebanyak 7 ibu hamil menyatakan merasa khawatir dan ada rasa takut menjalani kehamilan di masa pandemi karena tertular penyakit yang berbahaya tersebut. Sementara 3 ibu hamil merasa tidak begitu takut selama ibu melakukan dan patuh terhadap protokol kesehatan. Dari 7 ibu yang merasa khawatir tersebut yang berpendidikan dasar yaitu SD dan SMP sebanyak 6 orang dan 1 orang berpendidikan SMA. Disamping itu dari 7 ibu tersebut, 5 orang menyatakan bahwa selama ini kurang mendapatkan dukungan dari keluarga dan juga dari petugas kesehatan dengan alasan pembatasan atau pandemi.

Berdasarkan uraian tersebut, maka penulis tertarik untuk melakukan penelitian tentang "Analisis Masalah Psikologis Pada Ibu Hamil di Masa Pandemi Covid-19 di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021".

METODE PENELITIAN

Jenis penelitian ini adalah penelitian deskriptif kuantitatif. Pada penelitian ini yang dijadikan populasi adalah semua ibu hamil di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka sebanyak 37 orang pada periode bulan Mei-Juni 2021. Sampel pada penelitian ini adalah semua ibu hamil di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka bulan Mei-Juni 2021 sebanyak 37 orang (total populasi). Penelitian ini telah dilaksanakan di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka pada bulan Mei-Juni 2021. Instrumen yang digunakan dalam penelitian ini adalah kuesioner. Kuesioner terdiri dari identitas responden, pertanyaan tentang karakteristik ibu hamil dan kuesioner tentang psikologis ibu hamil. Kuesioner psikologis ibu hamil pada penelitian ini merupakan kuesioner yang

sudah baku yaitu kuesioner DASS-21 (Depression Anxiety Stress Scale) yang dikembangkan oleh Lovibond. S. H dan Lovibond. P. H (1995 dalam Istikhomah & Mumpuni, 2016).

HASIL DAN PEMBAHASAN

1. Gambaran Psikologis pada Ibu Hamil di Masa Pandemi Covid-19 Berdasarkan Dimensi Depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021

Psikologis Ibu Hamil di Masa Pandemi Covid-19 berdasarkan Depresi	Frekuensi (F)	Persen (%)
Normal	4	10.8
Ringan	21	56.8
Sedang	10	27.0
Berat	2	5.4
Sangat Berat	0	0
Total	37	100.0

Tabel 4.1. Distribusi Frekuensi Psikologis pada Ibu Hamil di Masa Pandemi Covid-19 Berdasarkan Dimensi Depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021

Berdasarkan Tabel 4.1, menunjukkan bahwa ibu hamil yang normal sebanyak 4 orang (10,8%), yang mengalami depresi ringan sebanyak 21 orang (56,8%), yang di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami depresi berat.

Berdasarkan hasil penelitian menunjukkan bahwa sebagian kecil (5,4%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami depresi berat. Ibu hamil yang mengalami depresi di masa pandemi Covid-19 dapat dikarenakan dengan adanya penyakit Covid-19 yang sangat menakutkan bagi ibu karena akan berdampak pada keselamatan ibu dan bayi yang akan dilahirkannya, perasaan tertekan karena banyaknya informasi mengenai bahayanya penyakit Covid-19 dan ibu hamil termasuk salah satu kelompok yang berisiko

menyebabkan ibu berpeluang mengalami depresi.

Hasil penelitian ini lebih rendah dibanding dengan hasil penelitian (Purwaningsih, 2020) di Bekasi tentang analisis masalah psikologis pada ibu hamil selama masa pandemi covid-19 menunjukkan bahwa ibu hamil yang mengalami depresi berat sebesar 25,5% Namun lebih rendah dibanding dengan hasil penelitian yang dilakukan oleh (Cahyono, 2020) di Depok Jawa Barat menunjukkan bahwa ibu hamil yang mengalami depresi berat sebesar 29,0%.

Depresi merupakan gangguan *mood* yang muncul pada ibu atau wanita yang sedang hamil. Hampir 10% wanita hamil mengalami depresi berat atau ringan dan depresi sering terjadi pada masa pandemi Covid-19 (Handayani, 2020). Ciri-ciri ibu hamil yang mengalami depresi ialah adanya perasaan sedih atau perubahan kondisi fisiknya, kesulitan berkonsentrasi akibat jam tidur yang terlalu lama atau sedikit, hilangnya minat dalam melakukan aktivitas yang biasa digemari ibu, putus asa, cemas, timbul perasaan tidak berharga dan bersalah, merasa sedih, menurunnya nafsu makan. Depresi yang dialami ibu hamil bisa berdampak pada kelahiran prematur, berat badan bayi lahir rendah, dan jika gejala depresi pada bayi baru lahir tidak segera ditangani, anak berkembang menjadi anak yang tidak bahagia, sulit berjalan, tidak responsif terhadap orang lain, mengalami masalah perilaku seperti agresif dan mudah stres (Islami, 2021).

Depresi adalah suatu penyakit jiwa dengan gejala utama sedih, yang disertai gejala-gejala psikologik lainnya, gangguan somatic maupun gangguan psikomotor dalam kurun waktu tertentu dan digolongkan kedalam gangguan afektif. Depresi dalam penggunaan istilah sehari-hari biasanya dikaitkan dengan perasaan sedih, murung, putus asa, merana dan tidak bahagia. Depresi dapat juga berupa sekumpulan gejala atau sindroma (disertai perubahan kognitif, psikomotor dan vegetatif) atau merupakan kesatuan penyakit (dengan gambaran klinis yang khas, dasar riwayatnya dan hubungan dengan keadaan biologisnya) (Hawari, 2017).

Depresi merupakan gangguan mental yang sering terjadi di tengah masyarakat. Berawal dari stres yang tidak diatasi, maka seseorang dapat jatuh ke fase depresi. Orang

yang mengalami depresi umumnya mengalami gangguan yang meliputi keadaan emosi, motivasi, fungsional, dan gerakan tingkah laku serta kognisi. Depresi adalah suatu gangguan perasaan hati (afek) yang ditandai dengan afek distorik atau kehilangan minat atau kegembiraan dalam aktivitas sehari-hari disertai dengan temuan lain seperti gangguan tidur dan perubahan selera makan (Enny, 2017).

Depresi pada ibu hamil perlu ditangani karena akan berdampak pada kelancaran persalinan dan juga kondisi kesehatan bayinya. Sebagian kecil psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka, maka dari itu upaya yang dapat ibu hamil lakukan adalah sering melakukan komunikasi dengan keluarga dan petugas kesehatan untuk mendapatkan motivasi dan juga informasi yang tepat tentang Covid-19 serta ibu harus mematuhi protokol kesehatan Covid-19 dan menjaga kesehatannya selama kehamilan di masa pandemi, dan bagi petugas kesehatan agar melakukan pengawasan dan selalu menghimbau pada ibu hamil untuk menjaga kehamilan dengan baik, selalu mematuhi protokol kesehatan jika hendak keluar rumah atau ketika melakukan pemeriksaan kehamilan.

2. Gambaran Psikologis pada Ibu Hamil di Masa Pandemi Covid-19 Berdasarkan Dimensi Kecemasan di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021

Psikologis Ibu Hamil di Masa Pandemi Covid-19 berdasarkan Kecemasan	Frekuensi (F)	Persen (%)
Normal	8	21.6
Ringan	6	16.2
Sedang	13	35.1
Berat	10	27.0
Sangat Berat	0	0
Total	37	100.0

Tabel 4.2. Distribusi Frekuensi Psikologis pada Ibu Hamil di Masa Pandemi Covid-19 Berdasarkan Dimensi Kecemasan di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021

Berdasarkan Tabel 4.2, menunjukkan

bahwa ibu hamil yang normal sebanyak 8 orang (21,6%), yang mengalami cemas ringan sebanyak 6 orang (16,2%), yang mengalami cemas sedang sebanyak 13 orang (35,1%) dan yang mengalami cemas berat tahun 2021 mengalami cemas berat.

Berdasarkan hasil penelitian menunjukkan bahwa kurang dari setengah (27,0%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi cemas di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami cemas berat. Ibu hamil yang mengalami cemas di masa pandemi Covid-19 dikarenakan ibu merasa khawatir terpapar oleh virus Covid-19 dan menularkan kepada janin yang dikandungnya, sehingga ibu mengalami cemas.

Hasil penelitian ini lebih tinggi dibanding dengan hasil penelitian (Tantona, 2019) di Sukabumi menunjukkan bahwa adanya peningkatan kecemasan pada wanita hamil pada masa pandemi COVID-19 dan ibu hamil yang mengalami cemas berat sebesar 15,5%. Namun, lebih rendah dibanding dengan hasil penelitian (Tambaru, 2020) di Bidan Praktik Mandiri Hj. Rusmawati di Muara Badak menunjukkan bahwa sebagian besar mengalami cemas berat pada masa pandemi Covid-19 (59,5%).

Pada masa pandemi Covid-19, sebagian besar ibu mengalami cemas. Perasaan tidak berarti pada ibu hamil memiliki ciri-ciri sebagai berikut: sikap sinisme, adanya keinginan untuk mengakhiri hidup, mempertanyakan akan penderitannya, perasaan tidak berguna, gangguan aktivitas seksual dan adanya keinginan untuk terus merusak diri sendiri. Faktor penyebab terjadinya perasaan tidak berarti yaitu rasa kesepian, perasaan tidak berdaya, meragukan kredibilitasnya, keraguan atas keimanannya kepada tuhan sehingga merasa takut bahwa tuhan tidak mendengarkan doanya selama masa hamil, sulit menerima bantuan, perasaan ditolak dari kelompoknya (Handayani, 2020).

Menurut kamus Kedokteran Dorland, kata kecemasan atau disebut dengan anxiety adalah keadaan emosional yang tidak menyenangkan, berupa respon-respon psikofisiologis yang timbul sebagai antisipasi bahaya yang tidak nyata atau khayalan, tampaknya disebabkan oleh konflik intrapsikis yang tidak disadari secara langsung (Tuti,

2019). Ansietas adalah suatu perasaan takut akan terjadinya sesuatu yang disebabkan oleh antisipasi bahaya dan merupakan sinyal yang membantu individu untuk bersiap mengambil tindakan menghadapi ancaman. Pengaruh tuntutan, persaingan, serta bencana yang terjadi dalam kehidupan dapat membawa dampak terhadap kesehatan fisik dan psikologi. Salah satu dampak psikologis yaitu ansietas atau kecemasan (Hawari, 2017).

Kurang dari setengah psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi cemas di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka. Maka dari itu ibu hamil agar melakukan konsultasi kepada petugas kesehatan, mengurangi beban pekerjaan yang berat dan menjaga kesehatan selama kehamilan dengan baik. Bagi petugas kesehatan agar memberikan bimbingan atau penyuluhan kepada ibu hamil untuk melaksanakan protokol kesehatan Covid-19 selama kehamilannya dan melakukan pemeriksaan kehamilan sesuai dengan jadwal dengan memperhatikan protokol kesehatan Covid-19.

3. Gambaran Psikologis pada Ibu Hamil di Masa Pandemi Covid-19 Berdasarkan Dimensi Stress di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021

Psikologis Ibu Hamil di Masa Pandemi Covid-19 berdasarkan Stress	Frekuensi (F)	Persen (%)
Normal	16	43,2
Ringan	14	37,8
Sedang	5	13,5
Berat	2	5,4
Sangat Berat	0	0
Total	37	100,0

Tabel 4.3. Distribusi Frekuensi Psikologis pada Ibu Hamil di Masa Pandemi Covid-19 Berdasarkan Dimensi Stress di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka Tahun 2021

Berdasarkan Tabel 4.3, menunjukkan bahwa ibu hamil yang normal sebanyak 16 orang (43,2%), yang mengalami stres ringan sebanyak 14 orang (37,8%), yang mengalami stres sedang sebanyak 5 orang (13,5%) dan yang mengalami stres berat sebanyak 2 orang (5,4%). Hal ini berarti sebagian kecil (5,4%) psikologis ibu hamil di

masa pandemi Covid-19 berdasarkan dimensi depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami stres berat.

Berdasarkan hasil penelitian menunjukkan bahwa sebagian kecil (5,4%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami stres berat. Ibu hamil yang mengalami stres dapat dikarenakan ibu merasa terbebani dengan adanya ancaman atau risiko dari Covid-19 akibatnya ibu mengalami stres.

Hasil penelitian sejalan dengan hasil penelitian hasil penelitian (Purwaningsih, 2020) di Bekasi menunjukkan bahwa yang mengalami stres berat 6,5%. Hasil penelitian ini lebih rendah dibanding dengan hasil penelitian yang dilakukan oleh (Lestari, 2020) di Kecamatan Bungursari Tasikmalaya menunjukkan bahwa ibu hamil yang mengalami stress berat sebesar 20,5%.

Stres merupakan pemikiran yang negatif dan perasaan takut dan hal tersebut akar penyebab terjadinya reaksi stres. Stres selama hamil mempengaruhi perkembangan fisiologis dan psikologis bayi yang dikandungnya. Sebaliknya, jika ibu hamil yang selalu berpikiran sehat dan positif akan membantu pembentukan janin, penyembuhan internal dan memberikan nutrisi psikis yang sehat pada bayi. Semua yang dipikirkan ibu akan tersalurkan melalui hormon syaraf ke bayinya. Stres ekstrem dan tak berkesudahan menyebabkan kelahiran prematur, berat badan di bawah rata-rata, hiperaktif dan mudah marah (Varney, 2017).

Stres adalah tuntutan-tuntutan eksternal yang mengenai seseorang misalnya objek dalam lingkungan atau sesuatu stimulus yang secara obyektif adalah berbahaya. Stres juga bias diartikan sebagai tekanan, ketegangan, gangguan yang tidak menyenangkan yang berasal dari luar diri seseorang (Yulizawati et al., 2017). Stres adalah kondisi organik seseorang pada saat ia menyadari bahwa keberadaan atau integritas diri dalam keadaan bahaya, dan ia harus meningkatkan seluruh energy untuk melindungi diri (Potter & Perry, 2016).

Stres sebagai reaksi-reaksi fisiologik dan psikologik yang terjadi jika orang mempersepsi suatu ketidakseimbangan antara tingkat

tuntutan yang dibebankan kepadanya dan kemampuannya untuk memenuhi tuntutan itu. Stres merupakan suatu reaksi adaptif, bersifat sanga individual, sehingga suatu stres bagi seseorang belum tentu sama tanggapannya bagi orang lain (Hawari, 2017).

Sebagian kecil psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka. Maka ibu hamil agar mengurangi beban pekerjaan yang teralu berat, berkonsultasi dengan petugas kesehatan untuk mendapatkan informasi yang adekuat menjaga kehamilan di masa pandemi Covid-19. Bagi petugas kesehatan untuk memberikan penyuluhan kepada ibu hamil tentang pencegahan Covid-19 di masa pandemi agar proses kehamilannya berjalan dengan lancar dan untuk mengurangi stress dapat dilakukan dengan pemberian terapi komplementer seperti relaksasi atau massage pada ibu hamil.

KESIMPULAN DAN SARAN

1. Sebagian kecil (5,4%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami depresi berat.
2. Kurang dari setengah (27,0%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi cemas di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami cemas berat.
3. Sebagian kecil (5,4%) psikologis ibu hamil di masa pandemi Covid-19 berdasarkan dimensi depresi di Desa Haurseah Wilayah Kerja UPTD Puskesmas Argapura Kabupaten Majalengka tahun 2021 mengalami stres berat.

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Artikel 3

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ORIGINAL ARTICLE

Mental disorders among pregnant women during the COVID-19 pandemic. A cross-sectional study

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 Anxiety.
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AUTHORS' KEY WORDS:

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 Hopelessness.

ABSTRACT

BACKGROUND: Pregnancy is the most important event in women's lives and can lead to psychological lability. Several risk factors (such as disasters, events and pandemics) have been correlated with greater prevalence of mental disorders during pregnancy.

OBJECTIVES: To research how pregnant women have been affected by the coronavirus disease-19 (COVID-19) pandemic process, in order to contribute to the limited literature.

DESIGN AND SETTING: Cross-sectional survey study conducted at the Training and Research Hospital of the Faculty of Medicine, University of Ordu, Ordu, Turkey, from February 1 to March 1, 2021.

METHODS: In total, 356 pregnant women were enrolled and completed the survey. Intention of going to hospital and the Beck anxiety, Beck depression, Beck hopelessness and Epworth sleepiness scales were applied to detect mental disorders.

RESULTS: Among the participants, the anxiety, depression, hopelessness and sleepiness scores were 29.2%, 36.2%, 58.1% and 11.8%, respectively. The pregnant women stated that they avoided going to hospital in unnecessary situations by obeying the 'stay at home' calls, but also stated that they were afraid of the potential harmful effects of inadequate physician control. However, most of them stated that they would go to the hospital in emergencies.

CONCLUSIONS: This paper illustrated the effect of the COVID-19 pandemic on the mental health of pregnant women and emphasized their high rates of anxiety, depression, hopelessness and sleepiness. Since presence of mental disorders is indirectly related to poor pregnancy outcomes, preventive strategies should be developed, especially during this pandemic process.

INTRODUCTION

The coronavirus disease-19 (COVID-19) has spread rapidly throughout the world. After it was declared to be a pandemic by the World Health Organization (WHO) on March 11, 2020, the disease became a threat to global health.¹ In addition to the life-threatening situation of the virus, its economic, social and psychological effects have also been the subject of various studies.^{2,3} Although vaccination continues rapidly, there is no indication that the COVID-19 pandemic will end soon, according to health authorities. And in this crisis environment, pregnant women still have to give birth during the pandemic.⁴

Pregnancy and childbearing are important events in women's lives, and both of these can lead to psychological lability. In addition to the anxiety caused by pregnancy itself, several other risk factors (such as disasters, events and pandemics) have been correlated with presence of high anxiety, depression and hopelessness during pregnancy.⁵ Many pandemic-related factors, such as social/physical isolation, lockdown, physical inactivity and economic uncertainty have been causing mental disorders within society. Additional risks specific to pregnancy have made pregnant women more vulnerable to mental disorders than the general population.⁶

On the other hand, as shown in various studies, prenatal mental disorders are associated with miscarriage, preterm birth, low infant birth weight, gestational diabetes and gestational hypertension.⁷⁻¹⁰

Although many studies revealing the psychological effects of COVID-19 on society have been published, only a limited number of studies investigating the effects of the pandemic on the pregnant population are available in the literature.

OBJECTIVE

The aim of this study was to investigate how pregnant women have been affected by the pandemic process, in order to contribute to the limited literature on this subject.

METHODS

This descriptive cross-sectional survey study was conducted between February 1 and March 1, 2021. Over this period, the numbers of cases of COVID-19 infection were increasing rapidly in the city of Ordu, which is the third largest city by population in the Black Sea region of Turkey. Furthermore, also over the period of the survey, this city and its province (Altınordu) ranked highest in the weekly number of cases per 100,000 population in Turkey.¹¹

The study population consisted of pregnant women who were followed up at the Ordu University Training and Research Hospital, in Ordu. Our study received ethical approval from the Ministry of Health of the Republic of Turkey, under the number 2020-05-11T18_34_16, dated May 27, 2020.

In our study, data from 356 pregnant women who completed the survey questionnaire were analyzed. Patients diagnosed with COVID-19 or with existing psychiatric diseases were excluded from the study.

The first part of the survey included ten questions that aimed to collect data about the participant's demographic characteristics and pregnancy conditions. These ten questions asked about their age, number of pregnancies, pregnancy trimester, work, body mass index, education, marital status, presence of chronic disease, smoking and any close contact with COVID-19-infected patients.

The second part of the survey consisted of the "intention of going to hospital" scale. This scale, consisting of nine questions, was developed by Bostan.¹² The questions in this part were as follows: Currently, while the coronavirus pandemic continues...? (a) I go to the hospital because I am curious about the condition of the patients; (b) I go to the hospital to visit my relatives or friends; (c) I go to the hospital to have my medicine prescribed; (d) I go to the hospital to have the routine tests that I have in mind; (e) I go to the hospital for the appointment that my physician has given me for a routine check; (f) I go to the hospital if I feel mild discomfort; (g) I go to the hospital if my current disease increases a little more; (h) I go to the hospital if my current illness becomes serious; (i) I go to the hospital if I have some trouble that I think is urgent; and (j) I would never go to the hospital. The participants were asked to answer these questions by selecting one of five options that were scored from zero to four. One of the questions on the intention of going to hospital scale was excluded from the analysis because it did not reach a sufficient factor load.

Lastly, in the third part of the survey, the participants answered questions on the Beck anxiety scale,¹³ Beck depression scale,¹⁴ Beck

hopelessness scale,¹⁵ and Epworth sleepiness scale.¹⁶ Details of the questionnaire are presented in **Table 3**. The Beck anxiety scale was developed in 1988 and consists of 21 items on Likert scales ranging from zero to three, and with raw scores ranging from 0 to 63. The scores are classified as minimal anxiety (0 to 7), mild anxiety (8 to 15), moderate anxiety (16 to 25) and severe anxiety (26 to 63).

