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Ethische Herausforderungen der COVID-19-Pandemie im internationalen Vergleich: Erkenntnisse aus 39 Expert*inneninterviews

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Hiermit erkläre ich, die Dissertation mit dem Titel „Ethische Herausforderungen der COVID-19-Pandemie im internationalen Vergleich: Erkenntnisse aus 39 Expert*inneninterviews“ eigenständig angefertigt und keine anderen als die von mir angegebenen Quellen und Hilfsmittel verwendet zu haben.

Göttingen, den …………… ………………………………

(Unterschrift)

Die Daten, auf denen die vorliegende Arbeit basiert, wurden teilweise publiziert:

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Inhaltsverzeichnis

Abkürzungsverzeichnis

HIC	*High income country*
HIV	*Human immunodeficiency virus*
HCW(s)	*Healthcare worker(s)*
LMIC	*Low-, middle-income country*
PSA	Personelle Schutzausrüstung
PPE	*Personal protective equipment*
PH	*Public health*
RKI	Robert-Koch-Institut
TB	*Tuberculosis*
WHO	World Health Organization

1 Einleitung

Am 27. Januar 2020, eineinhalb Monate nach der Erstidentifikation des neuartigen Coronavirus SARS-CoV-2, dem Erreger der Infektionskrankheit COVID-19, in der chinesischen Metropole Wuhan der Provinz Hubei (World Health Organization 2020), endet der Artikel „Angst vor Coronavirus – alles, was wir wissen müssen“ folgendermaßen: „‘Noch sehen die Experten aber nicht die Gefahr einer weltweiten Ausbreitung. Besondere Maßnahmen seien zum Beispiel in Deutschland nicht nötig […]. Derzeit ist die Gefahr wirklich sehr gering’, sagte der Virologe (Jonas Schmidt-Chanasit) im DW-Interview“ (Welle 2020). Gegenläufig zu dieser Feststellung führte die hochgradig ansteckende Natur von SARS-CoV-2 zu einer raschen und weitreichenden Verbreitung in zahlreiche weitere Länder. Bis Anfang Juni 2021 hatte die Anzahl der bestätigten Infektionen eine Schwelle von etwa 172 Millionen Menschen überschritten – begleitet von einer beträchtlichen Opferzahl von ungefähr 3,7 Millionen Personen, die an oder im Zusammenhang mit dem Virus verstorben sind (Johns Hopkins Coronavirus Resource Center 2021). Somit sah sich die Weltgesundheitsorganisation, World Health Organization (WHO), dazu gezwungen, die internationale Verbreitung des Virus am 11. März 2020 zu einer Pandemie zu erklären (World Health Organization 2020). Der Ausbruch von COVID-19 brachte global zahlreiche Konsequenzen mit sich, wie auf gesundheitlicher und gesundheitsökonomischer Ebene etwa lange Krankenhausaufenthalte und hohe Sterblichkeitsraten (Dessie und Zewotir 2021; Killerby et al. 2020). Um die weitere Verbreitung von COVID-19-Ausbrüche zu verhindern, ergriffen viele Länder nationale Maßnahmen im Bereich der öffentlichen Gesundheit, der *Public health* (PH). Diese Maßnahmen, auch als PH-Strategien bezeichnet, umfassen die Identifizierung und Quarantäne von infizierten Personen, die verpflichtende Verwendung von Schutzmasken, die Umsetzung von sozialer Distanzierung sowie Einschränkungen im internationalen Reiseverkehr (Brauner et al. 2020; Gostin et al. 2020). Die Einführung von Restriktionen und PH-Strategien führte trotz des übergeordneten Ziels, das Wohlergehen der Bevölkerung maximal zu schützen, zu ethischen Konflikten (Krah 2020).

Bei der vorliegenden Arbeit handelt es sich um eine publikationsbasierte Dissertation, welche die Ergebnisse eines Aufsatzes zu den internationalen Konflikten der COVID-19-Pandemie zusammenfasst. Der Aufsatz wurde im Jahr 2023 im BMC Public Health-Journal veröffentlicht und befindet sich im Anhang dieses Dokumentes. Die Forschung fokussierte sich auf eine Vielzahl ethischer Herausforderungen, die sich international während der COVID-19-

Pandemie manifestierten. Um diese zu untersuchen, wurde von November 2020 bis März 2021 eine qualitative Interviewstudie durchgeführt, die einen empirisch-ethischen Ansatz verfolgte und 39 internationale Expert*innen aus 34 verschiedenen Ländern einschloss. Für eine nachvollziehbare Vergleichbarkeit werden die analysierten Aussagen nach Herkunft der Expert*innen in Länder mit niedrigem und mittlerem Einkommen, *Low middle income countries* (LMICs), sowie mit hohem Einkommen, *High income countries* (HICs), differenziert. Dies erfolgt anhand der Klassifizierung, welche die Weltbank den Ländern auf der Grundlage ihres Bruttonationaleinkommens zuweist (The World Bank 2022)[1].