The Beck depression scale was first introduced in 1961 and contains questions on 21 symptoms and attitudes. The questions receive ratings from zero to three to reflect the intensity of symptoms or attitudes, and this gives rise to a score that can range from 0 to 63. A total score of less than 9 depicts minimal depression; a score of 10-18, mild depression; a score of 19-29, moderate depression; and a score of 30 or above, severe depression.

The Beck hopelessness scale was defined in 1974 and includes 10 questions. Its total score can range from 0 to 20. Scores from 0 to 3 are considered normal; 4 to 8, mild hopelessness; 9 to 14, moderate hopelessness; and greater than 15, severe hopelessness.

The Epworth sleepiness scale was initially reported in 1991 and is a self-administered questionnaire consisting of 8 questions. Respondents are asked to rate each item on a four-point scale (0 to 3). On this scale, scores of 0-9 are evaluated as mild sleepiness and scores of 10 and above are evaluated as severe sleepiness.

The Beck and Epworth scales are widely used within in health-care. The validity of these scales has been tested by means of confirmatory factor analysis. The validity of the "intention of going to hospital" scale was tested by means of exploratory factor analysis. In addition, reliability analyses were performed on all the scales. The Kaiser-Meyer-Olkin (KMO) sampling coefficient was found to be greater than 0.80 for each scale, and this was accepted as very good.

The results from the Bartlett sphericity test, which was used to evaluate the appropriateness of the scales for factor analysis, were also found to be significant ($P = 0.000$). According to these evaluations, the scales were found to be suitable for factor analysis. It was understood that the factor loads of all the scales were generally high and their power to explain the total variance was sufficient.

To analyze the results from the study, the Statistical Package for the Social Sciences (SPSS) software, version 26, was used (IBM Statistics, Armonk, New York, United States). The analyses were carried out using a 95% confidence interval ($P = 0.05$). Descriptive statistical methods and correlation analyses were used in the study.

RESULTS

In total, 356 pregnant women in Ordu were enrolled in this study. Their demographic characteristics and pregnancy conditions are demonstrated in **Table 1**. The mean age of these pregnant women was 30.06 ± 6.41 years. Among them, the majority were in the 20-25 age group (26.4%), married (92.7%), in the first trimester (39.3%) and primigravida (39.3%). Among all the participants, 65.7% were housewives or not working, 91.9% had a normal

Table 1. Demographic characteristics and pregnancy conditions

	n	%
Age		
18-24	79	22.2
25-29	94	26.4
30-34	80	22.5
35-39	74	20.8
40-44	29	8.1
No. of pregnancies		
1	140	39.3
2	95	26.7
3	72	20.2
4	23	6.5
> 5	26	7.2
Pregnancy trimester		
First	140	39.3
Second	95	26.7
Third	72	20.2
Work		
Housewife/not working	234	65.7
Working	122	34.3
Body mass index (BMI)		
Normal weight (BMI < 30)	327	91.9
Obese (BMI > 30)	29	8.1
Education		
Elementary school (eight years)	173	48.6
High school (four years)	125	35.1
University and above	58	16.3
Marital status		
Married	330	92.7
Single or divorced	26	7.3
Presence of chronic disease		
No	286	80.3
Yes	70	19.7
Smoking		
No	332	93.3
Yes	24	6.7
Any close contact with COVID-19 infected patients		
No	341	95.8
Yes	15	4.2

body mass index and 48.6% had completed their elementary education (total of eight years). In addition, 19.7% of the participants had a chronic disease and 6.7% were smokers. Only 4.2% of the pregnant women stated that they had had close contact with people diagnosed with COVID-19.

The second part of the survey consisted of eight questions on the "intention of going to hospital" scale, which are presented in Table 2. This scale was designed using a five-degree Likert scale. For as long as the pandemic continues, the participants declared that they would not go to the hospital to visit their relatives or friends, or to have their medicine prescribed, or to have the routine

tests that they had in mind (96.6%, 50.8% and 57.3% respectively). The proportion of the patients who stated that they would not go to the hospital even when they felt mild discomfort was 60.7%. More than half of the participants (55.9%) declared that they would go to the hospital for routine checks, provided that an appointment had been made by their physician. About two thirds of the participants (68.8%) said that they would go to the hospital if their illness became serious, while four out of five (80.3%) said that they would go to the hospital if they thought their illness was urgent. 46.1% of the pregnant women showed uncertainty regarding their intention to go to the hospital if their current disease increased a little more.

The responses to the Beck anxiety, Beck depression, Beck hopelessness and Epworth sleepiness scales are presented in Table 3. Approximately one in three of the participants (29.2%) stated that they experienced anxiety. The rates of mild, moderate and severe anxiety were 18.3%, 8.1% and 2.8%, respectively. The depression rates were observed to be close to anxiety rates (36.2%). The rates of mild, moderate and severe depression were 25.5%, 7.6% and 3.1%, respectively. The hopelessness rates were higher than the anxiety and depression rates. While 44.3% of pregnant women reported having mild hopelessness, 11.8% experienced moderate and 2% experienced severe hopelessness. Lastly, mild sleepiness was found in 88.2% and severe sleepiness in 11.8% of the pregnant women.

Correlation analysis was done to understand the relationships between the research scales is presented in Table 4. It was observed that there was no statistically significant relationship between the intention of going to the hospital and the levels of anxiety, depression, hopelessness and sleepiness. On the other hand, a very strong linear relationship was found between the anxiety, depression, hopelessness and sleepiness levels of the pregnant women at the $P = 0.001$ error level.

DISCUSSION

More than one year has passed since COVID-19 was declared a pandemic. Despite this length of time, the effects of the pandemic are still felt all over the world.¹⁷ Undoubtedly, healthcare professionals constitute the group most affected in this process. While the effect of pandemic on the healthcare sector and on healthcare workers has been the subject of many studies, the number of investigations in the literature, on its effects on the pregnant population, is limited.¹⁸⁻²⁰ The aim of this descriptive study was to contribute to this limited literature through investigating the effects of the pandemic process on pregnant women.

Pregnancy itself is already known to be a cause of psychological lability, and this has been shown in many studies.^{5,21-23} Not surprisingly, pregnant women have relatively high prevalence rates of anxiety, depression, hopelessness and sleepiness. In three different meta-analyses that compiled data on the mental status of pregnant women, the prevalences of anxiety, depression and

Table 2. "Intention of going to hospital" scale

Question	I will definitely not go		I will not go		I may go		I will go		I will definitely go		$\bar{x}$	SD
	n	%	n	%	n	%	n	%	n	%		
a'											factor load was insufficient	
b'	198	55.6	146	41.0	6	1.7	6	1.7	0	0.0	0.49	0.62
c'	73	20.5	108	30.3	110	30.9	61	17.1	4	1.1	1.48	1.03
d'	80	22.5	124	34.8	94	26.4	53	14.9	5	1.4	1.37	1.03
e'	17	4.8	30	8.4	110	30.9	156	43.8	43	12.1	2.50	0.97
f'	54	15.2	162	45.5	87	24.4	47	13.2	6	1.7	1.40	0.95
g'	7	2.0	34	9.6	164	46.1	130	36.5	21	5.9	2.34	0.80
h'	0	0.0	12	3.4	99	27.8	182	51.1	63	17.7	2.83	0.75
i'	0	0.0	5	1.4	65	18.3	204	57.3	82	23.0	3.01	0.68
j'											factor load was insufficient	
											factor means	1.76 0.48

$\bar{x}$ = sample mean; SD = standard deviation.

*The questions of this scale were as follows: Currently, while the coronavirus pandemic continues...? (a) I go to the hospital because I am curious about the condition of the patients; (b) I go to the hospital to visit my relatives or friends; (c) I go to the hospital to have my medicine prescribed; (d) I go to the hospital to have the routine tests that I have in mind; (e) I go to the hospital for the appointment that my physician has given me for a routine check; (f) I go to the hospital if I feel mild discomfort; (g) I go to the hospital if my current disease increases a little more; (h) I go to the hospital if my current illness becomes serious; (i) I go to the hospital if I have some trouble that I think is urgent; and (j) I would never go to the hospital.

Table 3. Beck anxiety, Beck depression, Beck hopelessness and Epworth sleepiness scales

	n	%
Beck anxiety scale		
➤ Minimal anxiety (0-7)	252	70.8
➤ Mild anxiety (8-15)	65	18.3
➤ Moderate anxiety (16-25)	29	8.1
➤ Severe anxiety (26-63)	10	2.8
Beck depression scale		
➤ Minimal depression (0-9)	227	63.8
➤ Mild depression (10-18)	91	25.5
➤ Moderate depression (19-29)	27	7.6
➤ Severe depression (30-63)	11	3.1
Beck hopelessness scale		
➤ Normal (0-3)	149	41.9
➤ Mild hopelessness (4-8)	158	44.3
➤ Moderate hopelessness (9-14)	42	11.8
➤ Severe hopelessness (15-20)	7	2.0
Epworth sleepiness scale		
➤ Mild sleepiness (0-9)	314	88.2
➤ Severe sleepiness (10-24)	42	11.8

sleepiness were given as 15.2%, 11.9% and 45.7%, respectively.²⁴⁻²⁶

The results from our study revealed that 29.2%, 36.2%, 58.1% and 11.8% of the participants had anxiety, depression, hopelessness and sleepiness, respectively, with levels varying from mild to severe. Thus, the pregnant women participating in our study reported that they experienced more anxiety, depression, hopelessness and sleepiness than in reports in the literature. We attributed

Table 4. Correlation analysis between the research scales

	Intention of going to hospital	Beck anxiety	Beck depression	Beck hopelessness
Intention of going to hospital	1			
Beck anxiety	-0.029	1		
Beck depression	-0.041	0.980**	1	
Beck hopelessness	-0.039	0.962**	0.990**	1
Epworth sleepiness	-0.038	0.970**	0.993**	0.992**

**Correlation is significant at the 0.01 level (two-tailed).

this excess rate to the high prevalence of COVID-19 infection in Ordu province.

In addition, many studies have shown that events such as natural disasters, economic crisis and pandemics adversely affect the mental health of the community.^{3,27,28} It is inevitable that such events will affect pregnant women worse than the general population.²² It has been determined that the main factors adversely affecting pregnant women's mental health and causing anxiety in pandemics have been abstention from the daily routine, the need for social distancing and decreased social support. They also expressed fears about their babies', their families' and their own health, due to the uncertainties of the pandemic.⁶ Studies on pregnancy in relation

to the COVID-19 pandemic have shown that the main factors that increased anxiety among pregnant women were lockdown measures and disruption to routine pregnancy follow-up.^{6,24,25} Studies have shown that, in this pandemic situation, pregnant women prefer to have fewer checkups from doctors for fear of infection, but also worry that their pregnancy could be made more complicated through inadequate follow-up.^{4,6,22,29}

Our findings showed that 29.2% of the pregnant women experienced anxiety. According to the "intention of going to hospital" scale, the pregnant women participating in this survey stated that they refrained from going to hospital in unnecessary situations such as visiting relatives/friends, having medications prescribed and having the routine tests that they had in mind. This result showed that the pregnant population had reached the required level of awareness regarding COVID-19 by following appeals to 'stay at home'. But at the same time, their preference to go to routine checks if they got an appointment showed their fear of the potential harmful effects of inadequate physician control. While their hesitation regarding going to hospital continued even if they felt mild discomfort, most of the pregnant women stated that they would go to the hospital in cases of emergency (such as if their current disease worsened or if they thought that their situation was urgent).

We observed that anxiety and depression rates have been found to be related to each other in many studies.^{6,20,23} In our study, 36.2% of the participants presented depression (in 10.7%, it was moderate or severe). As expected, anxiety related to COVID-19 infection also led to depressive symptoms in the pregnant population.

In a cross-sectional study investigating sleep quality among pregnant women, sufficient sleep duration was defined as sleeping 7-9 h/day.³⁰ In some studies, it has been shown that the proportion of pregnant women with poor sleep quality (for a variety of reasons) was between 38.8% and 82.6%.³¹⁻³³ In our study, the rate of sleepiness was found to be lower than in the literature (11.8%). We attributed this low rate to the Epworth sleep scale that we used in the survey, because this scale evaluated sleepiness in only two stages, unlike the ones used in the literature. In studies on pregnant women, high anxiety level, low social support and insufficient partner support were found to be associated with low sleep quality. Therefore, it is very important to provide the necessary social and partner support in order to protect pregnant women from the psychologically destructive effects of the pandemic. With this support, situations such as social isolation and postpartum depression can be prevented, and a healthy partner relationship and adequate baby care can be provided after delivery.^{34,35}

Studies conducting subgroup analysis have shown that multigravid pregnant women were more affected by the COVID-19 pandemic. Multigravid women have to struggle with several challenges, such as increased financial responsibilities and having an additional child. Moreover, in these studies, it was observed that

greater anxiety was detected in the first and third trimesters, possibly due to hormonal changes and fear of delivery.^{36,37}

Many studies have suggested that mental disorders have a more severe course in the prenatal and postnatal periods and that they have lasting negative effects on mothers, fetuses and children. The adverse prenatal outcomes include preeclampsia, gestational hypertension, gestational diabetes, miscarriage, intrauterine growth restriction and low birth weight.⁷⁻¹⁰ Emotional, behavioral and cognitive problems have been found to be more common among postnatal mothers. Additionally, in further follow-up, changes to brain structures and functions were observed in their children.³⁸⁻³⁹

Some limitations of our study should be noted. Although we found high rates of anxiety, depression, hopelessness and sleepiness among pregnant women in the COVID-19 pandemic, we could not make any comparison with previous times since we did not have pre-pandemic data. In addition, we did not question the main reasons for increases in these parameters during the pandemic period in our survey. Our study provides information about the general population of pregnant woman because we were unable to clearly distinguish any group at higher risk among these pregnant women, through subgroup analyses, due to the limited number of patients and the cross-sectional structure of this survey.

CONCLUSION

This study revealed the effect of the COVID-19 pandemic on the mental health of pregnant women and highlighted the high prevalence rates of anxiety, depression, hopelessness and sleepiness among this population. Since the increased prevalence of mental disorders consequent to the pandemic is indirectly associated with poor pregnancy outcomes, the necessary support needs to be provided for this group of patients. This study has helped to emphasize the necessity of interventions that can be taken, especially during the pandemic process. Further studies could broaden the knowledge of the mental effects of COVID-19 among pregnant women.

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GENERAL GYNECOLOGY



Investigation on the mental health status of pregnant women in China during the Pandemic of COVID-19

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Abstract

Purpose To evaluate the anxiety and depression in pregnant women in China, and its influencing factors during the corona virus disease 2019 (COVID-19) pandemic.

Methods From February 22 to February 27, a questionnaire survey was conducted on 156 pregnant women, including demographic characteristics, a self-rating anxiety scale (SAS), and a self-depression rating scale (SDS).

Results A total of 13 non-homologous end-joining (8.3%, 13/156) patients were anxious, 79 patients (50.6%, 79/156) were depressed, and 13 patients (8.3%, 13/156) suffered from both anxiety and depression. The SAS score of pregnant women was 40.55 ± 6.09 , and the SDS score was 50.42 ± 11.64 . For the SAS score, only 8.3% of all patients (13/156) were in a light anxiety state. For the SDS score, 46.79% (73/156) of patients was normal, 23.72% of patients (37/156) showed mild depression, 22.44% (35/156) showed moderate depression, and 4.49% (7/156) showed severe depression. No significant changes were observed in SAS and SDS scores between patients from different regions within China, health state, gestational week, educational background, and living condition ($P > 0.05$). Moreover, no significant differences were observed between diagnosed/suspected patients and the normal control group ($P > 0.05$), and between pregnant women in Wuhan compared to other regions ($P > 0.05$).

Conclusion During the COVID-19 epidemic, the anxiety level of pregnant women was the same as that before the epidemic, while the level of depression was significantly higher. Pregnant women who lived in Wuhan, the epicenter of the epidemic, were not more anxious or depressed compared to pregnant women in other regions during the COVID-19 epidemic. Furthermore, the mental health status of pregnant women with COVID-19 was not more severe.

Keywords COVID-19 · Pregnant women · Mental health · Anxiety · Depression

Abbreviations

COVID-19 Corona virus disease 2019
SAS Self-rating anxiety scale
SDS Self-depression rating scale

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Introduction

Corona virus disease 2019 (COVID-19), which has strong infectivity and severe pathogenicity [1], first broke out in Wuhan, China in December 2019, and has been a threat to the health of the people all over the world. It has since affected over 180 countries and had a major outbreak in many countries, such as Italy, the United Kingdom, Spain, France, Russia, South Korea, Iran, Brazil, India, the United States, and more [2]. Until August 24, 2020, a cumulative total of over 23 million cases and 800 000 COVID-19 related deaths have been reported.[3].

Wuhan, the capital of the Hubei Province, has close links with surrounding cities by countless traffic lines, and has been considered the center of the first stage of the COVID-19 epidemic in China. On January 22, 2020, Wuhan locked down the entire city, and adopted a series of strict restrictions to prevent the further spread of COVID-19. Restrictions included closing inter-city transportation and intra-city public transportation, restricting free access outside communities, and recommending everyone to stay at home. Other cities in the Hubei Province gradually adopted the same restrictions as Wuhan, and the other provinces adopted relatively mild restrictions. In China, about 60.8% of confirmed cases were located in Wuhan and 82.4% were located in the Hubei Province [2]. Since January 27, 2020, the number of new cases per day was over 1000, and on February 12, it reached the peak and at least 15,152 cases were confirmed. Since February 22, the number of cases had never been more than 648 [2]. From March 6, the number of confirmed cases started to drop below 100 [2].

An epidemic may cause psychological pressure on pregnant women living in the epidemic area. From previous studies on severe acute respiratory syndrome (SARS), which is related to COVID-19, pregnant women were more likely to have an adverse pregnancy outcome when compared to women who were not pregnant [4–8]. Therefore, it is thought that pregnant women are more susceptible to COVID-19 than the general population and deserve more attention. During the COVID-19 pandemic, a series of restrictions have been taken in China, especially in Wuhan, the center of the outbreak. Therefore, it may make be difficult for pregnant women to receive routine obstetric examinations, and the treatment of pregnant women with COVID-19 may be complicated. Considering the above-mentioned factors, COVID-19 may likely affect the mental health of pregnant women. Until now, many other studies presented conflicting conclusions about the overall increase or non-increasing incidence of post-traumatic stress disorder caused by depression and different disasters [9–12]. In a recently published cross-sectional

study, it was found that compared with women who were hospitalized before the COVID-19 pandemic, women who were hospitalized in high-risk pregnancy wards during the strict quarantine period of COVID-19 did not show an increased risk of depression [13]. This study was carried out to investigate the mental health status of pregnant women in China during the COVID-19 pandemic.

Methods

Recruitment and participants

The main participants of this study were pregnant women in China. To compare the mental health status of pregnant women in different regions within China during the COVID-19 pandemic, questionnaires in Wuhan, other cities of the Hubei province, and other provinces in China were collected. This study was approved by the Medical Ethics Committee of Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China (Approval number: TJ-IRB20200323).

Study design

Questionnaires about mental health were designed, and included questions about background of the pregnant woman, including age, educational background, current gestational weeks, themselves or family being infected by COVID-19, region (in Wuhan, in Hubei but not Wuhan, in China but not in the Hubei province), living conditions (alone or not). Then, pregnant volunteers were asked to finish the SAS scales (self-rating anxiety scale [14]) and SDS scales (self-rating depression scale [15]) based on their recent feelings. SAS and SDS scales are widely used for assessing an individual's mental state, were designed by Zung et al. and recommended by the United States Department of Education, Health, and Welfare [14–17]. Both the SAS and SDS scale included 20 questions about psychotic emotional symptoms, psychomotor disturbance, somatic disorder, and mental disorders of anxiety or depression. For answering each question, volunteers select the option that best describes their mental state. Each question is scored on a Likert-type scale of 1–4 or reverse scoring ("a little of the time", "some of the time," "a good part of the time", and "most of the time"). The raw total scores were obtained by summarizing the total scores of the 20 questions, and were converted to percentile standard scores. Both the SAS and SDS scales are shown in supplementary Table 1 and supplementary Table 2.

The questionnaires on mental health were issued through the online WeChat platform from February 22 to February 27. In addition, partial questionnaires were distributed

by doctors working in the fever ward or fever clinic with a QR code to the workplace. Researchers introduced the significance of the survey and guided subjects to complete the questions that were difficult to understand. All subjects orally agreed to participate in the study before completing the questionnaire. The questionnaire was designed and published on the Questionnaire website (<https://www.wjx.cn>), and the original data was available on this website (ID: 59,179,377). Data was collected by Chao Lu, Dajian Huang, and Dandan Cui, and were analyzed by Runan Hu.

After being informed of the sponsors, study purpose, method of participation, and the anonymous way of participating in the questionnaire, the first question asked the patient's their willingness to participate in the study: "Are you willing to participate in the study and cooperate with the completion of this Survey?" (a) Yes, please continue the survey. (b) No. Subjects who agreed to participate in the study continued and completed the study.

No private information, such as name and street address was collected. In addition, no blood samples, tissues, cells, and other biological materials were collected. For all subjects, the results were obtained after they completed the questionnaire. All subjects were informed that their answers would be used for publishing purposes.

In total, 156 subjects agreed to participate in the study, and finished the questionnaires, and all questionnaires were completed. Among them, there were 101 questionnaires from pregnant women in Wuhan; 26 questionnaires from other cities of the Hubei province, except Wuhan; and 26 questionnaires from other provinces in China, except Hubei. Furthermore, there were 11 cases of pregnant women with COVID-19 and 1 suspicious case, whose nucleic acid test was negative but the CT lung screening showed a possible infection.

Inclusion and exclusion criteria

Inclusion criteria were as follows: (1) Pregnant women in China; (2) Pregnant women who are willing to complete the survey; (3) Pregnant women who agreed to participate in this study.

Exclusion criteria were as follows: (1) Women who were not pregnant; (2) Women who had a spontaneous abortion or embryonic abortion during the time of the study; (3) Pregnancy with severe complications; (4) Women who were diagnosed with a mental illness before pregnancy.

Outcome measures

The main outcome measures of the study included the SAS and SDS score. If the SAS or SDS score was less than or equal to 50, the volunteer would be defined as "normal". The secondary outcome measures included age, educational

background, region (in Wuhan, in Hubei but not Wuhan, in China but not in the Hubei province), and gestational week.

Sample size calculation

In a previous study, it was shown that the incidence of anxiety and depression in Chinese women during pregnancy was 10% and 3.5%, respectively [18]. A 10% increase in the incidence of anxiety and depression during pregnancy was defined as a significant increase in the probability of anxiety or depression during the COVID-19 epidemic. The sample sizes of anxiety and depression were calculated separately, and the larger size was taken as the sample size for this study. The calculated sample size was 95. Therefore, and considering that about 5% of questionnaires may be invalid, a total of 100 questionnaires were collected from pregnant women in Wuhan. Furthermore, 25 questionnaires from non-Wuhan cities in the Hubei Province and 25 questionnaires from non-Hubei provinces served as control.

Statistical methods

Data was analyzed by SPSS 25.0 software. Categorical variables were presented in frequencies and continuous variables that showed a normal distribution were presented as the mean $\pm$ SD. When compared, paired samples *t* test, ANOVA, or Mann–Whitney *U* test was used to analyze the continuous indexes and the tests were two-sided, and the Chi square test was used to analyze categorical variables. $P < 0.05$ was considered statistically significant.

Results

General characteristics

Age, region, health state, gestational week, educational background, and living condition are shown in Table 1. The psychological susceptibility and the mood of pregnant women changes from the first trimester to the postpartum period. The distribution of the gestational weeks in the three different trimesters is shown in Table 2.

SAS and SDS scores

No significant changes were observed in SAS and SDS scores in different ages, regions, health states, gestational weeks, educational background, and living conditions ($P > 0.05$, Table 1).

There were 79 cases (50.6%, 79/156) of pregnant women with psychological health problem, of which 13 (8.3%, 13/156) suffered from anxiety, 79 patients (50.6%, 79/156) suffered from depression, and 13 patients (8.3%, 13/156)

Table 1 SAS and SDS scores of pregnant women under different demographic characteristics

Item	<i>n</i>	SAS score	F/t value	<i>P</i> value	SDS score	F/t value	<i>P</i> value
Age (year)							
20–25	4	33.75 ± 3.20	3.029	> 0.05	32.75 ± 11.38	1.369	> 0.05
26–30	91	40.37 ± 5.71			40.51 ± 8.96		
31–50	61	41.26 ± 6.54			40.57 ± 9.64		
Region							
Wuhan	104	40.50 ± 5.93	0.27	> 0.05	40.34 ± 9.24	0.24	> 0.05
Hubei except Wuhan	26	40.50 ± 5.34			39.42 ± 9.05		
Not in Hubei	26	40.80 ± 7.48			40.33 ± 9.31		
Health state							
Diagnosed/suspected	11	39.45 ± 9.05	− 0.426	> 0.05	38.36 ± 11.21	− 0.727	> 0.05
Health	145	40.63 ± 5.84			40.48 ± 9.18		
Gestational week							
0–12 week	36	41.58 ± 6.44	0.727	> 0.05	42.69 ± 10.47	1.974	> 0.05
13–24 week	46	40.48 ± 6.44			38.61 ± 9.06		
25–40 week	74	40.09 ± 5.70			40.26 ± 8.74		
Educational background							
High school/special secondary school	23	40.83 ± 4.06	1.149	> 0.05	41.78 ± 7.78	0.885	> 0.05
Bachelor degree/College degree	97	41.09 ± 6.84			40.62 ± 10.14		
Master	23	39.04 ± 4.15			39.70 ± 8.14		
Doctor	13	38.69 ± 5.66			36.77 ± 6.72		
Live alone or not							
Alone	20	40.05 ± 7.07	− 0.393	> 0.05	41.20 ± 9.74	0.445	> 0.05
Not alone	136	40.62 ± 5.96			40.21 ± 9.28		

Table 2 Distribution of women at different gestational week in different region

Item	<i>n</i>
Wuhan	
0–12 week	24
13–24 week	25
25–40 week	55
Hubei except Wuhan	
0–12 week	6
13–24 week	11
25–40 week	9
Not in Hubei	
0–12 week	6
13–24 week	10
25–40 week	10

suffered from both anxiety and depression. The SAS score of the 156 subjects was 40.5513 ± 6.09 , and the SDS score was 50.42 ± 11.64 . For the SAS score, 91.67% (143/156) of the subjects were healthy individuals, while 8.3% (13/156) of the subjects were in a state of light anxiety. In the SDS score, 46.79% (73/156) of the subjects were healthy individuals, 23.72% (37/156) of patients suffered from a mild depression, 22.44% (35/156) of patients suffered from a moderate depression, and 4.49% (7/156) of patients suffered from a severe depression (Table 3).

Diagnosed/suspected patients with COVID-19 did not experience more severe anxiety or depression than individuals in the healthy control group ($P > 0.05$, Table 3). In addition, pregnant women in Wuhan did not experience more

Table 3 The comparison of mental health of pregnant women with or without COVID-19

Item	SAS		SDS			
	Normal	Light	Normal	light	Medium	Heavy
Diagnosed/suspected	10	1	7	1	2	1
Health	133	12	70	36	33	6
Total	143	13	77	37	35	7
χ^2 value	0.009		2.211			
<i>P</i> value	> 0.05		> 0.05			

Table 4 The comparison of mental health of pregnant women in Wuhan and non-Wuhan regions

Item	SAS		SDS			
	Normal	Light	Normal	light	Medium	Heavy
Wuhan	97	7	53	24	22	5
Non-Wuhan	46	6	24	13	13	2
χ^2 value	1.049		0.516			
<i>P</i> value	> 0.05		> 0.05			

severe anxiety or depression compared to pregnant women in non-Wuhan regions ($P > 0.05$, Table 4).

Discussion

Anxiety and depression is common in pregnant women. The detection rate of anxiety and depression varies in different countries and regions [19]. In general, about 4–15% of pregnant women show symptoms of depression during pregnancy, 5–13% of pregnant women have anxiety symptoms, and in 0.9–3.8% of pregnant women depression and anxiety coexist [20]. According to the recent Chinese literature, during pregnancy, the level of anxiety in pregnant women accounts for 8.5–11.9%, and the level of depression accounts for 3.5–8.2% [18, 21, 22]. According to our findings, the proportion of anxiety among pregnant women in China during the epidemic was 8.3%, while the proportion of depression was 50.6%. Furthermore, the proportion of moderate to severe depression reached 26.93%. Thus, during the COVID-19 epidemic, the anxiety level of pregnant women was the same as that before the epidemic, while the level of depression was significantly higher.

COVID-19 patients had a high level of post-traumatic stress symptoms (PTSS) and a significantly higher level of depressive symptoms, while the general public had higher levels of anxiety and depression compared to before the COVID-19 epidemic, thereby indicating that the effects of the epidemic on the mental state are more apparent in making people depressed [23]. Moreover, in previous studies, it was suggested that the impact of depression during pregnancy was greater than that of anxiety [19]. Depression during pregnancy was not only associated with premature birth [24], but also increased the risk of low birth weight [25]. From the perspective of etiology, prenatal depression had a stronger impact on a low birth weight than on preterm birth [26]. Therefore, attention should be paid to the mental health of pregnant women, no exception during the COVID-19 epidemic, especially depression, and psychological counseling should be conducted in a timely manner.

It is generally thought that anxiety and depression are closely related, and many factors that can cause anxiety may also cause depression [19]. In terms of sociopsychological factors, stress and social support are the two factors with

the greatest impact on pregnant women [19]. The occurrence of anxiety and depression in pregnant women is significantly related to stress [27], and pregnant women with a low social support system are more likely to develop anxiety and depression during pregnancy [28].

The factors affecting anxiety and depression are diverse and complex. Our results showed that part of the causes of depression and anxiety may be independent factors. In previous studies, it was shown that anxiety was linked to increased engagement in threat-avoidance behaviors, and that depression was associated with reduced engagement in reward-seeking behaviors [29, 30]. When the questionnaires were issued, the epidemic in China was in a stable period, more than a month after the temporarily shut down of Wuhan. At that time, the number of newly diagnosed cases in China gradually decreased, while the number of patients cured gradually increased. News reports during the epidemic showed China's high consideration and dedication to control COVID-19, and news reports mentioned the successful delivery of pregnant women with COVID-19 [31]. In addition, during the outbreak, family members of pregnant women were at home, which may increase the time spent with pregnant woman and increase social support.

Therefore, we speculated that transparent information, a stable epidemic situation, and increased social support may not increase the threat-avoidance behaviors of pregnant women with COVID-19, which may be the reason that the anxiety of pregnant women did not significantly increase during the epidemic. In contrast, measures of "shelter in place" caused pregnant women to have to live at home or be isolated during the epidemic. They were unable to undergo obstetric examinations and attend many social activities. The above-mentioned challenges may reduce engagement in reward-seeking behaviors and be the reason that pregnant women suffered from a severe depression during the epidemic.

Factors that affect the mental state of pregnant women are complex and multifaceted, and include age, educational background, occupation, gestational week, economic income, medical history, sociopsychological factors, etc. In this study, we showed that no significant difference was observed in SAS and SDS scores of pregnant women at different ages, regions, health state, gestational week, educational background, and living condition

during the COVID-19 epidemic in China. Thus, pregnant women living in Wuhan, the epicenter of the COVID-19 epidemic in China, were not more anxious or depressed when compared to pregnant women in other regions during the COVID-19 epidemic, and the mental health of pregnant women with COVID-19 was not more severe. We speculated that the main reason for this may be that pregnant women were similarly isolated at home when the questionnaire was issued. In addition, the cost of treatment for COVID-19 patients in China was free at that stage of epidemic, which may be another reason.

Our study has some limitations. Although no significant differences were observed in SAS and SDS scores at different gestational weeks, the number of pregnant women at the postpartum stage was nearly twice as high compared to the number of pregnant women in the first or second trimester, which may affect the results.

At present, COVID-19 has been a global pandemic and many countries are experiencing the same rapid growth of confirmed cases. During the epidemic, the mental health of pregnant women is more vulnerable than usual. The psychological health of pregnant women is of utmost importance, and it should be paid attention to at any moment in time, not just during the epidemic. More attention should be paid to the mental health of pregnant women, especially depression, and timely guidance, intervention, and treatment should be provided. Rapid control of the epidemic, transparent information, and more social support would help protect the mental health of pregnant women. Furthermore, we recommend that more attention should be paid to the mental health status of the special group of pregnant women with COVID-19.

Author contributions HD: Manuscript writing, Project development; RH: Manuscript writing, Data analysis; CL: Data collection; DH: Data collection or management; DC: Data collection or management; GH: Manuscript polishing; MZ: Project development, Manuscript polishing.

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Code availability Not applicable.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest that could be perceived as prejudicing the impartiality of the research reported.

Ethics approval This study was approved by the Medical Ethics Committee of Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology (Approval number: TJ-IRB20200323).

Consent to participate All subjects orally agreed to participate in the study before completing the questionnaire.

Consent for publication All authors agree to contribute to this journal.

Availability of data and material The questionnaire was designed and published through the Questionnaire website (<https://www.wjx.cn>), and the original data can be checked on this website (ID:59179377).

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Artikel 5

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Depression, anxiety, stress and COVID-19-lockdown 54

Original Research



Prevalence and predictors of depression, anxiety, and stress symptoms among pregnant women during COVID-19-related lockdown in Abakaliki, Nigeria

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Abstract

Background

Several studies have been published on the topic of COVID-19 and pregnancy over recent months. However, few studies have evaluated the impact of this pandemic on maternal mental health, particularly in low-resource settings.

Aim

To determine the prevalence and predictors of COVID-19-related depression, anxiety and stress symptoms among pregnant women.

Methods

This was a cross-sectional study that involved 456 pregnant women attending prenatal care at Abakaliki, Nigeria, during the COVID-19 lockdown. These patients were screened for psychological morbidities using the Depression Anxiety and Stress Scale-21 (DASS-21).

Results

Severe and extremely severe depression were reported in 7.2% (n=33) and 6.4% (n=29) of participants, respectively. Analysis also revealed that 3.3% (n=15) and 7.7% (n=35) of women had severe and extremely severe anxiety, respectively. In total, 23% (n=105) of the participating women had severe stress while 16.7% (n=76) reported extremely severe stress. Multiparity (2-4) and occupation, such as trading and farming, were predictors of depression whereas grand-multiparity, urban residence, and trading, were identified as predictors of anxiety and stress.

Conclusion

Symptoms of depression, anxiety and stress were relatively common among pregnant women during the COVID-19 lockdown in Abakaliki, Nigeria. There is a clear need to integrate screening for depression, anxiety and stress, in existing antenatal care programs so as to identify and prevent long-term adverse psychological outcomes related to the COVID-19 pandemic.

Key Words; Pregnant women, depression, anxiety, stress, COVID-19 pandemic

Introduction

In December 2019, a series of pneumonia cases caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged in Wuhan, China¹. This infection has spread to over 110 countries, including Nigeria, prompting the World Health Organization (WHO) to declare a pandemic on 11 March 2020. The Nigeria Centre for Disease Control announced the first confirmed case of coronavirus disease in Nigeria on 27 February 2020; since then, many confirmed cases have been reported in all of the States across the country². By 24 August 2020, there had been 52,548 confirmed cases and 1004 deaths from SARS-CoV-2 infection in Nigeria³.

Under normal circumstances, approximately 10% of pregnant women suffer from mental disorders, particularly depression⁴ when calculated on a global basis although this figure has been reported to be higher (16%) in developing nations⁴. The prevalence of such disorders may have been aggravated during the coronavirus disease 2019 (COVID-19) pandemic because pregnant women may have experienced restricted access to mental health services. The mental health impact of the COVID-19 pandemic on childbearing women is a major public health challenge and requires appropriate and timely health care support to avert adverse health outcomes; at present, this issue is a significantly under-

represented research area⁵.

Information relating to the potential long-term physical and psychological impacts of the COVID-19 pandemic on pregnant women and the fetus have yet to be fully elucidated. However, studies on the psychological effects of the SARS outbreak in 2003 on the experience of pregnant women showed that in addition to physical health implications, these women experienced high levels of depression, anxiety and stress with regards to potential infection⁶. Anxiety over the pregnant woman's own health and that of the fetus may have detrimental effects on maternal and fetal well-being⁷.

Anxiety is common during and after pregnancy as women anticipate and adjust to motherhood, especially in those women and couples who have previously experienced adverse pregnancy outcomes, such as miscarriage and perinatal death^{8,9}. The COVID-19 pandemic has resulted in fear, anxiety and concern in many nations as a result of the pandemic itself^{10,11}, but also due to the restrictive public health measures implemented to reduce community transmission. Border closures, travel bans, quarantine measures, and physical distancing have resulted in increased levels of isolation and reduced access to, and interaction with, social supports and networks^{12,13}. This is likely to result in increased levels of stress, anxiety, loneliness and depression, particularly for pregnant women who will have an added level

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of concern about their own health and the protection of their unborn baby. Empirical evidence suggests that prenatal stress is related to higher rates of adverse birth outcomes, such as preterm delivery, low birth weight, and a high rate of caesarean section¹⁴.

In order to prevent transmission of COVID-19, measures and guidelines were altered in the management of many patients, including pregnant women. This particular group of patients is likely to be affected by the significant changes in the management of pregnancy, labour, birth and postnatal care provided by health services including a reduction in face-to-face appointments and increased use of telemedicine⁹. Studies have shown that lockdown is creating significant stress on pregnant women with consequential effects on the maternity providers (obstetricians, midwives, nurses and allied health professionals) caring for them¹⁵. In Nigeria, the psychological impact of these measures on pregnant women has yet to be described.

The objectives of this study were to determine the prevalence and associated factors of depression, anxiety and stress among pregnant women attending for prenatal care in a tertiary health institution in Abakaliki during the COVID-19 lockdown in Nigeria.

Materials and methods

Study design, period and setting

This was a cross-sectional study conducted from 1 March 2020 to 31 July 2020 at the antenatal clinic of Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria. This hospital manages approximately 4500 deliveries annually and receives referral from all parts of the state and the neighbouring states of Benue, Enugu, Cross River and Abia, as well as any other part of the country¹⁶.

Study participants and criteria

The study participants were pregnant women in all trimesters of gestation attending for prenatal care at the study facility during the study period. Women who gave consent to participate in the study were included. Those with a history of psychiatric illness, or conditions that limit their ability to understand the study questions, were excluded.

Sampling technique and recruitment

A total sampling method was used in the study and consecutive pregnant women who were attending for antenatal care were approached to participate in the study. Due to the lack of data on the prevalence of depression, anxiety and stress symptoms among our pregnant population, we decided to use a total sampling method. The sampling was performed by acquiring the attendance register of pregnant women attending for prenatal care during weekdays as the women presented. All pregnant women attending for prenatal care at the study facility were informed about the study and were asked to participate in the study. After consultation with a doctor, a questionnaire was offered to all eligible women in the attendance register. The women completed the questionnaire and returned it to the researchers or research assistants for analysis.

Sample size determination

It was important that we determined the adequate sample size for each condition (depression, anxiety and stress). Taking the prevalence (p) of depression among pregnant women to be 13.5%, as based on a study reported by Taubman-Ben-

Ari et al.,⁷ the sample size required was 208 considering a precision of 5% and a design effect of 1.5 using OpenEpi software¹⁷. If estimated considering the prevalence of stress (p=29.8%) and anxiety (p=24.1%), the sample size, with the other assumptions remaining constant, were 315 and 288, respectively. Considering the largest value of the three, 315, and assuming that approximately 10% of questionnaires will have incomplete responses, the sample size was estimated to be 346.5. However, to increase the power of the study, we recruited 456 pregnant women.

Data collection and analysis

Data were collected using a self-administered structured questionnaire. The questionnaire had two components: sociodemographic characteristics and the Depression Anxiety and Stress Scale-21 (DASS-21).

The sociodemographic variables collected were age, parity, marital status (single, married, divorced or widowed), area of residence (rural or urban), educational level attainment (no formal education, primary, secondary or tertiary), occupation (housewife, farmer, trader, artisan, or civil servant), and the semester of gestation.

The DASS-21 is a self-reporting questionnaire that features 21 items; 7 items per subscale of depression, anxiety and stress¹⁸. This questionnaire has been used in different populations to assess depression, anxiety, and stress symptoms, in the ongoing COVID-19 pandemic^{10,11,14}. In completing the DASS-21, each individual was required to indicate the presence of a symptom over the previous week. Each item was scored from 0 ("did not apply to me at all over the past week") to 3 ("applied to me very much or most of the time over the past week"). In this tool, a 4-point severity scale was used to assess the state of the participants in the three subscales over the previous week. Each score was multiplied by 2 and the final scores were assessed against the DASS severity ratings (Table 1).

The survey questionnaire, and the consent form in English, were translated into Igbo language, and then back-translated to English to check for semantic equivalence. The reliability of the questionnaire was checked by conducting a pre-test among pregnant women in the antenatal clinic; this was undertaken in 5% of the sample size. Using the pre-test data, we were able to investigate the understandability, clarity and organization of the questionnaire. The reliability test yielded a Cronbach's alpha value of 0.896.

All returned questionnaires were checked manually for completeness and consistency of responses. The collected data were entered and analysed using SPSS version 22 (IBM Corp. Amok, New York, USA). Continuous variables are presented as means $\pm$ standard deviations (SDs) while categorical variables are summarized as numbers and percentages. Multivariate logistic regression analysis, presented with odds ratios (OR) and 95% confidence intervals (CI), was used to identify sociodemographic factors associated with psychological morbidities. *P* values <0.05 were considered to be statistically significant.