1.1 Ethische Konflikte im Zusammenhang mit der COVID-19-Pandemie

Die COVID-19-Pandemie stellte die Gesellschaft vor einzigartige Herausforderungen, die die Abwägung von individuellen Freiheiten, öffentlichem Wohlstand und globaler Solidarität erforderten. In diesem Kontext gewannen ethische Fragestellungen, die von der Verteilung begrenzter Ressourcen bis hin zu den Auswirkungen von Eindämmungsmaßnahmen auf persönliche Freiheiten reichten, zunehmend an Bedeutung. Die Einleitung dieser Arbeit wirft einen Blick auf einige der zentralen ethischen Konflikte, die im Zuge der COVID-19-Pandemie auftraten und beleuchtet deren weitreichende Auswirkungen auf das individuelle Verhalten sowie auf gesellschaftliche Normen und Werte.

Die Herausforderungen mit ethischer Reichweite während der Pandemie gründen auf Bereichen der PH-Ethik, der Medizinethik, der Forschungsethik, der Pflegeethik und der *Global health*-Ethik. Zusammenfassend wird im Folgenden der Überbegriff der Bioethik verwendet (McDaniel 2021). Die Gliederung der bioethischen Konflikte in dieser Arbeit erfolgt in die Felder der Ressourcenknappheit im klinischen Kontext, in ethische Herausforderungen im PH-Umfeld und in Konflikte für Angestellte des Gesundheitswesens, insbesondere in der professionellen Pflege. Diese Einteilung basiert auf Literaturrecherchen zu Herausforderungen bedingt durch COVID-19 von Juni 2020 bis November 2020.

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[1] Die Einkommensunterteilung gliedert Länder in verschiedene Kategorien: Länder mit niedrigem Einkommen (<1.085 $), Länder mit mittlerem Einkommen (1.085 $ – 4.256 $), Länder mit mittlerem Einkommen im oberen Bereich (4.256 $ – 13.205 $) und Länder mit hohem Einkommen (>13.205 $) (The World Bank 2022).

1.2 Ressourcenknappheit im klinischen Kontext

Die Begrenztheit von Ressourcen im klinischen Kontext trat insbesondere zu Beginn der Pandemie im Frühjahr 2020 zutage (Emanuel et al. 2020b). Dies führte zu einer gezielten Priorisierung verfügbarerer Ressourcen, sowohl in personeller als auch in materieller Hinsicht (Robert et al. 2020; Wilkinson 2020). Während die Ressourcenknappheit vor allem in HICs unter dem Begriff der „Triage“ (Brown et al. 2020; Wilkinson 2020; Reid 2020; Robert et al. 2020) diskutiert wurde, spielte sich der Hauptkonflikt hinsichtlich Priorisierungen in vielen LMICs bereits auf grundlegender Ebene mit dem Zugang zur Gesundheitsversorgung ab (Rossouw et al. 2020).

Der Begriff „Triage“ kommt aus dem Französischen und bedeutet übersetzt Auswahl oder Selektion. In der Notfallmedizin bezeichnet die Triage die akute Priorisierung von Patient*innen basierend auf dem Schweregrad ihrer Verletzungen oder Erkrankungen (Christ et al. 2010). Im Zuge der Corona-Pandemie wurden unter dem Begriff jedoch auch Priorisierungsstrategien und aus ihnen resultierende gerechtigkeitstheoretische Probleme im medizinischen Kontext zusammengefasst (Deutscher Ethikrat 2020). So sahen sich viele Regierungen gezwungen, einen Priorisierungsprozess für lebensrettende Ressourcen wie z.B. Beatmungsgeräte und Intensivbetten für bestimmte Bevölkerungsgruppen gegenüber anderen festzulegen (Reid 2020; Emanuel et al. 2020b; Nelson 2020). Die vier folgenden Empfehlungen wurden in der Literatur als Grundlage für gerechte Entscheidungen bezüglich der Ressourcenverteilung diskutiert und sollen an dieser Stelle kurz zusammengefasst werden (Nelson 2020; Emanuel et al. 2020b). Eine Priorisierung kann folglich stattfinden nach:

1. Utilitaristischen Kriterien der Nutzenmaximierung, sodass a) eine höhere Anzahl an Leben, oder b) eine maximale Summe an Lebensjahren gerettet wird.
2. Kriterien der Gleichheit, sodass für Personen mit ähnlicher Prognose z.B. ein Zufallsprinzip wie eine Lotterie oder ein *First-come-first-served*-Modell über die Vergabe von Gütern entscheidet.
3. Die Priorisierung von Mitarbeitenden des Gesundheitswesens, mit deren Hilfe in der Vergangenheit oder zukünftig weitere Menschenleben gerettet werden können.
4. Die durchdachte Rücksichtnahme auf die Gruppen, die sich in den schwierigsten Umständen befinden, die am vulnerabelsten sind oder die bisher die kürzeste Lebensdauer erfahren haben.

Die Frage nach einer moralischen Priorisierungsstrategie bedarf der Abwägung ethischer Argumente. Insbesondere die Vorschläge zur Priorisierung basierend auf utilitaristischem

Handeln oder der Gleichberechtigung, die aus PH-ethischer Perspektive im Kontext einer Pandemie gerechtfertigt erscheinen, stehen im Konflikt mit den Prinzipien der individuell-zentrierten Medizinethik. Eine gleichzeitige Anwendung all dieser vier Ansätze gestaltet sich als unmöglich und führt zwangsläufig zur Ablehnung einer Strategie (Ballantyne 2020; Wilkinson 2020; Fallucchi et al. 2020).

Nichtsdestotrotz sahen sich Länder und Krankenhäuser dazu veranlasst, akute sowie langfristige Entscheidungen über Behandlungspriorisierungen zu treffen. Auf globaler Ebene resultierte das Aufschieben, Verlegen oder Absagen anderer medizinischer Therapien (Flemming et al. 2020). Die Konflikte aus dem Aufeinandertreffen von COVID-19 mit weiteren chronischen, onkologischen oder infektiologischen Krankheiten erwiesen sich als besonders bedeutsam (Graef et al. 2020; Kurokawa et al. 2022; Fazal et al. 2021; Lewis 2021). In Regionen Afrikas und Lateinamerikas mit hoher Prävalenz anderer Infektionskrankheiten wie dem humanen Immundefizienz-Virus (HIV), Tuberkulose oder Ebola (Benatar und Brock 2011), ergab sich beispielsweise trotz jüngerer Bevölkerungsstruktur ein erhöhter Bedarf an Intensivpflege. Dieser war zum Beispiel in Kenia neben der erhöhten Prävalenz anderer Infektionskrankheiten durch Zustände der Mangelernährung bedingt (Rossouw et al. 2020; He et al. 2020). Darüber hinaus führte vielerorts die stationäre Entbindung zu ethischen Konflikten für schwangere Frauen und deren Familien (Grünebaum et al. 2020). Da die erhöhte Infektionsgefahr im stationären Bereich eine psychische und physische Mehrbelastung der Schwangeren implizierte (Hübner et al. 2022), wurde bereits zu Beginn der Pandemie von einer höheren Neugeborenen-Mortalität im häuslichen Setting ausgegangen (KC et al. 2020; Hekimoğlu und Aktürk Acar 2022).

1.3 Herausforderungen im *Public health*-Sektor

Im Folgenden soll auf Herausforderungen im Bereich der PH eingegangen werden. Letztere adressiert eine Vielzahl von Themen, die von der Prävention von Krankheiten über die Förderung von Gesundheit bis zur Bewältigung von Gesundheitskrisen reichen (Royo-Bordonada und Román-Maestre 2015). Somit verkörpern PH-Interventionen staatliche Maßnahmen, die darauf abzielen, die Gesundheit der gesamten Bevölkerung zu schützen und zu fördern. Die Ethik im Bereich der öffentlichen Gesundheit setzt ihren Fokus folglich auf ethische Fragen, die im Zusammenhang mit der Gesundheit ganzer Bevölkerungsgruppen stehen. Unter Berücksichtigung pluralistischer Werte wie „(Gesundheits-) Gerechtigkeit, Freiheit, Reziprozität [und] Solidarität" (Kompetenznetz Public Health Covid-19 2020: 3) adressiert sie die entstehenden Spannungen zwischen dem kollektiven Allgemeinwohl und der individuellen Freiheit von Bürger*innen. Insbesondere in Zeiten einer Pandemie stellt sich das Gebiet der PH-Ethik als unentbehrlich heraus, da es im Gegensatz zur Medizinethik nicht die individuellen Akteur*innen mit deren Rechten und Bedürfnissen fokussiert (Strech et al. 2013), sondern stets eine populationsbezogene Perspektive forciert (Kompetenznetz Public Health Covid-19 2020). Nachfolgend werden PH-Maßnahmen dargestellt sowie auf die Rolle der Gesundheitskompetenz während der Corona-Pandemie eingegangen.