Ethical considerations

This study was approved by the Research and Ethics Committee of the Alex Ekwueme Federal University Teaching Hospital, Abakaliki. Informed consent was taken from the study participants after informing the study participants with regards to the objectives, expected outcomes and benefits of the study. All responses remained confidential.

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Results

In total, 456 women participated in this study. The mean age of the participants was 27 ± 12.6 years; the age range

Table 1. Depression Anxiety and Stress Scale severity ratings

Severity	Depression	Anxiety	Stress
Normal	0–9	0–7	0–14
Mild	10–13	8–9	15–18
Moderate	14–20	10–14	19–25
Severe	21–27	15–19	26–33
Extremely severe	≥ 28	≥ 20	≥ 34

Table 2. Sociodemographic characteristics of the participants (N=456)

Variable	Frequency (%)
Age, years	
18–27	160 (35.1)
28–37	197 (43.2)
38–45	99 (21.7)
Mean age, years $\pm$ SD	
Parity	
0	95 (20.8)
1	107 (23.5)
2–4	165 (36.2)
≥ 5	89 (19.5)
Marital status	
Single	25 (5.5)
Married	401 (87.9)
Divorced	13 (2.9)
Widowed	17 (3.7)
Area of residence	
Rural	177 (38.8)
Urban	279 (61.2)
Educational qualification	
No formal education	31 (6.8)
Primary	66 (14.5)
Secondary	224 (49.1)
Tertiary	135 (29.6)
Occupation	
Housewife	81 (17.8)
Farmer	101 (22.1)
Trader	175 (38.4)
Artisan	36 (7.9)
Civil servant	63 (13.8)
Semester of gestation	
1st trimester	88 (19.3)
2nd trimester	209 (45.8)
3rd trimester	159 (34.9)

was 18–45 years, and the modal age was 28–37 years. The majority of the participants were married (87.9%), parity (para) 2–4 (36.2%), resided in urban areas (61.2%), had received secondary education (49.1%), were traders (38.4%), and were in the 2nd trimester of gestation (45.8%) (Table 2).

Table 3 shows the prevalence of various psychological states of the study cohorts. DASS-21 assessment showed that depression was reported in 45.2% ($n=206$) of participants: 31.6% ($n=144$) had mild-to-moderate depression, 7.2% ($n=33$) had severe depression, and 6.4% ($n=29$) had extremely severe depression. We also found that 37.5% ($n=171$) of the women surveyed reported anxiety symptoms. Of these, mild-to-moderate anxiety was reported by 26.5% ($n=121$) of participants. Severe and extremely severe anxiety were reported by 3.3% ($n=15$) and 7.7% ($n=35$) of the study participants, respectively. Of the 456 participants, 56.8% ($n=259$) reported stress symptoms. Analysis also showed that 17.1% ($n=78$) of women reported mild-to-moderate

stress symptoms; 23% ($n=105$) and 16.7% ($n=76$) reported severe and extremely severe stress, respectively.

Table 3. Psychological outcomes of the participants (N=456), as determined by the DASS-21

Psychological category	Frequency (%)
Depression	
Normal	250 (54.8)
Mild	83 (18.2)
Moderate	61 (13.4)
Severe	33 (7.2)
Extremely severe	29 (6.4)
Anxiety	
Normal	285 (62.5)
Mild	67 (14.7)
Moderate	54 (11.8)
Severe	15 (3.3)
Extremely severe	35 (7.7)
Stress	
Normal	197 (43.2)
Mild	25 (5.5)
Moderate	53 (11.6)
Severe	105 (23.0)
Extremely severe	76 (16.7)

Table 4 depicts multivariable logistic regression for predictors of depression, anxiety and stress among the participants. The sociodemographic characteristics of the participants had variable effects on the development of psychological symptoms relating to depression, anxiety and stress. Women aged between 38–45 years were three times more likely to develop depression when compared to those between 18 and 27 years (OR=3.1, 95% CI: 0.06–0.19, $P<0.001$). Other factors that were significantly associated with depression among pregnant women during COVID-19 lockdown were being para 2–4 (OR=1.9, 95% CI: 1.16–3.31, $P=0.011$), and having an occupation that required physical contact, such as being a farmer (OR=1.9, 95% CI: 1.01–3.52, $P=0.047$), trader (OR=3.4, 95% CI: 0.24–0.71, $P=0.001$), or an artisan (OR=5.1, 95% CI: 0.05–0.36, $P<0.001$). Factors that were significantly associated with a lower risk of depression among the participants were being aged 18–27 years (OR=0.6, 95% CI: 0.37–0.9, $P=0.016$), para 1 (OR=0.5, 95% CI: 0.31–0.94, $P=0.028$), divorced (OR=0.2, 95% CI: 0.05–0.93, $P=0.04$), and working as a civil servant (OR=0.5, 95% CI: 2.23–13.6, $P<0.001$).

Variables that were significantly associated with anxiety included an age of 38–45 years (OR=2.2, 95% CI: 0.1–0.3, $P<0.001$), para 5 and above (OR=4.1, 95% CI: 0.07–0.26, $P<0.001$), urban residence (OR=2.6, 95% CI: 0.39–0.87, $P=0.008$), tertiary education (OR=3.8, 95% CI: 0.12–0.39, $P=0.001$), and working as a trader (OR=4.2, 95% CI: 0.12–0.39, $P<0.001$).

Higher parity (≥ 5), urban residence, and being in the 3rd trimester of gestation were all significantly associated with the risk of developing stress symptoms. Grand-multiparous women were nearly six times more likely to report stress symptoms when compared to nulliparous participants (OR=5.9, 95% CI: 2.99–11.9, $P<0.001$). Furthermore, participants who lived in urban centres were three times more likely to report stress symptoms when compared with those living in rural areas (OR=3.3, 95% CI: 0.18–0.39, $P<0.001$). Stress was almost twice as high in women in their 3rd trimester of pregnancy when compared to those in their 1st trimester (OR=1.9, 95% CI: 1.05–3.29, $P=0.034$).

Table 4. Multivariable logistic regression analysis showing the predictors of depression, anxiety and stress, among the participants

Variable	Depression		Anxiety		Stress	
	OR (95% CI)	P value	OR (95% CI)	P value	OR (95% CI)	P value
Age, years						
18–27	1.00		1.00		1.00	
28–37	0.6 (0.37–0.9)	0.016	1.0 (0.64–1.5)	0.946	1.5 (0.95–2.22)	0.081
38–45	3.1 (0.06–0.19)	<0.001	1.6 (0.10–2.2)	<0.001	0.9 (0.51–1.44)	0.559
Parity						
0	1.00		1.00		1.00	
1	0.5 (0.31–0.94)	0.028	0.7 (0.39–1.27)	0.245	1.5 (0.31–2.81)	0.501
2–4	1.9 (1.16–3.31)	0.011	1.5 (0.98–2.37)	0.055	0.4 (0.79–2.37)	0.051
≥5	0.7 (0.38–1.21)	0.185	4.1 (0.07–2.06)	<0.001	5.9 (2.99–11.9)	<0.001
Marital status						
Single	1.00		1.00		1.00	
Married	0.5 (0.17–1.23)	0.112	0.8 (0.34–1.81)	0.622	0.2 (0.08–0.52)	<0.001
Divorced	0.2 (0.05–0.93)	0.04	0.5 (0.14–2.18)	0.393	0.5 (0.12–2.15)	0.355
Widowed	0.5 (0.11–1.85)	0.274	0.4 (0.12–1.49)	0.179	1.0 (0.24–4.37)	0.972
Area of residence						
Rural	1.00		1.00		1.00	
Urban	0.8 (0.53–1.13)	0.179	2.6 (0.39–0.87)	0.008	3.3 (0.18–0.39)	<0.001
Educational qualification						
No formal education	1.00		1.00		1.00	
Primary	2.2 (0.89–5.19)	0.087	2.3 (0.95–5.41)	0.065	0.7 (0.29–1.94)	0.547
Secondary	0.9 (0.42–1.88)	0.758	1.6 (0.73–3.32)	0.248	0.2 (0.09–0.47)	0.421
Tertiary	1.3 (0.6–2.89)	0.484	3.8 (1.67–8.43)	0.001	0.1 (0.08–0.346)	0.301
Occupation						
Housewife	1.00		1.00		1.00	
Farmer	1.9 (1.01–3.52)	0.047	0.9 (0.43–1.73)	0.689	0.6 (0.34–1.11)	0.108
Trader	3.4 (0.24–0.71)	0.001	4.2 (0.12–0.39)	<0.001	0.1 (0.07–0.421)	0.089
Artisan	5.1 (0.05–0.36)	<0.001	0.3 (0.11–1.59)	0.061	1.4 (0.64–3.43)	0.355
Civil servant	0.5 (2.23–13.6)	<0.001	1.5 (0.71–4.13)	0.229	1.5 (0.75–3.04)	0.246
Semester of gestation						
1st trimester	1.00		1.00		1.00	
2nd trimester	0.7 (0.42–1.17)	0.173	1.5 (0.83–2.89)	0.179	1.2 (0.85–1.8)	0.361
3rd trimester	1.1 (0.65–1.88)	0.710	0.7 (0.09–1.29)	0.074	1.5 (1.05–2.29)	0.034

Discussion

Several studies on COVID-19 and pregnancy have been published recently. However, very few studies have evaluated the impact of this pandemic on maternal mental health, particularly in a low-resource setting. In this study, we evaluated the prevalence of depression, anxiety, and stress, among pregnant women during COVID-19 lockdown.

We found high levels of depression (45.2%) among our study participants. Pregnant women who were between the ages of 38 and 45 years, para 2–4, and those who had occupations that required physical contact, such as trading, were more likely to be affected. Over one-third (37.5%) of the pregnant women surveyed reported COVID-19-related anxiety. Similar findings were reported by Taubman-Ben-Ari et al. in Israel where a significant number of pregnant women reported COVID-19-related anxiety; the greatest concern was related to being in public places or taking public transport⁷. This was followed by anxieties relating to the health of others, either the fetus or family members, and then the possibility of the pregnant woman herself being infected, and anxiety relating to delivery. Although the same anxieties were shared by pregnant women experiencing diverse sociodemographic variables, the COVID-19 lockdown had resulted in low economic activity and difficulty accessing transportation in the event of emergency. These conditions are likely to make a pregnant woman feel less secure and therefore feel more anxious and distressed in the face of the current crisis.

Similarly, over half (56.8%) of the participants reported stress symptoms. High parity (≥5), urban residence and being in 3rd trimester gestation were significantly associated with risk of developing stress symptoms. This is not surprising as women in these groups need social support to lighten the burden of pregnancy. Social distancing has resulted in inadequate social support for many pregnant women as they are separated from their loved ones, whom they rely on for support during this critical phase. While social support helps pregnant women to relieve stress, inadequate social support is one of the significant risk factors for extreme stress and depression among pregnant women.

Occupations requiring physical contacts, such as being a farmer, were associated with adverse mental health. In the present study, pregnant mothers who were farmers and residing in rural areas were at high risk of developing COVID-19-related depression, anxiety and stress. This is probably because the lockdown limited the ability of the rural population to procure essential services such as transportation to access emergency healthcare services that might not be available in the local communities. In addition, poor or a lack of palliative support during the lockdown period for rural households (for many of which women are the breadwinners), might be responsible for adverse psychological morbidities among pregnant women in rural settings. Therefore, training village healthcare workers on how to screen and detect psychological morbidities among at-risk pregnant women would aid timely referral for treatment and help to prevent prolonged adverse mental outcomes resulting from the COVID-19 pandemic²².

The long-term mental health outcome of COVID-19 is not yet known and it may take months to become completely evident. To provide adequate support to pregnant women in developing countries, in which only a minimal mental health service is available, there is a need to integrate screening for anxiety, stress and depression among the existing antenatal care programs. A detailed mental health crisis program should also be developed by introducing innovative strategies such as tele-consultation services to provide psychological assistance, for example cognitive behaviour therapy, to pregnant mothers in order to deal with secondary mental health challenges related with COVID-19.²³ There is a need for further research to investigate the impact of the COVID-19 pandemic on pregnant women and their babies, particularly in developing countries where mental health care is poorly developed. Culture-sensitive intervention programs should be put in place and taught to healthcare workers, such as nurses and midwives, for the early intervention of pregnant women suffering from COVID-19-related psychological distress.

Although pregnancy is a time of joy for most women, some women experience a range of negative emotions during pregnancy, thus leading to anxiety and depression¹⁹. Maternal mental health problems are associated with short-term and long-term risks for the affected mothers' overall health and function, as well as the physical, cognitive and psychological development, of the child²⁰. Certain conditions, such as extreme stress, emergencies and conflict situations, and natural disasters, can inflate the risks of perinatal mental health morbidity²¹. Therefore, it is plausible that pregnant women are vulnerable to mental ill-health during the COVID-19 pandemic.

This study has a limitation that needs to be considered: this was a single-centre study that cannot be considered to be representative of the population of pregnant women across the whole of Nigeria during the lockdown period. A multicentre study would have improved the generalization of the study findings. Despite this limitation, this is a timely study and reflects the psychological distress of pregnant women in the face of the spread of COVID-19.

In conclusion, a significant proportion of pregnant women had psychological symptoms of depression, anxiety and stress, during COVID-19-related lockdown in Nigeria. There is a need to pay special attention to vulnerable populations, such as pregnant women, so as to prevent long term adverse psychological outcomes that may arise from the COVID-19 pandemic.

Conflict of interest

The authors have no conflicts of interest to declare.

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Artikel 6



Mental health among pregnant women under public health interventions during COVID-19 outbreak in Wuhan, China

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Sleep

ABSTRACT

Coronavirus disease 2019 (COVID-19) has become a pandemic. As the first city struck by the COVID-19 outbreak, Wuhan had implemented unprecedented public health interventions. The mental health of pregnant women during these anti-epidemic controls remains unknown. A total of 274 pregnant women living in Wuhan during the COVID-19 outbreak took part in our investigation online. The data on mental health conditions were evaluated using Edinburgh Postnatal Depression Scale (EPDS), Self-Rating Anxiety Scale (SAS), Chinese Perceived Stress Scale (CPSS), and Pittsburgh Sleep Quality Index (PSQI). We also collected the information on physical health status and precautionary measures against COVID-19. The prevalence of depression, anxiety, stress, and poor sleep quality was 16.1%, 13.9%, 42.7%, 37.6%, respectively. Comparing to SAS, PSQI score in pregnant women who participated in the survey after April 8 (date of Wuhan reopening), those data collected before April 8 were significantly higher. High levels of stress, severe health concerns over the fetus, and poor hygienic practices were negatively associated with mental health conditions. In conclusion, a large proportion of pregnant women reported psychological symptoms during the epidemic, which negatively related to the severe health concerns over fetus and poor hygienic practices. More psychological support during the epidemic would promote maternal mental well-being.

1. Introduction

Coronavirus disease 2019 (COVID-19) is infectious viral pneumonia caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which was first revealed in Wuhan, China (Pan et al., 2020; Bai et al., 2020). The disease's spread was declared a Public Health Emergency of International Concern and a pandemic by WHO (WHO, 2020). The virus has infected more than 142 million individuals, with over 3.0 million deaths as of April 20, 2021 (Johns Hopkins Coronavirus Resource Center, 2021). As the first city struck by the COVID-19 outbreak, citizens in Wuhan have witnessed the rapid spread of the virus and severe shortage of healthcare resources in the early stage of the epidemic, together with fears and (mis)information overload in social media. They also experienced unprecedented public health interventions, including a 76-day city lockdown, strict social distancing measures, and home isolation. (Pan et al., 2020; Gao et al., 2020).

The epidemic has created enormous disruptions to daily life and

could also affect people's mental well-being in the disease-struck regions. For example, Gao (Gao et al., 2020) has reported increased depression, anxiety, and a combination of depression and anxiety (CDA) in the general Chinese population during the COVID-19 outbreak. The elderly suicide rate in Hong Kong has also shown a sharp increase amid the epidemic of the Severe Acute Respiratory Syndrome (SARS) in 2003 (Chan et al., 2006), which was linked to social disengagement, stress, anxiety, and disease-related fears (Yip et al., 2010).

Females are predisposed to more severe anxiety and PTSD in epidemic outbreaks (Wang et al., 2020; Yali and Lobel, 1999), especially for pregnant women who undergo physiological, social, and emotional changes (Ding et al., 2014). Hence, the mental health of pregnant women may be more vulnerable to public health interventions such as city lockdown and home quarantine than the general population during the outbreak of COVID-19 (Yang et al., 2021). A meta-analysis has demonstrated that, compared to the non-pandemic period, the State-Trait Anxiety Inventory (STAI) scores on the maternal anxiety

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scale during pregnancy and postpartum period were significantly higher during the COVID-19 pandemic (Hessami et al., 2020). The aggravated ill mental state of pregnant women could further lead to adverse outcomes of their offspring (Stein et al., 2014), such as preterm birth, low birth weight, and negative affectivity in early childhood, internalizing behavior in school-age, high risk of depression, and low social competence in adolescent (Barker et al., 2011; Megan et al., 2011; Korhonen et al., 2012; Susan et al., 2009). Therefore, the psychological impact of COVID-19 on pregnant women cannot be ignored. One recent study demonstrated a significantly increased prevalence of anxiety and depressive symptoms in pregnant women (Wu et al., 2020), which was conducted in ten provinces across China without Wuhan. We conducted a survey focusing on maternal mental health in Wuhan, the epicenter of the COVID-19 outbreak, to establish the prevalence of psychological symptoms and the severity and identify related factors in the pregnant population during the outbreak.

2. Methods

2.1. Study design and participants

This questionnaire-based cross-sectional survey was conducted via an online crowdsourcing platform (<https://www.wjx.cn/>) from February 27 to May 8, 2020. Pregnant women living in Wuhan during the COVID-19 outbreak were all candidates for the survey. The participants were reached through any of the following approaches: 1) the Maternal and Child Health Hospital (MCH) in Jiangnan District introduced the study in its WeChat (the Chinese version of Facebook) public platform with the link of the questionnaire shared; 2) some community healthcare personnel in the District shared the link of the questionnaire to pregnant women in their registers; and 3) the nurses in the MCH hospital guided pregnant women during their prenatal visit after the restoration of their post lockdown medical services. Jiangnan District is the most affected area in Wuhan. A total of 274 women were included in the final analysis.

Our study protocol was approved by the Ethics Committee of Tongji Medical College, Huazhong University of Science and Technology, before the initiation of this survey (2020-S052). The informed consent was obtained from the participants prior to questionnaire filling, and the investigation was carried out under the Declaration of Helsinki.

2.2. Data collection

Our study focused on the symptoms of depression, anxiety, stress, and sleep quality, using self-evaluation as the outcome variables. The Edinburgh Postnatal Depression Scale (EPDS) is the most widely used measure for postpartum depressive symptoms and prenatal depressive symptoms (Cox et al., 1987; Felice et al., 2006). It contains 10 items with a score ≥ 10 representing depressive symptoms (Guo et al., 2009). The Self-Rating Anxiety Scale (SAS), a four-rating scale with 20 items, was used to measure the level of anxiety in the past month (Wang and Chi, 1984). The total score ranges from 25 to 100, with ≥ 50 represents anxiety symptoms. Chinese Perceived Stress Scale (CPSS), a self-reported scale of 14 items, was applied to measure the extent of perceived stress during the past month (Chu, 2005). The total score ranges from 0 to 56, with scores higher than 25 indicating a high perceived stress level (Cohen et al., 1983). Pittsburgh Sleep Quality Index (PSQI) is an 18-item self-report scale for evaluating adult sleep quality and sleep disturbances. Participants whose score > 5 were characterized as having poor sleep quality (Liu et al., 1996; Smyth, 2000). All the adopted Chinese versions of measurement tools were validated, showing satisfactory reliability and validity (Guo et al., 2009; Wang and Chi, 1984; Chu, 2005; Liu et al., 1996).

Other health related information in the current study are: 1) demographic data, including age, educational level, residential location during the COVID-19 outbreak, family members living together; 2)

history of maternity, including gravidity and parity, gestational age, pregnancy disorders, high-risk pregnancy (yes, no); 3) health conditions during epidemic of COVID-19, including symptoms related to COVID-19 (fever, fatigue, dry cough, sore throat, headache, anhelation, dyspnea, inappetence, nausea, diarrhea, stomachache), concern of themselves being infected (no/little, mild, moderate, severe), concern of fetus being affected by the outbreak (no/little, mild, moderate, severe); 4) hands hygienic measures including the hands hygienic practices (avoiding touching eyes, mouth and nose with hands, washing hands before eating and after using toilet, and avoiding directly touching objects in public place) with hygienic practice score calculated (1 point for each practice, the total score ranges from 0 to 3); 5) information on prenatal care included the cancellation of prenatal examination during the epidemic (yes, no) and related causes, remote counselling services provided by healthcare staff (yes, no), and counselling services seeking behaviors (yes, no).