1.3.1 Pandemie-Schutzmaßnahmen

Die Implementierung wirksamer Schutzmaßnahmen in Zeiten von Pandemien ist von entscheidender Bedeutung, um die Verbreitung von Infektionen einzudämmen und die Gesundheit der Bevölkerung zu sichern. Zu Beginn der COVID-19-Pandemie existierte aufgrund der unbekannten Ansteckungswege des Virus und wegen der unterschiedlichen politischen Systeme sowie diversen kulturellen Gegebenheiten keine einheitliche globale Pandemie-Strategie. Dennoch stellte das übergeordnete Ziel in den meisten Ländern die rasche Eindämmung des Coronavirus und die Verhinderung eines Zusammenbruchs des Gesundheitssystems dar (Filip et al. 2022). Allgemeine Empfehlungen diesbezüglich orientierten sich seitens epidemiologischer Wissenschaftler*innen in erster Linie an einem Abflachen der Infektionskurve, *„Flattening the curve“* (Mukerji und Mannino 2020: 77) und forcierten somit eine Senkung der effektiven Reproduktionszahl[2] unter eins, *„Containment“* (Mukerji und Mannino 2020: 77).

Der Kernkonflikt dieser PH-Maßnahmen bestand in der Kontroverse zwischen der Umsetzung präventiver Maßnahmen und den damit verbundenen Einschränkungen der Freiheit der Bevölkerung. Zu den spezifischen Konflikten zählten insbesondere Kontaktpersonen- und Reisebeschränkungen, Quarantäne- und Isolationspflichten, das Tragen von Schutzmasken und die Umsetzung von Hygiene-Regeln (Gostin et al. 2020; Brauner et al. 2020). Auch technologische Strategien wie *Contact-tracing* und *Telehealth*-Verfahren zur Pandemiebekämpfung führten zu Spannungen zwischen Datenschutz und Privatsphäre (Dyer 2020; Parker et al. 2020).

Die Diskussion über die Bedeutung von vulnerablen Bevölkerungsgruppen während der Pandemie bildete ein weiteres Schwerpunktthema (Ho und Dascalu 2021). Dabei bedeutet Vulnerabilität, einem erhöhten Schadensrisiko ausgesetzt zu sein und sich weniger in der Lage

[2] Definition: Die Basisreproduktionszahl R0 gibt an, wie viele Personen von einer infizierten Person durchschnittlich angesteckt werden, vorausgesetzt, dass in der Bevölkerung keine Immunität besteht und keine infektionspräventiven Maßnahmen ergriffen wurden. Eine Infektion breitet sich langfristig nur dann aus, wenn ihr R0 über 1 liegt (Robert Koch Institut (2023).

zu befinden, sich selbst zu schützen (Chadwick 2012). Während der Fokus in HICs hier verstärkt auf der alternden Bevölkerung lag (Savulescu und Cameron 2020; Moerenhout 2020), wurden Frauen und Kinder in Mittel- und Südamerika bereits zu Beginn der Pandemie als vulnerable Population benannt (CEPAL und Naciones Unidas 2020). Auch die Debatten um die Corona-Impfung zeigten sich in diesem Kontext von zentraler Bedeutung, da wirksame Impfstoffe als effiziente PH-Maßnahme zum Schutz der Bevölkerung vor einer Infektionskrankheit gilt (Wibawa 2021). Die bioethische Diskussion reichte dabei von der (finanziellen) Kompensierung der Impfstoff-Proband*innen (Grimwade und Savulescu 2020), über mögliche Impfstoffpflichten (Callaway 2020), Priorisierungsstrategien (Emanuel et al. 2020a) bis hin zur globalen gerechten Bereitstellung und Verteilung der knappen Ressource (He et al. 2020; Gupta und Morain 2020). Diesbezüglich sehen ethische Ansätze in der Theorie eine Notwendigkeit der fairen Distribution zwischen LMICs und HICs vor (Liu et al. 2020). Das Kompetenznetz Public Health Covid-19 (2020) betont, dass die Pandemie eine globale Krise darstellet und dementsprechend gemeinschaftlich behandelt werden muss, indem internationale Kooperationen intensiviert werden.