2.3. Statistical analysis

The normally distributed variables, such as age, gestational age, were described as mean with standard deviation (SD), whereas the skewed variables, such as the total score of SAS, EPDS, CPSS, and PSQI were presented as medians and interquartile ranges (IQRs). The categorical variables, like educational level and pregnancy disorders, were presented as the frequency with proportion. Chi-square test and Mann-Whitney U test were used to compare the proportions of the positive outcomes between two groups. We compared the participants' mental well-being investigated before and after April 8, 2020 (date of Wuhan reopening) by a generalized linear model. Multivariable logistic regression was applied to identify the related factors of the mental health outcomes. All statistical analyses and graphing were performed using SPSS statistical software version 26.0 and Graphpad version 8.0. P values were 2-tailed with statistical significance set at 0.05.

3. Results

3.1. Characteristics of pregnant women

The analyses included 274 participants with a mean (SD) age of 30.4 (3.8) years and 87.2% < 35 years old ($n = 239$). Over half were first pregnancy ($n = 141$, 51.5%), with college education ($n = 203$, 74.1%), living with their husband ($n = 246$, 89.8%). The mean (SD) gestational age was 21.4 (7.5) weeks, with the majority in the second trimester ($n = 216$, 78.8%). Around half ($n = 135$, 49.3%) were enrolled in communities or hospitals. The proportions of pregnancy comorbidities and high-risk pregnancies were 23.4% and 10.6%, respectively. Only 1.5% ($n = 4$) had any contact history with COVID-19 patients but no one infected. Twelve percent ($n = 33$) reported serve concern of fetus being affected during epidemic, 13.1% ($n = 36$) moderate concern, 40.5% ($n = 111$) mild concern, and 34.3% ($n = 94$) no/little concern. Regarding the prenatal check-up, the cancellation was up to 67.2% during the outbreak, with the top three reasons being the concern of being infected in hospitals (82.6%), hospitals stopped the provision of related service (37.0%), hospitals were designated for COVID-19 treatment (27.7%). Around 40% received remote services from healthcare staff, and 26.3% have actively sought prenatal counseling services (Table 1).

3.2. Mental health status

The median (IQR) scores of EPDS, SAS, CPSS, PSQI were 5.0 (2.0–8.0), 41.0 (33.0–46.0), 24.0 (16.0–28.0), 4.0 (3.0–7.0). The prevalence of depression ($n = 44$, 16.1%), anxiety ($n = 38$, 13.9%), stress ($n = 117$, 42.7%), and poor sleep quality ($n = 103$, 37.6%). A total of 62.4% developed at least one of the four symptoms. The scores of EPDS, SAS, CPSS, and PSQI were 5.77 ± 4.54 , 40.68 ± 9.09 , 21.67 ± 8.52 , and 5.02 ± 2.90 (mean $\pm$ standard deviation), respectively. All the

Table 1
Description of the basic data.

Variables	n(%) ^a	Variables	n(%) ^a
Age, years	30.4 ± 3.8 ^b	The canceled prenatal check-ups	
<35	239 (87.2)	Regular prenatal care ^c	70 (38.0)
≥35	35 (12.8)	Blood glucose test	28 (15.2)
Gestational age, weeks	21.4 ± 7.5 ^b	Toxoplasma test	17 (9.2)
Avoiding touching eyes, mouth and nose with hands		Down's Syndrome screening	48 (26.1)
Yes	219 (79.9)	B-ultrasonography examination	60 (32.6)
No	55 (20.1)	Others	41 (22.3)
Washing hands before eating and after using toilet		Healthcare personnel provided the counselling services	
Yes	261 (95.3)	Medical personnel of towns or maternal and child health county hospitals	9(8.3)
No	13(4.7)	Community healthcare workers	54 (49.5)
Avoiding directly touching objects in public area		Medical personnel in Maternal and Child Health hospital at district, city and provincial levels	19 (17.4)
Yes	246 (89.8)	Medical staff at the general hospitals	24 (22.0)
No	28 (10.2)	Others	17 (15.6)
Feeling the epidemic is serious		Services mode of remote services	
Not serious	38 (13.9)	Telephone counseling	82 (75.2)
Mild serious	153 (55.8)	WeChat / QQ consulting	35 (32.1)
Moderate serious	59 (21.5)	Provision of prenatal care booklet	12 (11.0)
Severe serious	24(8.8)	Text-message query	13 (11.9)
		Others	5(4.6)

^a Data were presented as n(%) unless otherwise indicated.

^b Data were presented as mean±standard deviation.

^c Regular prenatal care includes abdominal circumference, blood pressure, etc.

measurement tools showed satisfactory reliability (Cronbach's α) in our study (EPDS, 0.85; SAS, 0.80; CPSS, 0.80; PSQI, 0.84).

Both depressive and anxiety symptoms were found closely associated with the concern of being infected (depression: $Z=-3.9$, $P<0.001$; anxiety: $Z=-3.9$, $P<0.001$), the concern of fetus being affected (depression: $Z=-4.6$, $P<0.001$; anxiety: $Z=-4.4$, $P<0.001$), subjective sleep quality (depression: $Z=-2.5$, $P=0.01$; anxiety: $Z=-4.1$, $P=0.02$) and hygienic practice score (depression: $Z=-2.3$, $P=0.02$; anxiety: $Z=-2.3$, $P=0.02$). Among the pregnant women with high perceived stress or poor sleep quality, proportions of no/little concern of being infected (stress: $Z=-2.5$, $P=0.01$; sleep: $Z=-2.4$, $P=0.02$) and the fetus being affected (stress: $Z=-3.4$, $P<0.001$; sleep: $Z=-4.0$, $P<0.001$), good subjective sleep quality (stress: $Z=-3.4$, $P<0.001$; sleep: $Z=-9.4$, $P<0.001$) were significantly lower than the control. Gestational age was also associated with symptoms of depression and sleep quality (depression: $\chi^2=18.14$, $P<0.001$; sleep: $\chi^2=6.29$, $P=0.04$) (Table 2).

Fig. 1 presents the comparisons of outcome scores between the two stages (before and after April 8). The scores of SAS ($\beta=0.059$, 95%CI, 0.0068–0.11), PSQI ($\beta=0.146$, 95%CI, 0.0054–0.29) in the city lockdown stage were significantly higher than that of the city reopening stage, adjusting for age, gestational age, and proportion of high-risk pregnancies. Besides, the scores of sleep disturbance ($\beta=0.808$, 95%CI, 0.21–1.41) of PSQI, were also statistically different in the two stages.

There was no statistical difference in the total score of CPSS and EPDS, and all dimensions of the PSQI, except sleep disturbance in the two stages.

3.3. Related factors for maternal mental health outcomes

Logistic regression analysis showed that, compared with little/no concern of fetus being affected, severe concern was highly associated with the four mental health symptoms, i.e., depression (OR=6.64, 95%CI, 1.70–25.92), anxiety (OR=4.30, 95%CI, 1.16–15.96), stress (OR=4.10, 95%CI, 1.62–10.41) and poor sleep quality (OR=3.94, 95%CI, 1.54–10.10). Moderate concern was also related to all the symptoms except sleep (depression: OR=4.17, 95%CI, 1.12–15.58; anxiety: OR=4.32, 95%CI, 1.22–15.26; stress: OR=2.91, 95%CI, 1.28–6.61). Moreover, high stress in the pregnant population during the COVID-19 outbreak was related to all the other symptoms (depression: OR=13.01, 95%CI, 4.63–36.57; anxiety: OR=11.86, 95%CI, 3.90–36.05; sleep: OR=1.86, 95%CI, 1.08–3.19). Compared with those in the second or the third trimester, women in the first trimester had a higher risk of having depressive symptoms (second trimester: OR=0.15, 95%CI, 0.03–0.72) and being stressed (last trimester: OR=0.24, 95%CI, 0.06–0.94). The adjusted odds ratio of depressive symptoms were greater among those with postgraduate education or above (OR=7.36, 95%CI, 1.32–40.95) than those with high school or below, lower among those with a higher score in hygienic practices than those with 0 scores (1 score: OR=0.02, 95%CI, 0.00–0.57; 3 score: OR=0.09, 95%CI, 0.01–0.83) (Table 3).

4. Discussion

Our study showed a large proportion of pregnant women in Wuhan reported mental health symptoms during the COVID-19 epidemic, including depression, anxiety, high stress, and poor sleep quality. Over 60% of participants scored above the threshold for at least one of the psychological indices. 16.1%, 13.9%, 42.7%, and 37.6% of our participants were likely to have depression, anxiety, high stress, poor sleep quality, respectively. A majority had to cancel their prenatal check-ups, with a tiny proportion received some remote counseling services. High-level pressure, severe health concerns over the fetus, early pregnancy, and high educational levels were identified as risk factors of mental health status.

Our study demonstrated that high perceived stress was an independent risk factor for depression, anxiety, and sleep quality in the pregnancy population. This finding is consistent with the previous findings suggesting a close association between antenatal depressive symptoms and stressful experiences during pregnancy (Lancaster et al., 2010; Shakeel et al., 2015). An earlier report also indicated high perceived stress was a common predictor of chronic anxiety symptoms in pregnancy (Bayrampour et al., 2015). The perceived stress stem from the emerging infectious disease outbreak, health-related concerns, home confinement, and shortage of medical resources (Stein et al., 2014; Xie et al., 2020; Fu et al., 2020) may result in poor sleep condition, including difficulty in falling asleep and short sleep duration in some pregnant women (Alan et al., 2020; Lin et al., 2021).

In our study, participants with moderate-severe concerns about their fetuses tended to develop symptoms of depression, anxiety, and stress, which was consistent with previous studies (Mortazavi et al., 2021; Rief et al., 2012; Mohammadi et al., 2019; Mortazavi et al., 2016). In our study, approximately 25% of participants reported moderate-severe concerns about their fetuses being affected by the outbreak. However, only a small proportion of them reported any contact history (1.5%) or symptoms of COVID-19 (5.1%). Therefore, some participants seemed to have exaggerated concerns relative to their actual infection risk. Some anxiety symptoms, also known as health anxiety, may arise from inappropriate or exaggerated concerns about one's health status and dysfunctional beliefs about health and illness (Rief et al., 2012). It is a

Table 2
The distributions of the four mental health conditions by covariates.

Variables	EPDS Score ^{a,b}			SAS Score			CPSS Score ^c			PSQI Score ^d		
	<10	≥10	P	<50	≥50	P	≤25	>25	P	≤5	>5	P
Gestational age ^e	N(%)	N(%)	value	N(%)	N(%)	value	N(%)	N(%)	value	N(%)	N(%)	value
The first trimester	8(3.5)	8(18.2)	0.0001	11(4.7)	5(13.2)	0.051	5(3.2)	11(9.6)	0.094	8(4.7)	8(7.8)	0.043
The second trimester	190	26		191	25		127	89		143	73	
	(82.6)	(59.1)		(80.9)	(65.8)		(80.9)	(76.1)		(83.6)	(70.9)	
The third trimester	32(13.9)	10		34(14.4)	8(21.1)		25(15.9)	17		20(11.7)	22	
		(22.7)						(14.5)			(21.4)	
Pregnancy comorbidities ^f			0.066			0.197			0.178			0.145
Yes	49(21.3)	15		52(22.0)	12		32(20.4)	32		35(20.5)	29	
		(34.1)			(31.6)			(27.4)			(28.2)	
No	181	29		184	26		125	85		136	74	
	(78.7)	(65.9)		(78.0)	(68.4)		(79.6)	(72.6)		(79.5)	(71.8)	
Concern of themselves being infected ^g			<0.0001			<0.0001			0.013			0.018
No concern	124	14		126	12		87(55.4)	51		93(54.4)	45	
	(53.9)	(31.8)		(53.4)	(31.6)			(43.6)			(43.7)	
Mild concern	88(38.3)	14		92(39.0)	10		58(36.9)	44		65(38.0)	37	
		(31.8)			(26.3)			(37.6)			(35.9)	
Moderate concern	12(5.2)	10		10(4.2)	12		8(5.1)	14		7(4.1)	15	
		(22.7)			(31.6)			(12.0)			(14.6)	
Severe concern	6(2.6)	6(13.6)		8(3.4)	4(10.5)		4(2.5)	8(6.8)		6(3.5)	6(5.8)	
Concern of fetus being affected ^h			<0.0001			<0.0001			0.001			<0.0001
No concern	88(38.3)	6(13.6)		88(37.3)	6(15.8)		63(40.1)	31		71(41.5)	23	
								(26.5)			(22.3)	
Mild concern	96(41.7)	15		101	10		67(42.7)	44		68(39.8)	43	
		(34.1)		(42.8)	(26.3)			(37.6)			(41.7)	
Moderate concern	27(11.7)	9(20.5)		26(11.0)	10		15(9.6)	21		20(11.7)	16	
					(26.3)			(17.9)			(15.5)	
Severe concern	19(8.3)	14		21(8.9)	12		12(7.6)	21		12(7.0)	21	
		(31.8)			(31.6)			(17.9)			(20.4)	
Subjective sleep quality ⁱ			0.012			<0.0001			0.001			<0.0001
Great	46(20.0)	4(9.1)		49(20.8)	1(2.6)		38(24.2)	12		48(28.1)	2(1.9)	
								(10.3)				
Good	144	26		149	21		96(61.1)	74		119	51	
	(62.6)	(59.1)		(63.1)	(55.3)			(63.2)			(49.5)	
Bad	40(17.4)	14		38(16.1)	16		23(14.6)	31		4(2.3)	50	
		(31.8)			(42.1)			(26.5)			(48.5)	
Hygienic practices score ^{e,h,i}			0.020			0.023			0.076			0.169
0	3(1.3)	4(9.1)		5(2.1)	2(5.3)		2(1.3)	5(4.3)		4(2.3)	3(2.9)	
1	13(5.7)	1(2.3)		11(4.7)	3(7.9)		7(4.5)	7(6.0)		6(3.5)	8(7.8)	
2	35(15.2)	12		37(15.7)	10		24(15.3)	23		28(16.4)	19	
		(27.3)			(26.3)			(19.7)			(18.4)	
3	179	27		183	23		124	82		133	73	
	(77.8)	(61.4)		(77.5)	(60.5)		(79.0)	(70.1)		(77.8)	(70.9)	

^a EPDS Score >10 represents depressive symptoms.

^b SAS Score ≥50 represents anxiety symptoms.

^c CPSS Score >25 represents high level of perceived stress.

^d PSQI Score >5 represents poor sleep quality.

^e P values were calculated with a Chi-Square test unless otherwise indicated; P values were calculated with a Fisher exact test.

^f P values were calculated with a Mann-Whitney U test.

^g Hygienic practices score: hand hygienic practices include avoiding touching eyes, mouth and nose with hands, washing hands before eating and after using toilet, avoiding directly touching objects in public place; 1 point for one practice, total score ranges from 0 to 3.

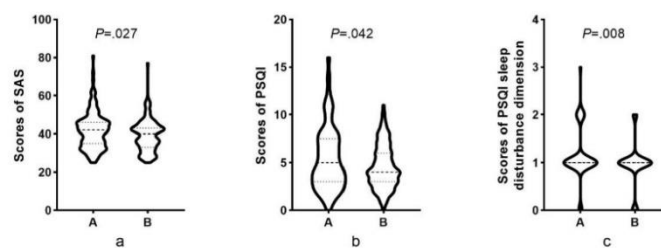


Fig. 1. Comparison of scores of EPDS, SAS and PSQI before and after April 8.

Adjusted for age, gestational age and proportion of high-risk pregnancy using Generalized Linear Models. The scale score in the figure is the raw data.

A: Before and after April 8; B: After April 8; a: P value were derived from GLM (Gamma distribution); b: P value were derived from GLM (Tweedie distribution); c: P value were derived from GLM (Multinomial distribution).

Table 3
Logistic regression analysis of the associated factors of the four mental health conditions.

Variables	OR (95% CI)			
	EPDS, depressive symptom	SAS, anxiety symptom	CPSS, stress symptom	PSQI, sleep quality
Educational level (ref-high school or below)				
College education	1.69(0.45–6.26)	1.71(0.49–6.00)	0.98(0.46–2.08)	1.27(0.57–2.84)
Postgraduate education or above	7.36(1.32–40.95)*	1.05(0.15–7.59)	0.51(0.17–1.50)	1.49(0.50–4.43)
Living with their husband (ref-Yes)	0.91(0.22–3.74)	1.59(0.40–6.25)	0.72(0.29–1.77)	1.54(0.63–3.79)
Gestational age (ref-the first trimester)				
The second trimester	0.15(0.03–0.72)*	0.61(0.14–2.70)	0.42(0.13–1.39)	0.83(0.26–2.64)
The third trimester	0.27(0.05–1.56)	0.61(0.11–3.30)	0.24(0.06–0.94)*	1.13(0.30–4.23)
Pregnancy complications (ref-no)	1.63(0.65–4.09)	1.55(0.62–3.87)	1.36(0.74–2.51)	1.26(0.68–2.35)
Symptoms related to COVID-19 (ref-no)	2.77(0.80–9.61)	2.02(0.58–7.00)	1.26(0.53–3.00)	1.86(0.77–4.52)
Cancelling prenatal examination (ref-no)	2.33(0.84–6.47)	1.66(0.64–4.32)	1.21(0.69–2.12)	0.96(0.54–1.72)
Concern of fetus being affected (ref- no)				
Mild concern	2.20(0.68–7.07)	1.24(0.39–3.79)	1.39(0.75–2.55)	1.79(0.94–3.40)
Moderate concern	4.17(1.12–15.58)*	4.32(1.22–15.26)*	2.91(1.28–6.61)*	2.10(0.89–4.93)
Severe concern	6.64(1.70–25.92)**	4.30(1.16–15.96)*	4.10(1.62–10.41)**	3.94(1.54–10.10)**
Hygienic practices score (ref –0)				
1	0.02(0.00–0.57)*	0.92(0.07–11.55)	0.38(0.05–2.89)	2.34(0.31–17.67)
2	0.15(0.01–1.54)	0.98(0.11–8.49)	0.29(0.05–1.82)	1.07(0.18–6.31)
3	0.09(0.01–0.83)*	0.52(0.07–4.20)	0.24(0.04–1.39)	1.00(0.18–5.52)
High stress (ref - normal)	13.01(4.63–36.57)***	11.86(3.90–36.05)***	—	1.86(1.08–3.19)*

Abbreviation: CI, confidence interval; OR, odds ratio.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

high possibility for individuals to expose to health anxiety in infectious disease outbreaks (Blakey and Abramowitz, 2017; Blakey et al., 2015). Over half of the pregnant women reported health anxiety in Ireland during the COVID-19 outbreak (Corbett et al., 2020). These findings demonstrated that more effort should be made for the public to better understand of the diseases, avoid somatosensory amplification and reduce the over-concern of the health conditions. In addition, during the outbreak, a series of restrictive measures had greatly interfered the access to routine health services, including prenatal health checks, which might further intensify pregnant women's concerns about their fetus's health, affecting their sleep condition and mental well-being (Dong et al., 2020; Lin et al., 2021).

Participants with depressive symptoms were less likely to take vigilant hygienic practices. The previous studies reported the higher depressive symptoms were related to the more inferior health practices, including hygiene-related practices (Walker et al., 1999; Ranasinghe et al., 2016). Although the specific mechanisms remain unclear, the unhealthy behaviors might serve as a means of coping with depressive symptoms or could be regarded as the symptoms of depression (Zuckerman et al., 1989). Therefore, the efforts to change pregnant women's health practices might require considering their mental health status (Leung et al., 2003).

Our study also revealed that pregnant women with high educational levels tended to develop depressive symptoms, consistent with some previous findings. (Liu et al., 2021; Moghanibashi-Mansourieh, 2020; Wang et al., 2021). People with higher education levels usually engage more in work, however, the home quarantine during the outbreak directed their attention to some other aspects, such as family health, safety, and financial security, leading to more worries (Wang et al., 2021). However, some studies contradict our results, suggesting that low education is a risk factor for depression (Khademian et al., 2021; Antipora et al., 2021; Necho et al., 2020). It is still unclear about the association between education and antenatal depression. More studies are needed to understand the complex relationship between education and antenatal depression and the underlying mechanism in such public health emergencies.

We found that depressive symptoms and high stress were more likely to occur in the first trimester of pregnancy. We assumed this might partially relate to unplanned or unwanted pregnancies, although related information was not available in our study (Bunevicius et al., 2009). Nevertheless, our results indicate pregnant women's mental state, especially in the early stage of pregnancy, might require special

attention during such public health emergencies.

After adjusting for maternal age, gestational age, and proportion of high-risk pregnancy, participants' anxiety situation and sleep quality investigated after April 8 (city reopening stage) were significantly better than those participated during the city lockdown stage. A longitudinal study has demonstrated a decreasing temporal trend of anxiety levels in a general population during and after the SARS outbreak (Leung et al., 2005). Although our findings were based on a cross-sectional design, it might also imply that anxiety symptoms and poor sleep quality could be buffered by effective epidemic control and restoration of social and life order.