1.3.2 Gesundheitskompetenz

Die Gesundheitskompetenz beschreibt die Fähigkeit, relevante Gesundheitsinformationen zu verstehen und zu nutzen; und erweist sich auch für die Akzeptanz von PH-Maßnahmen von als bedeutsam (World Health Organization 2023; Sentell et al. 2020). Die Herausforderungen in der Corona-Pandemie hinsichtlich der Gesundheitskompetenz bestanden darin, dass einerseits kein allgemein gültiger Wissenstand bezüglich des Virus oder der PH-Maßnahmen galt und andererseits täglich zahlreiche neue, teils unwahre oder widersprüchliche Informationen verfügbar waren (Sentell et al. 2020; Pian et al. 2021). Zarocostas (2020) zitierte den WHO *Director-General* Tedros Adhanom Ghebreyesus, der in diesem Kontext von einer „*Infodemic*“ sprach. Im 21. Jahrhundert beinhalte die Gesundheitskompetenz aufgrund der Vernetzung und Präsenz aller Themen in den öffentlichen Medien auch eine „technologische“ oder „digitale Kompetenz“ (Hart et al. 2020; Sentell et al. 2020). In einer Ära, in der Informationen leicht zugänglich sind und sich rasch verbreiten, erweist es sich als entscheidend, dass Menschen die Fähigkeit besitzen, Gesundheitsinformationen kritisch zu evaluieren, Fehlinformationen zu identifizieren und fundierte Entscheidungen auf der Basis von Evidenz zu treffen (van den Broucke 2020). Die Bedeutung einer fundierten Gesundheitskompetenz wird durch die Corona-Pandemie entsprechend hervorgehoben. Sie trägt dazu bei, Missverständnisse zu vermeiden, das

Vertrauen in die Gesundheitssysteme zu stärken und die Wirksamkeit von PH-Maßnahmen zu verbessern (Abel and McQueen 2020).

1.4 Spezifische Herausforderungen für die professionelle Pflege

Auch für Mitarbeitende des Gesundheitssystems stellte sich die Pandemie als große Herausforderung heraus. Im Folgenden wird spezifisch auf die Situation der Pflegenden eingegangen, weil sie die medizinische Berufsgruppe darstellen, die ein Bindeglied zwischen Patient*innen und Gesellschaft bildet und im zeitweiligen Diskurs nicht ausreichend berücksichtigt wurden.

Die vielfach prekären Arbeitsbedingungen für Pflegende wurden in der Corona-Pandemie durch verschiedene Umstände verschärft. So sah sich das Gesundheitspersonal weltweit mit vielen spezifischen Stressfaktoren an der *Frontline* konfrontiert (Iserson 2020), wie z.B. mit einer erhöhten Arbeitsbelastung unter Engpässen der Ressourcen, Personal, Zeit und personeller Schutzausrüstung (PSA) (Rosenbaum 2020; Robert et al. 2020; Jia et al. 2020; McDougall et al. 2020). Zudem bestand eine erhöhte Infektionsgefahr mit dem Corona-Virus, welche nicht nur in einen schweren Krankheitsverlauf, sondern bis hin zum Tode führen konnte (Johnstone und Turale 2020; Bandyopadhyay et al. 2020). Ein zentraler und ethisch relevanter Konflikt für Pflegekräfte bestand in der Entscheidung, professionell mit der Arbeit fortzufahren oder ihre beruflichen Verpflichtungen zu vernachlässigen, um somit sich selbst und die eigenen Angehörigen zu schützen (Iserson 2020). Besonders im Falle der eigenen Infektion entstanden im privaten Umfeld Schuldgefühle, welche folglich in der Notwendigkeit der Selbstisolierung zum Schutz der Angehörigen resultierten (Jia et al. 2020). Auch verzichteten Pflegende aus genannten Gründen auf die eigene soziale Freizeit, wodurch allerdings keine langfristige Lösung für das psychische Wohlbefinden geschaffen, sondern der Ausgleich zwischen herausfordernder Arbeit und angemessener (emotionaler) Erholung zunehmend erschwert wurde (Iserson 2020; Cipriano et al. 2020).