Our study found no statistical significance in depression and stress levels between those investigated before and after April 8. The depressive symptoms and high stress among the pregnant women may persist long after the 'peak' of the epidemic due to their concern on the potential infection risk resulting from restored population mobility after reopening.

Over 60% of participants scored above the threshold for at least one of the psychological indices. The assessment and intervention for perinatal mental status should be a priority in public health emergencies. Particular attention should be given to pregnant women in the first trimester, with high-level education, high stress, and severe health concerns. Under the circumstance of home quarantine and short of medical supply, online machine learning-driven intervention platforms, online clinical consultation, and psychological hotlines applied in maternal health care are warranted (Jaroszewski et al., 2019). Regarding long-term health impacts, we should focus on depression and anxiety triggered by persistent high pressure in the post-COVID-19 period and their children's development status and mental health. Determination of whether these children have developmental delays or behavior problems is an important question for future research.

Several limitations are also worth mentioning. First, due to the data collection challenge in Wuhan during the COVID-19 outbreak, relatively few participants took part in our study. Second, there is no data available to compare the pregnant women's psychological conditions in Wuhan with those in other unaffected areas. Third, due to the nature of the online survey, we did not have control over who does and does not respond to the survey, which could have led non-responder bias. Our conclusion might be more representative to pregnant women with higher educational levels. Fourth, women with pre-existing mental health conditions, like depression and insomnia, might be more likely to report elevated psychiatric symptoms during the outbreak. However, we

did not have relevant information to exclude them from the study, which might have resulted in a biased prevalence of mental symptoms in our study. Fifth, although our study compared the participants' mental well-being investigated before and after April 8, the schedule of city reopening was announced on March 24. Therefore, the actual difference in anxiety and fear of residents between the lockdown and post-lockdown periods could be more tremendous.

In summary, a large proportion of pregnant women reported psychological symptoms during the epidemic. The women of early pregnancy, high educational level, and severe health concern over the fetus, and high stress were at risk of developing mental health symptoms. Furthermore, the anxiety level and sleep quality could be buffered by effective epidemic control and work resumption. Our findings suggested more psychological support for pregnant women during the epidemic to relieve psychological pressures and serious health-related concerns to promote perinatal mental well-being.

Contributors

Ke Xu: Writing-Original Draft, Writing-Review & Editing, Investigation; Ya Zhang: Investigation, Formal analysis; Yuanyuan Zhang: Formal analysis; Qiao Xu: Investigation; Lan Lv: Investigation; Jianduan Zhang: Methodology, Writing-Review & Editing, Supervision.

Declaration of competing interest

No conflict of interest was declared by the authors.

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RESEARCH ARTICLE

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Depression, stress, anxiety and their predictors in Iranian pregnant women during the outbreak of COVID-19



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Abstract

Background: Pregnancy as a sensitive period of a woman's life can be affected by various psychological factors that can have adverse effects on the woman, her fetus and future baby. Since COVID-19 is a new phenomenon with limited information available, it may have adverse psychological effects on pregnant women. Therefore, this study was conducted to determine the status of depression, stress, anxiety and their predictors in Iranian pregnant women during the outbreak of COVID-19.

Methods: This descriptive-analytical cross-sectional study was performed on 205 pregnant women covered by Tabriz health centers in Iran. The sampling method used was cluster sampling. The data collection tool was the socio-demographic characteristics questionnaire and the DASS-21 (Depression, Anxiety and Stress Scale-21), which were completed online by pregnant women. The general linear model was used to determine the predictive factors of depression, anxiety and stress.

Results: The mean (SD) score of depression, stress, and anxiety were 3.91 (3.9), 6.22 (4.25), and 3.79 (3.39), respectively; the score range of 0 to 21. Depression, stress, and anxiety symptoms were observed in 32.7, 32.7, and 43.9% of the participants, respectively, with varying degrees from mild to very severe. Based on the adjusted general linear model, variables of education level, spouse's job and marital life satisfaction were the predictors of depressive symptoms. Variables of spouse's education level, spouse's support, marital life satisfaction and the number of pregnancies were the predictive factors of anxiety symptoms and the variables of spouse's education level, household income sufficiency, spouse's support and marital life satisfaction were predictors of stress symptoms.

Conclusions: Considering the role of marital life satisfaction, high level of spouse's education and income in reducing symptoms of stress, anxiety, and depression in pregnant women in critical situations such as the prevalence of COVID-19, it seems that using strategies to promote marital life satisfaction and socio-economic status can play an effective role in controlling anxiety and reducing stress and depression in pregnant women.

Keywords: COVID-19, Pregnancy, Prevalence, Depression, Anxiety, Stress

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Background

The SARS-CoV-2 is a coronavirus belonging to the group of beta-coronaviruses. COVID-19 is the third most well-known animal coronavirus disease after SARS and MERS, both of which belong to the group of beta-coronaviruses [1]. The exact route of transmission of the disease is not yet known, but it is thought that COVID-19 can be transmitted through droplets, close contact, aerosols, and possibly through feces-mouth, and patients in the incubation period can transfer the virus to others [2, 3].

COVID-19 is rapidly advancing in the world and its mortality rate is increasing day by day. During the high prevalence of pandemics, different groups of the population, including pregnant women, as a vulnerable group, are exposed to high levels of psychological damage [4]. The unknown nature of the virus, as well as the lack of adequate information about its transmission, reproduction, risk factors, mortality, and disease-causing effects on pregnancy and the fetus [5] can pose risks not only to people's physical health but also to their mental health. It can lead to psychological effects, including stress, anxiety and depression [6].

Although psychological change is one of the major changes in mothers during pregnancy, psychological care should not be neglected as these changes can lead to damage [7]; because stress, anxiety, and depression are likely to have adverse effects on the mother and fetus. Complications of stress during pregnancy include preterm labor, low birth weight, and delayed neuropsychiatric development in children born to these mothers [8]. Depression during pregnancy can also have adverse effects on the fetus, the most important of which are preterm labor and low birth weight [9]. Anxiety during pregnancy also increases the risk of preterm labor [10], low birth weight [11], preeclampsia and cesarean delivery [12].

In various studies, depression and anxiety have been reported to be about 10% during pregnancy [13], which is considerable depending on the conditions and living environment [14], especially in the second and third trimesters of pregnancy [15]; it was considerable in women with a history of depression, too [16]. Depressed women suffer from poor physical health and poor quality of life [17].

Unfortunately, reviewing the available studies, it is found that a research investigating the pandemic effect of COVID-19 disease during pregnancy and its psychological disorders was not available in Iran. However, a Canadian study found that pregnant women had higher levels of stress, anxiety and depression compared to the time before the COVID-19 outbreak [18]. Another study in Turkey by Durankus et al. (2020) showed that the COVID-19 pandemic could cause psychological effects

in pregnant women. They showed that the levels of anxiety and depression symptoms in pregnant women increased during the COVID-19 pandemic [19]. In most cases, depression, anxiety, and stress are not detected or treated during pregnancy [7]. However, it is possible to improve the health of mothers and infants by identifying those women who have symptoms of anxiety and depression, and their risk factors during pregnancy [13].

Consequently, considering the effects of mental disorders on pregnancy and infancy, it is possible to improve the psychological state of pregnant women, prevent complications by recognizing the psychological status of pregnant women, provide information and emotional support and other psychological interventions, and help to improve the mental state of mothers, and prevent unwanted complications. Therefore, this study was conducted to determine the status of depression, stress, anxiety and their predictive factors in pregnant women during the outbreak of COVID-19 in Iran.

Methods

Study design and the participants

This cross-sectional study was conducted after obtaining a license from the ethics committee of the Vice Chancellor for Research and Technology of Tabriz University of Medical Sciences (code: IR.TBZME-D.REC.1398.1303) on 205 pregnant women who had a file in the health centers of Tabriz-Iran in 2019. Tabriz is one of the metropolises of Iran in which about 1897 people between March to April (The last day of sampling in this study) were identified with this disease during the COVID-19 pandemic [20].

The criteria for entering the study included having a file in the health centers of Tabriz, the desire to participate in the study, having a mobile phone and a healthy pregnancy. The exclusion criteria were a history of mental illness, medical problems during pregnancy, and high-risk pregnancies.

Sampling

Sampling method was a two-step cluster sampling. Twenty-two health centers (one-fourth of all health centers) selected randomly using the www.random.org website. The researcher extracted the list of pregnant women covered by the centers along with their phone numbers through the Integrated Health System (SIB) and randomly selected the women based on the sample size determined for each center. Then, the researcher made phone calls to the selected women and, while briefly explaining the objectives of the research and the confidentiality of the information, examined them in terms of eligibility criteria and, if eligible, they would participate in the study. Since it was not possible to do the research in the traditional way and complete the

paper questionnaire, they were asked to go online to answer the socio-demographic characteristics questionnaire, and DASS-21 depression anxiety and stress questionnaire, the links of which was sent to them via WhatsApp app.

Data collection tools

Each participant completed the socio-demographic and obstetrics characteristics questionnaire and the DASS-21 (Depression, Anxiety and Stress Scale-21) by the link to the questionnaires.

The socio-demographic characteristics questionnaire included questions on age, level of education, job, spouse's age, level of education and job, sufficiency of monthly income for living expenses (this variable was measured by using a subjective item categorized in three levels including completely sufficient, fairly sufficient and insufficient), spouse's support level (this variable was measured by using a subjective item categorized in four levels including extremely high, high, moderate and poor), marital life satisfaction (this variable was measured by using a subjective item categorized in four levels including extremely high, high, moderate and poor), and obstetrics questions included the number of pregnancies, gestational age, and sex of the fetus based on ultrasound.

The DASS-21 is a shortened version of DASS-42 and includes 21 questions and 3 subscales of stress, depression, and anxiety (7 questions for each subscale). The score for each question is a score from not at all (0) to very high (3). The score is calculated for each scale separately and the overall score is not calculated. The minimum score for each subscale is zero and the maximum is 21, and a higher score indicates a worse situation [21]. The DASS21 questionnaire is commonly used in the pregnant population, especially in Iran, due to the limited number of questions and simple sentences with simultaneous assessment of stress, anxiety and depression [22]. This instrument is in the public domain, and therefore, it can be freely used in research or practice [23]. This questionnaire can also be used in non-clinical populations [22, 23]. In Iran, the validity of DASS has been confirmed using forward-backward translation, factor analysis and criterion validity. The correlation between the Beck Depression Inventory (BDI) and the depression subscale was 0.7, in the range of the Zung Self-Rating Anxiety Scale (SAS), the anxiety subscale was 0.67 and in the range of the Perceived Stress Scale (PSS), and the stress subscale was 0.49. In addition, its reliability was reported to be 0.73 for the anxiety subscale, 0.81 for the depression subscale and 0.81 for the stress subscale [24]. Its reliability in pregnant women in Tabriz (the setting of this study) for the variables of depression, anxiety and stress has been calculated as 0.80, 0.72 and 0.80,

respectively [25]. In this study, the internal reliability using Cronbach's alpha was 0.80 for the anxiety subscale, 0.78 for the depression subscale and 0.77 for the stress subscale.

Sample size

Sample size was estimated as 97 individuals with considering d (precision) = 0.1 about the mean score of stress ($m = 7.21$), standard deviation = 3.63 [26], and $\alpha = 0.05$. As it was a cluster sampling, final sample size was calculated as 194 individuals with respect to the design effect of 2.0. At the end, 205 pregnant women were studied.

Statistical analysis

Data were analyzed using SPSS (Version 24.0, SPSS Inc., Chicago, IL). Descriptive statistics including frequency, percentage, mean and standard deviation were used to describe the socio-demographic and obstetrics characteristics of the participants, depression, anxiety and stress. Normal distribution of data was examined using skewness and kurtosis. The variables of depression, anxiety and stress did not have a normal distribution. Therefore, logarithmic transformation based on 10 (Log 10) was used for these variables with abnormal distribution. Then, the normality of log-transformed variables was checked again and all of them showed a normal distribution. General linear model test (adjusted, unadjusted) was used to determine the relationship between socio-demographic characteristics and depression, anxiety and stress.

Results

Between the end of March 2020 and the beginning of April 2020, 205 people (with 40% participation) were examined. None of the participants had been affected by COVID-19. The mean (standard deviation) of the participants and their spouses age were 29.3 (5.5) and 34.2 (5.6) years, respectively. About half of women (55.6%) had a university degree (44.4%) and the rest had a secondary high school and diploma degrees, and about 85% were housewives. About half of the spouses of the participants (48.3%) had a university degree and the rest (51.7%) had a high school degree, and diploma, and about half of them (45.4%) had freelance jobs. About half of women (43.9%) lived in private houses and 41.5% lived in rented houses, and about two-thirds of women (62.9%) reported relatively sufficient family income. According to ultrasound, 42% of fetuses were male. More than two-thirds of participants (70.3%) were in the second half of their pregnancy, and more than half (57.1%) experienced their first pregnancy. Two-thirds reported high and very high levels of marital support (69.8) and marital life satisfaction (75.1) (Table 1).

Table 1 Socio-demographic characteristics of the pregnant women (*n* = 205)

Characteristic	N (%)
Age (Year)	
< 25	52 (25.4)
25–35	120 (58.5)
> 35	33 (16.1)
Mean (SD)^a	29.3 (5.5)
Education level	
Secondary	12 (5.9)
High school	18 (8.8)
Diploma	61 (29.8)
University	114 (55.6)
Job	
Housewife	174 (84.9)
Employed	31 (15.1)
Residence	
Personal	90 (43.9)
Rental	85 (41.5)
Other ^b	30 (14.6)
Sufficiency of income for expenses	
Completely sufficient	24 (11.7)
Fairly sufficient	129 (62.9)
Insufficient	52 (25.4)
Husband's age (Year)	
< 30	116 (56.6)
30–35	56 (27.3)
> 35	33 (16.1)
Mean (SD)	34.2 (5.6)
Spouse's education level	
Secondary	24 (11.7)
High school	27 (13.2)
Diploma	55 (26.8)
University	99 (48.3)
Spouse's job	
Clerk	45 (22.0)
Worker	40 (19.5)
Shopkeeper	27 (13.2)
Other ^c	93 (44.4)
Marital life satisfaction	
Extremely high	72 (35.1)
High	82.0 (40.0)
Moderate	44 (21.5)
Poor	7 (3.4)
Number of pregnancies	
1	117 (57.1)
2	71 (34.6)

Table 1 Socio-demographic characteristics of the pregnant women ($n = 205$) (Continued)

Characteristic	N (%)
≥ 3	17 (8.3)
Gestational Age (Week)	
< 14	16 (7.8)
14–28	85 (41.5)
> 28	104 (50.7)
Fetal sex	
Female	78 (38.0)
Male	86 (42.0)
Unknown	41 (20.0)
Spouse's support	
Extremely high	68 (3.2)
high	75 (36.6)
Moderate	54 (26.3)
poor	8 (3.9)

^aAll data indicates number (percent), unless specified

^bOthers indicate residence in parents' house, relatives' house and corporate house

^cOthers includes occupations such as construction, painter, agriculture, etc. (3 cases were unemployed)

The mean (standard deviation) score of depression, stress and anxiety were 3.91 (3.9), 6.22 (4.25), and 3.79 (3.39), respectively, from the score range of 0 to 21. Based on the scores obtained, they were divided into normal, mild, moderate, severe and very severe subgroups; 67.3% of women had normal status and 32.7% had symptoms of depression. In addition, 67.3% of people were normal in relation to stress and 32.7% of them had symptoms of stress. In the anxiety test, 56.1% of participants were normal and 43.9% of them had symptoms of anxiety (Table 2). The results of the present study showed no statistically significant relationship between pregnancy trimester and depression, stress and anxiety ($P > 0.05$).

According to the unadjusted general linear model, there was a significant relationship between depression scores and spouse's level of education, spouse's job, spouse's support, and marital life satisfaction ($P < 0.05$). Based on the adjusted general linear model, and by adjusting other variables, variables of spouse's level of education, spouse's job, and marital life satisfaction have been significantly associated with depression scores ($P < 0.05$) and they were able to predict 24.7% of the variance of depression score in pregnant women during the prevalence of COVID-19.

In addition, according to the unadjusted general linear model, there was a significant relationship between the anxiety score and the spouse's level of education, spouse's support, marital life satisfaction and the number of pregnancies ($P < 0.05$). Based on the adjusted general linear model, and by adjusting other variables, the four variables of spouse's educational level, spouse's support,

Table 2 Different levels of depression, stress, and anxiety in pregnant women visiting Tabriz health centers during the outbreak of COVID-19 in Iran ($n=205$)

Characteristic	N (%) ^a	Med (P25-P75) ^b
Depression (0-21)	3.91 (3.9)^c	3 (1-6)
Normal	138 (67.3)	
Mild	26 (12.7)	
Moderate	22 (10.7)	
Severe	15 (7.3)	
Extremely Severe	4 (2.0)	
Stress (0-21)	6.22 (4.25)^c	5 (3-9.5)
Normal	138 (67.3)	
Mild	16 (7.8)	
Moderate	32 (15.6)	
Severe	16 (7.8)	
Extremely Severe	3 (1.5)	
Anxiety (0-21)	3.79 (3.39)^c	3 (1-6)
Normal	115 (56.1)	
Mild	36 (17.6)	
Moderate	25 (12.2)	
Severe	13 (6.3)	
Extremely Severe	16 (7.8)	

^a Number (Percent)

^b Median (Percentiles 25- Percentiles 75)

^c The numbers indicate mean (standard deviation)

marital life satisfaction and number of pregnancies were significantly associated with the anxiety score ($P < 0.05$) and were able to predict 19.0% of anxiety score variance in pregnant women during the prevalence of COVID-19.

Based on the unadjusted general linear model, there was a significant relationship between the stress score and age, education level, spouse's age, spouse's educational level, spouse's job, household income sufficiency, spouse's support, and marital life satisfaction ($P < 0.05$). Based on the adjusted general linear model, and by adjusting other variables, the variables of spouse's level of education, sufficiency of household income, spouse's support and marital life satisfaction have a significant relationship with stress score ($P < 0.05$) and it was possible to predict 21.6% of stress score variance in pregnant women during the prevalence of COVID-19 (Table 3).

Discussion

The results of the study showed that 32.7, 32.7, and 43.9% of the participants had depression, stress and anxiety symptoms, respectively, with varying degrees from mild to very severe. Based on the adjusted general linear model, variables of education level, spouse's job and marital life satisfaction were the predictors of depressive symptoms. Variables of spouse's education level, spouse's support, marital life satisfaction and the number of pregnancies were the predictive factors of anxiety symptoms and the variables of spouse's education level, household income sufficiency, spouse's support and marital life satisfaction were the predictors of stress symptoms.

In the present study, 67.3% of women had normal depression and stress and 32.7% had varying degrees of depression and stress. In terms of anxiety, 56.1% of people were normal, and 43.9% suffered from varying degrees of anxiety during the pandemic of SARS-CoV-2 disease. In line with the present study, in Effati et al. [26] study on pregnant women and in a similar setting to the present study (Tabriz-Iran) (2018), more than half of women were normal in terms of depression, stress and anxiety and about 36, 32, and 27% of women experienced varying degrees of depression, stress, and anxiety symptoms, respectively. Comparing the two groups, women's stress and depression symptoms levels were expected to be more severe during the coronavirus outbreak, while the severity of these problems was almost the same as when the coronavirus did not exist in the community. In this regard, it can be said that pregnant women, due to the importance of their fetus and its emotional attachment, may take care of themselves and follow the health advices of SARS-CoV-2 seriously. Therefore, they should have more peace of mind and confidence, followed by less stress, anxiety and depression.

During the COVID-19 pandemic, the results of Berthelot et al., [18] study showed that pregnant women

had higher levels of stress, anxiety, and depression compared to the pregnant women who were examined before the pandemic, which is inconsistent with the results of our study. A possible reason for this discrepancy may be the cultural and social differences between our setting and their study. Another study by Durankus et al., (2020) [19] found that more than one-third of pregnant women had symptoms of depression and anxiety during the COVID 19 pandemic, which is almost in line with the findings of our study.

In a case-control study by Lee et al., during the outbreak of SARS, the results of anxiety in women who were pregnant during the outbreak of SARS were only slightly higher than in women who were pregnant before the outbreak of SARS and the rate of depression did not differ significantly between the two groups [4]. Perhaps the reason for not increasing or slightly increasing of the severity of anxiety, stress and depression symptoms during the outbreak of diseases such as SARS and COVID-19 is that the disease is new or not taken seriously by people in the first spread. Due to the newness of COVID-19 disease and the lack of a study in the field, it was not possible to interpret the results of the present study in pregnant women with similar conditions in other studies.

In the present study, there was a significant relationship between spouse's level of education with depression, anxiety and stress symptoms. Women whose husbands had a non-university education were less likely to report depression, anxiety, and stress compared to those with a university degree. In a study by Salmalian et al., [27] there was a significant association between spousal education and depression before and after childbirth, so that as the level of education was lower, depression was higher. In a study on the general population [28], the level of education had a reverse statistical relationship with the three variables of depression, anxiety and stress. As the level of education increased, depression, stress and anxiety were reduced. The results of both studies are inconsistent with the results of the present study. Education can open people's eyes and make them understand the situation, and increase their reaction to the events, especially in critical situations such as the prevalence of COVID-19. While people with non-university education may not have an idea of the bad condition and be less sensitive to the crisis of the outbreak of the disease, or may even be unaware of the dimensions of the crisis and the depth of the tragedy. While people with university education are expected to have more accurate follow-up of the deterioration of the situation from various sources such as scientific journals, cyberspace, media, etc. In addition, this increases the severity of depression,

Table 3 Predictors of stress, anxiety and depression based on general linear model in pregnant women visiting Tabriz health centers during the outbreak of COVID-19 in Iran (n = 205)

Characteristic	Unadjusted		Adjusted	
	β (95% CI)	p-value	β (95% CI)	p-value
Depression				
Spouse's education level (References: University)				
Secondary	0.47 (-1.27 to 2.22)	0.592	-0.33 (-1.99 to 1.34)	0.697
High school	0.44 (-1.23 to 2.10)	0.605	-0.85 (-2.50 to 0.80)	0.311
Diploma	-1.46 (-2.75 to -0.18)	0.026	-1.77 (-2.95 to -0.59)	0.003
Spouse's job (References: Clerk)				
Worker	0.94(-0.70 to 2.58)	0.261	0.43 (-1.17 to 2.03)	0.596
Shopkeeper	2.21 (0.37 to 4.05)	0.019	1.82 (0.14 to 3.50)	0.034
Other ^a	-0.60 (-1.98 to 0.77)	0.387	-0.01 (-1.32 to 1.30)	0.987
Spouse's support (References: Moderate)				
Extremely high	-3.76 (-5.01 to -2.50)	< 0.001	-0.87(-2.55 to 0.80)	0.307
High	-1.15 (-2.38 to 0.07)	0.065	0.76(-0.72 to 2.24)	0.314
Marital life satisfaction (References: Moderately)				
Extremely high	-4.54 (-5.82 to -3.26)	< 0.001	-3.98 (-5.77 to -2.20)	< 0.001
High	-2.41 (-3.65 to -1.16)	< 0.001	-2.74 (-4.32 to -1.17)	0.001
Anxiety				
Spouse's education level (References: University)				
Secondary	0.87 (-2.39 to 0.64)	0.256	-1.85 (-3.35 to -0.36)	0.015
High school	-0.74 (-2.18 to 0.070)	0.313	-1.72 (-3.16 to -0.27)	0.020
Diploma	-1.26 (-2.38 to -0.14)	0.027	-1.50 (-2.55 to -0.45)	0.005
Spouse's support (References: Moderate)				
Extremely high	-1.82 (-2.94 to -0.70)	0.002	0.42 (-1.05 to 1.89)	0.574
High	0.65 (-0.44 to 1.74)	0.242	1.82 (0.49 to 3.15)	0.008
Marital life satisfaction (References: Moderately)				
Extremely high	-2.72 (-3.89 to -1.55)	< 0.001	-3.73 (-5.32 to -2.13)	< 0.001
High	-0.97 (-2.10 to 0.17)	0.095	-2.39 (-3.80 to -0.97)	0.001
Number of pregnancies (References: ≥ 3)				
1	-1.84 (-3.57 to -0.11)	0.037	-1.97 (-3.63 to -0.30)	0.021
2	-1.47 (-3.26 to 0.33)	0.109	-1.71 (-3.41 to 0.01)	0.050
Stress				
Age (References: > 35)				
< 25	0.84 (0.78 to 2.45)	0.309	0.75(-1.19 to 2.69)	0.447
25-35	2.75 (0.95 to 4.55)	0.003	1.47(-0.40 to 3.35)	0.123
Education level (References: University)				
Secondary	-1.63(-4.14 to 0.88)	0.202	0.82(-2.10 to 3.70)	0.577
High school	-0.10(-2.20 to 1.99)	0.926	0.32(-1.96 to 2.61)	0.780
Diploma	-1.84(-3.16 to -0.53)	0.006	-1.10(0.52 to 0.36)	0.140
Spouse's age (References: > 35)				
< 30	-3.26(-5.81 to -0.71)	0.012	-1.66(-4.44 to 1.11)	0.238
30-35	0.29(-0.91 to 1.49)	0.936	-0.08(-1.49 to 1.33)	0.913
Spouse's education level (References: University)				
Secondary	-2.02(-3.87 to -0.17)	0.032	-2.02(-4.18 to 0.14)	0.067

Table 3 Predictors of stress, anxiety and depression based on general linear model in pregnant women visiting Tabriz health centers during the outbreak of COVID-19 in Iran ($n = 205$) (Continued)

Characteristic	Unadjusted		Adjusted	
	β (95% CI)	p-value	β (95% CI)	p-value
High school	-1.13(- 2.89 to 0.64)	0.209	- 1.44(- 3.51 to 0.62)	0.170
Diploma	- 2.62(- 3.99 to - 1.25)	< 0.001	- 2.14(- 3.58 to - 0.70)	0.004
Sufficiency of income for expenses (References: Insufficient)				
Completely sufficient	1.06(- 1.00 to 3.11)	0.312	2.24(0.22 to 4.26)	0.030
Fairly sufficient	1.44(0.07 to 2.81)	0.039	1.73(0.41 to 3.06)	0.011
Spouse's support (References: Moderate)				
Extremely high	-2.06(- 3.47 to - 0.64)	0.005	- 0.04(- 1.96 to 1.87)	0.096
High	0.76(- 0.63 to 2.14)	0.282	1.80(0.14 to 3.45)	0.033
Marital life satisfaction (References: Moderately)				
Extremely high	-2.86(- 4.34 to - 1.38)	< 0.001	-3.85(- 5.90 to - 1.79)	< 0.001
High	-0.70(- 2.15 to 0.74)	0.336	-2.51(- 4.30 to - 0.73)	0.006

*Others includes occupations such as construction, painter, agriculture, etc. (3 cases were unemployed)

Depression Adjusted $R^2 = 0.247$

Anxiety Adjusted $R^2 = 0.190$

Stress Adjusted $R^2 = 0.216$

stress and anxiety symptoms and this causes a high level of depression, stress and anxiety in them and those around them.

In our study, there was a significant relationship between spouse's job and symptoms of depression, so that women whose husbands were shopkeepers had more symptoms of depression than those whose husbands were employees. Salmalian et al. [27] reported a significant relationship between spouse's job and pre and postpartum depression. Depression was more common in women whose husbands had lower-paying jobs, which is consistent with our results.

In the present study, there was a significant relationship between marital life satisfaction with depression, anxiety and stress scores during COVID-19 prevalence. Depression, stress and anxiety scores were lower in women who were satisfied and very satisfied with their lives compared to those who were moderately satisfied. In their study, Bakhshi et al. [29] showed that with increasing severity of depression among men and women, their marital life satisfaction decreased. Odinka et al. [30] in their study of low-risk women in the postpartum period also found a significant association between the severity of depression and anxiety and marital life satisfaction. The results of both studies were consistent with the present study.

In our study, anxiety and stress scores were significantly higher in women with high levels of support from their spouses than in those with moderate levels of support. However, one study reported high anxiety and fear of childbirth in women who had poor support from their husbands or dissatisfaction with their husbands' support [31]. In addition, the results of a study showed that in

86% of pregnant women, the support of the husband during pregnancy has reduced their stress symptoms, and more than 90% of them have reported a sense of emotional security following the support of the husband [32]. The results of both studies are inconsistent with the results of our study. One of the possible causes of this mismatch could be that due to the depth of emotional relationships, high dependence and attachment to the spouse, the fear of losing him, his falling ill with COVID-19 disease is greater among those supported by spouses, and this can increase their stress and anxiety. It is also possible that the stress and anxiety caused by the COVID-19 pandemic in the mother will be so great that simply the support of the spouse cannot play an effective role in reducing it.

In our study, anxiety scores were significantly lower in women who experienced their first and second pregnancies than in those in the third and more pregnancies. Dunkel Schetter et al. [33] showed a high level of pregnancy anxiety in women during their first delivery. In their study of pregnant women, Rezaee et al. [34] did not report a difference in the number of parities between anxious and non-anxious women. Perhaps the reason for the lower anxiety in low parity in the COVID-19 pandemic in this study is the high relationship of mothers with low parity with health centers, which helps to obtain sufficient and accurate information and reduce their anxiety.

According to available sources, this study is the first to investigate the depression, stress and anxiety of Iranian pregnant women and their predictive factors during the prevalence of COVID-19, and the random sampling of participants is another strength of the study.

One of the limitations of this study is the cross-sectional nature of it, the relationships shown between socio-demographic variables with symptoms of stress, depression and anxiety cannot accurately reflect the causal relationship. Another limitation was that those who could have a mobile phone with internet connection could participate in this study. Although 100% of the women studied had a cell phone, only 60% had a phone with this feature. Therefore, as a limitation, this study may not be the representative of pregnant women in Iran in general.

In addition, the low level of participation was another limitation, as about half of pregnant women completed the questionnaire online. Perhaps the reason for this is the recent online method of collecting data in Iran, where all previous projects with pregnant women have been done in person.

Conclusion

In the present study, marital life satisfaction and a high level of spousal education and income were associated with reduced symptoms of stress and anxiety in pregnant women. According to the results of the present study, low levels of stress, anxiety and depression in pregnant women during COVID-19 prevalence can be a sign of successful training in controlling negative emotions during crisis by health centers and mass media. On the other hand, given the effective role of marital life satisfaction in reducing stress and depression in pregnant women in times of crisis, such as the prevalence of coronavirus, it seems that educating spouses about techniques for strengthening the foundation of marital life can play an effective role in controlling worries and reducing stress, anxiety and depression in pregnant women.

Abbreviations

MERS: Middle East Respiratory Syndrome; DASS-21: Depression Anxiety and Stress Scale-21; SD: Standard Deviation; BDI: Beck Depression Inventory; SAS: Zung Self-Rating Anxiety Scale; PSS: Perceived Stress Scale

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Authors' contributions

MM, AM and FED: study concept and design, acquisition of the data, analysis and interpretation of the data, and drafting of the manuscript; FED, AM, SGH and EH acquisition of the data; MM and AM: critical revision of the manuscript for important intellectual content; FED, SZ and AM analysis and interpretation of the data, drafting of the manuscript, and statistical analysis; MM: study supervision. The author(s) read and approved the final manuscript.

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Availability of data and materials

The data that support the findings of this study are not publicly available due to ongoing analyses but are available from the corresponding author, M. Mirghafourvand, upon reasonable request.

Ethics approval and consent to participate

This study was approved by the ethics committee of Tabriz University of Medical Sciences (code: IR.TBZMED.REC.1398.1303). The informed written consent was obtained from all participants.

Consent for publication

All authors have read through the final version of the manuscript and given consent for publication in BMC Psychology.

Competing interests

All authors of this manuscript have no financial or non-financial conflicts of interest to declare.

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Anxiety, depression, and related factors in pregnant women during the COVID-19 pandemic in Turkey: A web-based cross-sectional study

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Abstract

Purpose: This study aimed to assess the prevalence of anxiety and depression and related factors in pregnant women during the coronavirus disease 2019 (COVID-19) pandemic.

Design and Methods: This cross-sectional study was conducted on 403 pregnant women using a web-based survey. The hospital anxiety and depression scale was used to measure anxiety and depression.

Findings: The prevalence of anxiety and depression was 64.5% and 56.3%, respectively. Working status, physical activity status, discomfort with hospital visits, having information about COVID-19, and being informed by healthcare workers about COVID-19 were factors related to anxiety ($p < .05$). Education level, physical activity status, discomfort with hospital visits, and having information about COVID-19 were factors related to depression ($p < .05$).

Practice Implications: The aforementioned factors should be considered for reducing anxiety and depressive symptoms during pregnancy.

KEYWORDS

anxiety, coronavirus, COVID-19, depression, pregnant

1 | INTRODUCTION

Coronavirus disease 2019 (COVID-19) started in Wuhan, China, in December 2019 and was declared by the World Health Organization (WHO) as the beginning of an international pandemic.¹ The Chinese government declared the person-to-person transmission of COVID-19 on January 20, 2020; this has significantly increased global concern and uncertainty.² Following this, the WHO upgraded the COVID-19 classification to a global pandemic in March 2020 (WHO¹). COVID-19 has rapidly spread throughout the world, with the total number of cases exceeding 500,000 globally as of March 27, 2020.³ The COVID-19 pandemic has drastically changed the daily lives of millions of people worldwide.⁴ Strict measures have been

implemented to prevent the spread of the virus,⁵ and people have been advised to stay at home.⁶

Studies have revealed that there is no risk of fetal transmission of COVID-19 and that pregnant women are not at risk of serious COVID-19 infection.⁷⁻⁹ However, many pregnant women worry about going to hospitals because of the fear of COVID-19.⁶ In Wuhan, 41.9% of pregnant women have refused to visit the hospital for their pregnancy follow-ups and the number of pregnant women wanting a cesarean delivery instead of waiting for labor in the hospital has increased.¹⁰ In the USA, face-to-face prenatal consultation has been found to be the most important factor that increases anxiety in pregnant women during the COVID-19 pandemic.¹¹ In India, the most common concern reported by pregnant women to obstetricians is visiting the hospital for

prenatal check-ups and ultrasound scans.¹² In a previous study, 64.3% of women were found to experience a psychological change during pregnancy.¹³ More than half of pregnant women in China were found to have moderate psychological symptoms.¹⁴

Uncertainty about the duration of the COVID-19 pandemic increases the anxiety level of pregnant women.¹⁵ However, there is no definitive information on the effect of COVID-19 on the mental health of pregnant women.¹⁶ Pregnant women are concerned about the harmful effects of the virus on their own health and fetal health (Ng et al.²⁵). In China, pregnant women reported an increase in their anxiety due to the thought that COVID-19 would be transmitted to their fetus by vertical transmission.² In Canada, perinatal loss was reported to be the most common concern.¹⁷ Moreover, in Ireland, pregnant women reported being excessively concerned about their unborn babies,¹⁸ while in Italy, they reported having high anxiety regarding vertical transmission.¹⁶ Stress-related anxiety during pregnancy may result in fetal death or fetal abnormalities.¹⁶ Pregnant women are more likely to develop anxiety and depression during the COVID-19 pandemic⁶; the prevalence of anxiety in pregnant women has been reported to range from 63% to 68%.^{16–18} In addition, higher levels of anxiety and depression have been reported in pregnant women than in nonpregnant women.^{6,19} A high level of anxiety in pregnant women during the pandemic may negatively affect pregnancy and fetal outcomes.¹¹ Increased anxiety during pregnancy also leads to a high risk of postpartum depression or other mood disorders.²⁰ In developed countries, 10% of pregnant women experience depression and the number of antidepressants prescribed to pregnant women has increased in the last decade.²¹ Providing isolation, communication, and psychological assistance during the COVID-19 pandemic is particularly beneficial for preventing negative impacts on the mental health of pregnant women and on the fetus.² The impact of COVID-19 on the mental health of pregnant women should be evaluated.²²

Being aware of and connecting with support systems for perinatal mental health protects the mental health of pregnant women.²³ Assessment of the effects of COVID-19 on anxiety and depression during pregnancy is important to determine the role of support systems in pregnancy and the possible impacts on the postpartum period. The present study aimed to examine the level and prevalence of anxiety and depression and related factors in pregnant women during the COVID-19 pandemic.

2 | METHODS

2.1 | Research design

This cross-sectional study was conducted using a web-based online survey via Facebook pregnancy groups in June and July 2020.

2.2 | Participants

The study was conducted on 403 pregnant women who were over 18 years old, were willing to complete an online survey, had no

history of psychological disorders, and did not use any psychiatric medication.

2.3 | Data collection

Pregnant women from the Facebook pregnancy groups were invited to participate in the study via an online survey link. They were informed about the study on the first page of the online survey. The survey contained three parts: the first part contained questions on sociodemographic and clinical characteristics, the second part contained questions on the knowledge and attitude about COVID-19, and the third part contained 14 items of the hospital anxiety and depression scale (HADS) for evaluating psychological distress.

2.3.1 | The first part of the survey: evaluation of sociodemographic and clinical characteristics

Sociodemographic and clinical data included age, education level (<9 years, ≥9 years), working status during pregnancy (yes or no), gestational week, presence of a chronic illness (yes or no), regular physical activity (such as walking or pregnancy exercises) (yes or no), and smoking during pregnancy (yes or no).

2.3.2 | The second part of the survey: evaluation of the knowledge and attitude of pregnant women about COVID-19

The knowledge and attitude of pregnant women about COVID-19 were evaluated using six questions with two options (yes or no): (1) Do you experience discomfort with visiting the hospital or doctor for your pregnancy follow-up visits? (2) Do you visit the hospital regularly for your pregnancy follow-up visits? (3) Do you follow the isolation rules during the pregnancy follow-up visits? (4) Does your doctor/nurse/midwife follow the isolation rules during the pregnancy follow-up visits? (5) Do you have any information about the effects of COVID-19 on pregnancy? (6) Does your doctor/nurse/midwife give you detailed information about the effects of COVID-19 on maternal and fetal health?

2.3.3 | The third part of the survey: evaluation of psychiatric symptoms

The HADS consists of 14 items and two subscales²⁴ and has been validated previously.²⁵ It was used to evaluate the anxiety and depressive symptoms in pregnant women in the present study. HADS-anxiety and HADS-depression scores were derived by summing the subscale items. Higher HADS-anxiety and HADS-depression scores indicate higher anxiety and depression levels, respectively. Pregnant women with HADS-anxiety scores ≥8 were classified as having anxiety, while those with HADS-depression scores ≥8 were classified as

having depression. The Cronbach's alpha coefficient of the HADS was found to be 0.94, indicating good reliability.

2.4 | Ethical statement

The present study was approved by the Trakya University Scientific Research Ethics Committee (2020-268). An electronic informed consent was presented on the first page of the online survey. The participants were electronically informed on the first page of the survey that they were volunteering to participate and that they could withdraw from the survey at any time.

2.5 | Statistical analysis

Normality of the numeric variables was tested using the Shapiro-Wilk test. Numeric results are presented as the mean $\pm$ standard deviation for normally distributed data and median (min–max) for non-normally distributed data. Categorical variables are presented as the number and percentage. HADS-anxiety and HADS-depression scores between two categories of variables were compared using the Mann-Whitney *U* test due to non-normal distribution. Spearman correlation analysis was performed to investigate the association of age and gestational week with HADS-anxiety and HADS-depression scores. Statistical analysis was performed using IBM SPSS Statistics for Windows, Version 20.0 (IBM Corp). A $p < .05$ was considered statistically significant.

3 | RESULTS

3.1 | Demographic and clinical characteristics of the participants

The demographic and clinical characteristics are shown in Table 1. The mean age of the participants was 28.2 ± 4.5 years (range, 18–41 years), and their mean gestational week was 27.3 ± 8.8 .

3.2 | Knowledge and attitudes of pregnant women about COVID-19

In total, 68% of the participants reported that they experienced discomfort with visiting the hospital or doctor for their pregnancy follow-up visits, while 79.2% reported that they regularly visited the hospital for their pregnancy follow-up visits during the COVID-19 pandemic. Almost all the pregnant women (95.8%) and healthcare workers (94.3%) reported that they followed the isolation rules during the pregnancy follow-up visits. Moreover, 57.1% of the participants reported that they had information about the effects of COVID-19 on pregnancy; however, 32.8% reported that they were informed by their doctor/nurse/midwife about the effect of COVID-19 on maternal and fetal health (Table 2).

TABLE 1 Demographic and clinical characteristics of the pregnant women

	N = 403
Age, years, mean $\pm$ SD	28.2 $\pm$ 4.5
Gestational week, mean $\pm$ SD	27.3 $\pm$ 8.8
Education, years, n (%)	
<9	76 (18.9)
≥ 9	327 (81.1)
Working status during pregnancy, n (%)	
Yes	168 (41.7)
No	235 (58.3)
Chronic illness, n (%)	
Yes	37 (9.2)
No	366 (90.8)
Regular physical activity, (walking or pregnancy exercise), n (%)	
Yes	205 (50.9)
No	198 (49.1)
Smoking during pregnancy, n (%)	
Yes	32 (7.9)
No	371 (92.1)

3.3 | Anxiety and depression in pregnant women during the COVID-19 pandemic

The average HADS-anxiety score of the participants was 9.6 ± 6.4 , and their average HADS-dDepression score was 8.7 ± 5.2 . The prevalence of anxiety and depression in pregnant women during the COVID-19 pandemic was 64.5% and 56.3%, respectively (Table 3).

3.4 | Univariate analysis of factors related to anxiety and depression in pregnant women during the COVID-19 pandemic

Spearman correlation analysis revealed that age was not correlated with HADS-anxiety ($r = -0.036$; $p = .467$) and HADS-depression ($r = -0.027$; $p = .592$) scores. Similarly, gestational week was not correlated with HADS-anxiety ($r = 0.026$; $p = .598$) and HADS-depression ($r = -0.019$; $p = .701$) scores.

HADS-anxiety and HADS-depression scores were significantly higher in pregnant women whose education level was less than 9 years, who were not working, who were not engaging in physical activity, and who were smokers ($p < .05$ for all). In addition, pregnant women who had a chronic illness had higher HADS-anxiety ($p = .013$) and HADS-depression ($p = .074$) scores (Table 4).

HADS-anxiety and HADS-depression scores were significantly higher in pregnant women who experienced discomfort with visiting the hospital or doctor for follow-up visits (Q1), who did not go for follow-up visits regularly (Q2), and who did not follow the isolation

TABLE 2 The knowledge and attitudes of pregnant women about the COVID-19

	N	%
Q1. Do you experience discomfort with visiting the hospital or doctor for your pregnancy follow-up visits?		
Yes	274	68.0
No	129	32.0
Q2. Do you visit the hospital regularly for your pregnancy follow-up visits?		
Yes	319	79.2
No	84	20.8
Q3. Do you follow the isolation rules during the pregnancy follow-up visits?		
Yes	386	95.8
No	17	4.2
Q4. Does your doctor/nurse/midwife follow the isolation rules during the pregnancy follow-up visits?		
Yes	380	94.3
No	23	5.7
Q5. Do you have any information about the effects of COVID-19 on pregnancy?		
Yes	230	57.1
No	173	42.9
Q6. Does your doctor/nurse/midwife give you detailed information about the effects of COVID-19 on maternal and fetal health?		
Yes	132	32.8
No	271	67.2

Abbreviation: COVID-19, coronavirus disease 2019.

rules (Q3). Similarly, these scores were significantly higher in pregnant women when the isolation rules were not followed by the healthcare workers during pregnancy follow-up visits (Q4). In addition, HADS-anxiety and HADS-depression scores were significantly higher in pregnant women who had no information about the effects of COVID-19 on pregnancy (Q5) and who were not informed by healthcare workers about the effects (Q6) (Table 5).

TABLE 3 HADS-anxiety and HADS-depression levels in pregnant women during the COVID-19 pandemic

	Mean $\pm$ SD	Median (Min-Max)
HAD-anxiety score	9.6 $\pm$ 6.4	10 (0-21)
HAD-depression score	8.7 $\pm$ 5.2	9 (0-21)
Prevalence of anxiety (HADS-anxiety score $\geq$ 8)	64.5%	
Prevalence of depression (HADS-depression score $\geq$ 8)	56.3%	

Abbreviations: COVID-19, coronavirus disease 2019; HADS, hospital anxiety and depression scale.

TABLE 4 Comparison of HADS-anxiety and HADS-depression scores of the pregnant women by sociodemographic and clinical characteristics

	HADS-anxiety	HADS-depression
Education (years)		
<9	13 (0-21)	11 (1-19)
$\geq$ 9	9 (0-21)	8 (0-21)
p	<.001	<.001
Working status during pregnancy		
Yes	6.5 (0-21)	5 (0-20)
No	11 (0-21)	10 (0-21)
p	<.001	<.001
Chronic illness		
Yes	12 (0-21)	11 (0-21)
No	10 (0-21)	9 (1-19)
p	.013	.074
Regular physical activity, (walking or pregnancy exercise)		
Yes	7 (0-1)	5 (0-19)
No	12 (0-21)	11 (0-21)
p	<.001	<.001
Smoking during pregnancy		
Yes	13.5 (0-21)	11.5 (2-19)
No	10 (0-21)	8 (0-1)
p	.001	.001

Note: Median (min-max).

Abbreviation: HADS, hospital anxiety and depression scale.

3.5 | Multivariate analysis of factors related to the development of anxiety and depression in pregnant women during the COVID-19 pandemic

Of the 11 probable factors related to the development of anxiety that were entered into multivariate logistic regression analysis, five factors were found to be significant (Table 6 and Figure 1). The risk of anxiety in pregnant women who were not working was 1.87 times (95% confidence interval [CI]: 1.01-3.48) higher than that in pregnant women who were working ($p = .047$). In addition, the risk of anxiety in pregnant women who did not engage in regular physical activity was 1.93 times (95% CI: 1.05-3.56) higher than that in pregnant women who engaged in regular physical activity ($p = .034$). Further, the risk of anxiety in pregnant women who experienced discomfort with visiting the hospital or doctor for follow-up visits was 8.87 times (95% CI: 4.76-16.51) higher than that in pregnant women who did not experience discomfort with these visits ($p < .001$). The risk of anxiety in pregnant women who did not have any information about the effects of COVID-19 on pregnancy was 3.4 times (95% CI: 1.56-7.43) higher than that in pregnant women who had this information ($p = .002$). Moreover, the risk of anxiety in pregnant women who were not informed by their doctor/nurse/midwife about the effect of COVID-19 was 2.6 times (95% CI: 1.31-5.17) higher than that in pregnant women who had this information ($p = .006$).

TABLE 5 Comparison of HADS-anxiety and HADS-depression scores by the knowledge and attitudes of pregnant women related to COVID-19

	HADS-anxiety	HADS-depression
Q1. Do you experience discomfort with visiting the hospital or doctor for your pregnancy follow-up visits?		
Yes	12 (0–21)	11 (2–19)
No	10 (0–21)	9 (0–21)
<i>p</i>	<.001	<.001
Q2. Do you visit the hospital regularly for your pregnancy follow-up visits?		
Yes	9 (0–21)	8 (0–21)
No	14 (2–21)	13 (1–21)
<i>p</i>	<.001	<.001
Q3. Do you follow the isolation rules during the pregnancy follow-up visits?		
Yes	10 (0–21)	8 (0–21)
No	19 (0–21)	18 (0–21)
<i>p</i>	<.001	<.001
Q4. Does your doctor/nurse/midwife follow the isolation rules during the pregnancy follow-up visits?		
Yes	10 (0–21)	8 (0–21)
No	21 (0–21)	18 (0–19)
<i>p</i>	<.001	<.001
Q5. Do you have any information about the effects of COVID-19 on pregnancy?		
Yes	7 (0–21)	5 (0–21)
No	13 (0–21)	11 (1–21)
<i>p</i>	<.001	<.001
Q6. Does your doctor/nurse/midwife give you detailed information about the effects of COVID-19 on maternal and fetal health?		
Yes	0 (0–21)	3 (0–18)
No	12 (0–21)	11 (0–21)
<i>p</i>	<.001	<.001

Note: Median (min–max).

Abbreviations: COVID-19, coronavirus disease 2019; HADS, hospital anxiety and depression scale.

Finally, the risk of anxiety was higher in pregnant women who had lower education levels (odds ratio = 2.36; CI: [0.99–5.66]; $p = .054$).

Four significantly independent risk factors were determined to be related to the development of depression (Table 6 and Figure 2). The risk of depression in pregnant women whose education level was less than 9 years was 2.76 times higher (95% CI: 1.22–6.28) than that in pregnant women whose education level was 9 years or above ($p = .015$). In addition, the risk of depression in pregnant women who did not engage in regular physical activity was 2.36 times (95% CI: 1.34–4.18) higher than that in pregnant women who engaged in regular physical activity ($p = .003$). The risk of depression in pregnant women who experienced discomfort with visiting the hospital or doctor for follow-up visits was 6.61 times (95% CI: 3.43–12.75) higher than that in pregnant women who did not experience discomfort with these visits ($p < .001$). Moreover, the risk of depression

in pregnant women who did not have any information about the effects of COVID-19 on pregnancy was 8.87 times (95% CI: 4.23–18.59) higher than that in pregnant women who had this information ($p < .001$).

4 | DISCUSSION

The present study revealed that the prevalence of anxiety and depression in pregnant women during the COVID-19 pandemic was 64.5% and 56.3%, respectively. Previous studies have reported the prevalence of anxiety in pregnant women to be between 63% and 68% during the COVID-19 pandemic.^{16–18} The prevalence of anxiety and depression in pregnant women was between 7.8% and 22.3% before the pandemic.^{26,27} Thus, the prevalence of anxiety and

TABLE 6 Effect of socio-demographic variables, knowledge, and attitudes of pregnant women about COVID-19 on anxiety and depression

	HADS-anxiety (≥ 8)		HADS-depression (≥ 8)	
	p	OR (95% CI)	p	OR (95% CI)
Education (years)				
<9	.054	2.36 (0.99–5.66)	.015	2.76 (1.22–6.28)
Working status during pregnancy				
No	.047	1.87 (1.01–3.48)	.101	1.66 (0.91–3.03)
Chronic illness				
No	.760	1.17 (0.43–3.13)	.342	1.56 (0.62–3.92)
Regular physical activity				
No	.034	1.93 (1.05–3.56)	.003	2.36 (1.34–4.18)
Smoking during pregnancy				
Yes	.319	1.9 (0.54–6.67)	.151	2.27 (0.74–6.95)
Q1. Do you experience discomfort with visiting the hospital or doctor for your pregnancy follow-up visits?				
Yes	<.001	8.87 (4.76–16.51)	<.001	6.61 (3.43–12.75)
Q2. Do you visit the hospital regularly for your pregnancy follow-up visits?				
No	.176	1.82 (0.77–4.31)	.890	1.05 (0.51–2.16)
Q3. Do you follow the isolation rules during the pregnancy follow-up visits?				
No	.310	5.76 (0.2–169.5)	.632	1.68 (0.2–14.18)
Q4. Does your doctor/nurse/midwife follow the isolation rules during the pregnancy follow-up visits?				
No	.685	0.65 (0.08–5.1)	.991	1.01 (0.19–5.5)
Q5. Do you have any information about the effects of COVID-19 on pregnancy?				
No	.002	3.4 (1.56–7.43)	<.001	8.87 (4.23–18.59)
Q6. Does your doctor/nurse/midwife give you detailed information about the effects of COVID-19 on maternal and fetal health?				
No	.006	2.6 (1.31–5.17)	.093	1.78 (0.91–3.48)

Abbreviations: CI, confidence interval; COVID-19, coronavirus disease 2019; HDAS, hospital anxiety and depression scale; OR, odds ratio.

depression in pregnant women has significantly increased after the spread of COVID-19 throughout the world.

The risk of anxiety and depression in pregnant women with low education levels was found to be higher in the present study. Similarly, low education levels have been found to be associated with a high prevalence of anxiety and depression in Chinese pregnant women.²⁸ Furthermore, the risk of psychological abnormality has been reported to be higher in pregnant women with less than high school education.⁶ These findings indicate that education is an important factor related to the development of anxiety and depression during pregnancy and that pregnant women with low education levels have a high risk of developing anxiety and depressive symptoms.

Nanjundaswamy et al.¹² found that approximately 35% of pregnant women in India have job-related concerns. A significant positive relationship has been reported between unemployment and prenatal depression in pregnant women (Ma et al.²⁶). Moreover, being a housewife (i.e., being unemployed) during pregnancy has been found to be a risk factor related to the development of anxiety and depression.²⁹ In accordance with previous findings, the present study

revealed that the risk of anxiety and depression is higher in pregnant women who are not working during the pandemic. Being unemployed or being a housewife during the pandemic increases the time spent at home and reduces socialization and interpersonal communication, thereby increasing the risk of anxiety and depression.

The present study revealed that regular physical activity is an important factor related to the development of anxiety and depression during pregnancy. Pregnant women who do not engage in regular physical activity have a higher risk of anxiety and depression. Regular activity during pregnancy has been shown to have a protective effect on the development of anxiety and depressive symptoms.²⁹ Furthermore, there is a positive relationship between a sedentary lifestyle and the development of mental problems in the second trimester and an inverted U-shaped curvilinear relationship in the third trimester.³⁰ Half of the pregnant women who prefer to stay at home during the pandemic do not engage in regular physical activity. However, regular physical activities during pregnancy have a protective effect on the development of anxiety and depressive symptoms.

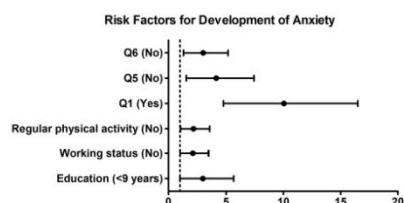


FIGURE 1 Forrest plot of significantly factors related to anxiety in pregnant women, odds ratios and 95% confidence intervals. Q1: Do you experience discomfort with visiting the hospital or doctor for your pregnancy follow-up visits?, yes; Q5: Do you have any information about the effects of coronavirus disease 2109 (COVID-19) on pregnancy?, no; Q6: Does your doctor/nurse/midwife give you detailed information about the effects of COVID-19 on maternal and fetal health?, no

In the present study, more than half of the pregnant women (68%) stated that they experience discomfort with visiting the hospital or doctor for face-to-face follow-up visits. There is a very high risk of anxiety and depression in pregnant women who experience discomfort with such follow-up visits. In Wuhan, 41.9% of pregnant women stated that they refused to visit any hospital because of the fear of infection and that they would postpone antenatal care and prenatal hospitalization. Of the pregnant women, 12.8% reported that they wanted to have a cesarean delivery instead of waiting for labor at the hospital.¹⁰ In Israel, 68.7% of pregnant women reported being concerned about going for pregnancy examinations.¹⁵

Face-to-face prenatal consultation is the most important factor that increases anxiety during pregnancy in the USA. Consequently, pregnant women plan to not give birth in the hospital. While the rate of planning to give birth in the hospital was 96.4% before the COVID-19 pandemic, it decreased to 87.7% during the pandemic.¹¹ In India, the most common concern reported by pregnant women to obstetricians is the fear of getting infected during hospital visits for prenatal check-ups and ultrasound scans.¹² Avoiding prenatal follow-ups can lead to conditions that threaten pregnancy outcomes, for example, ectopic pregnancy, delayed detection of fetal congenital anomalies, uncontrolled hypertension and pre-eclampsia, postterm birth, and dystocia.³¹⁻³³

More than 2% of pregnancies are ectopic, and 3%-5% of children are born with genetic disorders or congenital disabilities.⁵ Although the cancelation of hospital follow-up visits can reduce the risk of infections, it can cause more serious problems. Pregnant women are concerned about getting infected with COVID-19 during hospital visits; however, the maternal and fetal health benefits of such visits should be considered.

Pregnant women who do not have information about the effects of COVID-19 on pregnancy and who are not informed by their doctor/nurse/midwife about the effects have a high risk of anxiety and depression. As limited information is available about the effects of COVID-19 on pregnancy, pregnant women have a high risk of anxiety and psychological distress.¹⁵ The concerns of pregnant

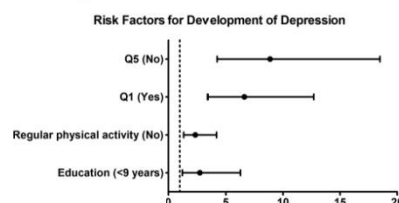


FIGURE 2 Forrest plot of significantly factors related to depression in pregnant women, odds ratios and 95% confidence intervals. Q1: Do you experience discomfort with visiting the hospital or doctor for your pregnancy follow-up visits?, yes; Q5: Do you have any information about the effects of COVID-19 on pregnancy?, no. COVID-19, coronavirus disease 2019

women also increase with the thought that the virus would be transmitted to the fetus by vertical transmission.⁷ However, there is still no evidence of in utero or placental transmission of COVID-19 from infected pregnant women to fetuses.^{6-8,36}

The irrational use of social media to inform about the effects of COVID-19 increases the risk of anxiety and fear of getting infected.³⁴ Most pregnant women want to learn about personal protection, susceptibility to COVID-19, and intrauterine transmission.⁸ There is an urgent need for healthcare workers to manage the psychological distress of pregnant women during the pandemic. Midwives have played a very important role in providing care, health education, and counseling to pregnant women during and after the severe acute respiratory syndrome epidemic.³⁵ Not having enough information about the effects of COVID-19 on pregnancy and being uncertain about the duration of the pandemic increase the risk of anxiety and depression in pregnant women. Therefore, doctors/nurses/midwives should provide evidence-based information about the effects of COVID 19 on pregnancy according to the scientific literature to pregnant women.

4.1 | Study limitations

The present study has several limitations. One of the limitations is its cross-sectional design. The investigation of causal relationships is more difficult with a cross-sectional design than with a longitudinal design. Another limitation is that participation in the study was voluntary; therefore, there is the possibility of selection bias. The results of the present study may not be generalizable because of sociocultural differences.

5 | CONCLUSION

The prevalence of anxiety and depression in pregnant women has significantly increased during the COVID-19 pandemic. Having low education levels, not engaging in regular physical activity,

experiencing discomfort with face-to-face hospital visits, and not having information about the effects of COVID-19 on pregnancy are important factors related to the development of both anxiety and depression in pregnant women. In addition, being unemployed and not being informed by the doctor/nurse/midwife about the effects of COVID-19 are important factors related to the development of anxiety.

5.1 | Implications for nursing practice

Pregnant women are prone to anxiety and depression during the COVID-19 pandemic. High levels of anxiety and depression can have long-term effects on maternal and fetal health. Protective targets are needed within the framework of the related factors. Doctors/nurses/midwives should provide evidence-based information to pregnant women about the effects of COVID-19 on pregnancy. In addition, pregnant women should be questioned to assess anxiety and depressive symptoms. Timely psychological support should be provided to pregnant women with mental health issues. Online psychological support should be provided to pregnant women by specialists. Moreover, planning physical activity for pregnant women and encouraging them to engage in social activities are very important to reduce the development of anxiety and depression during pregnancy.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ETHICS STATEMENT

Ethics committee approval was obtained from the Committee for Evaluation of Scientific Research of Trakya University, Faculty of Medicine (TUTF-BAEK 2020/268).

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Lampiran 3 Lembar Konsultasi



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PROGRAM STUDI ILMU KEPERAWATAN
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NIM : 18010159

Judul : DAMPAK PANDEMI COVID-19 PADA KESEHATAN MENTAL IBU HAMIL (*literature review*)

No	Tanggal	Materi yang Diskonsultasikan dan Masalah Pembimbing	TTD Pembimbing Utama	No	Tanggal	Materi yang Diskonsultasikan dan Masalah Pembimbing	TTD Pembimbing Anggota
	16/11/21	Judul Acc			12/11-2021	Acc judul - review jurnal	
	19/11/21	Revisi label belakang MTS karena ditulis pany rose			12/12-2021	Revisi I : Ektomorfia Bta. dan pany rose & servatua (pany rose, servatua).	



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24/11/21	Kerangka konsep penelitian dengan cara kerangka.	<i>[Signature]</i>	20/12/21	BAB I : Pendahuluan Pendahuluan Latar belakang Rumusan masalah Tujuan dan manfaat	<i>[Signature]</i>
29/11/21	Kerangka konsep penelitian dengan cara kerangka.	<i>[Signature]</i>	03/12/21	BAB II : Tinjauan Pustaka Pendahuluan Latar belakang Rumusan masalah Tujuan dan manfaat	<i>[Signature]</i>
03/12/21	Lampiran bab 2.	<i>[Signature]</i>	10/12/21	BAB III : Hasil dan Pembahasan Pendahuluan Latar belakang Rumusan masalah Tujuan dan manfaat	<i>[Signature]</i>
08/12/21	Bab 2. - Kerangka konsep penelitian - Konsep penelitian - Konsep penelitian - Konsep penelitian	<i>[Signature]</i>	25/12/21	BAB IV : Kesimpulan dan Saran Pendahuluan Latar belakang Rumusan masalah Tujuan dan manfaat	<i>[Signature]</i>
26/12/21	Bab 2. - Kerangka konsep penelitian - Konsep penelitian - Konsep penelitian - Konsep penelitian	<i>[Signature]</i>	3/1/22	BAB V : Penutup Pendahuluan Latar belakang Rumusan masalah Tujuan dan manfaat	<i>[Signature]</i>
7/01/22	Bab 2. - Kerangka konsep penelitian - Konsep penelitian - Konsep penelitian - Konsep penelitian	<i>[Signature]</i>	30/1/22	BAB VI : Daftar Pustaka Pendahuluan Latar belakang Rumusan masalah Tujuan dan manfaat	<i>[Signature]</i>



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01/02/22	Diagram Flow Comprehension database. ACL sempko.	R	31/1/2022	Penelitian & ACL Perin' sempko	R
13/02/22	ACL Perin' sempko	R			



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	22/06/22	- Praefase - Persepsi - Subjek penelitian - Hasil penelitian	<i>[Signature]</i>	21/07/2022		- Penulisan tabel - Penulisan tabel - Penulisan tabel - Penulisan tabel	<i>[Signature]</i>
	21/06/22	- tentang bayi - tentang bayi - tentang bayi	<i>[Signature]</i>	21/07/2022		- Penulisan tabel - Penulisan tabel - Penulisan tabel - Penulisan tabel	<i>[Signature]</i>



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18/07/22	- 8 delusional - Perawatan - Perawatan - Perawatan depresi	Dr	20/07/22	- Opini - Perawatan - Perawatan	Dr
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Lampiran 4 Curriculum Vitae

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