Die COVID-19-Pandemie erforderte trotz akuten Personalmangels eine Verstärkung der ärztlichen und pflegerischen Teams auf der Intensivstation. Da häufig insuffiziente Ad-hoc-Umschulungen des Personals als Strategien für die Umverteilung von Personal innerklinisch herangezogen wurden (Morley et al. 2020), waren sowohl quantitative als auch qualitative Unsicherheiten bezüglich der fachlichen Kenntnisse die Folge. Diese standen gleichzeitig im Konflikt mit einem Verantwortungsgefühl gegenüber ohnehin schon ausgelasteten Kolleg*innen (Walton et al. 2020). Zusätzlich zu den fachlichen Herausforderungen übernahmen Pflegende während der Pandemie auch die Rolle der möglicherweise einzigen

Kontaktperson für Patient*innen (Dunham et al. 2020). Dies wiederum führte zu weiteren Aufgaben wie der Organisation von Skype-Gesprächen mit Angehörigen und dem Jonglieren zwischen Fürsorge und Zeitmanagement (Morley et al. 2020). Der Mangel an Interaktion zwischen Pflegekräften und Familien führte zu einem Gefühl der Überforderung und dazu, den eigenen sowie externen Ansprüchen nicht gerecht zu werden (Robert et al. 2020). Insbesondere in Situationen des Sterbens erwies sich diese Thematik als bedeutsam, da sie eine würdevolle palliative Begleitung am Lebensende erschwerte und somit zu unzureichender Betreuung der Patient*innen führte (Morley et al. 2020).

All diese benannten Konflikte und Dilemmata, welche Belastungen der Pflegenden selbst, ihrer Angehörigen sowie der Patient*innen und deren Angehörigen bedingten, resultierten häufig in einem Zustand der emotionalen Strapaze bis hin zu chronischen psychischen Erkrankungen (Walton et al. 2020; Akademie für Ethik der Medizin 2020) oder dem Phänomenen des „*Moral distress*" (Morley et al. 2020: 36). Letzteres stellt „eine Reaktion auf die Unfähigkeit [dar], so zu handeln, wie man es für richtig hält" (Evans et al. 2020: 3). Dieses Gefühl wiederum behindert das zukünftige Handeln und kann ebenfalls den Grundstein für ein berufliches Burnout[3] legen (Robert et al. 2020).

Die skizzierten zusätzlichen Spannungen belasteten die ohnehin schon fragile berufliche Integrität des Pflegepersonals angesichts der schwierigen Arbeitsbedingungen, teils widersprüchlichen politischen Forderungen und hohen gesellschaftlichen Erwartungen (Robert et al. 2020; Jia et al. 2020). Trotz medialer Aufmerksamkeit und größerem gesellschaftlichen Bewusstsein resultierte keine nachhaltige Veränderung (Cadge et al. 2021). Laut Kortmann und Schulze (2020) waren Gesten wie etwa das abendliche Klatschen passiv. Sie müssten durch eine aktive und damit auch solidarische Handlung im Sinne konkreter Umgestaltung der Arbeitsbedingungen und Extra-Boni ersetzt werden.

1.5 Ziel der Studie

Die bioethischen Konflikte der drei Bereiche Ressourcenknappheit im medizinischen Kontext, ethische Herausforderungen der *Public health* und Konflikte der professionellen Pflege sind zahlreich und komplex miteinander verwoben. Gegenstand der Forschung von Interviews mit Expert*innen war es, die Konflikte im internationalen Vergleich zu präzisieren und die bisher lokal-nationale Perspektive der Pandemie um die globale zu ergänzen.

[3] Definition: Überfordernde Lebensumstände, die als Belastung zur Erschöpfung, Entfremdung und verringerter Leistungsfähigkeit führen (gesund.bund.de (2023))

Vor dem Hintergrund der Forschungsfrage, inwieweit die Corona-Pandemie bioethische Konflikte in verschiedenen Nationen aufdeckt, verstärkt, oder auslöst und in welchem Zusammenhang sich die Herausforderungen im internationalen Vergleich darstellen lassen, wurde in einem explorativen Ansatz mithilfe von qualitativen semi-strukturierten Expert*innen-Interviews ein breites Spektrum an Perspektiven von internationalen Bioethiker*innen erhoben. Das Ziel bestand darin, ein tieferes Verständnis und eine Reflexion über die Ursprünge und Zusammenhänge von Konflikten zu generieren. Durch die ausgewählte Fokussierung auf die drei Hauptthemen mit ihrem ethischen Geltungsbereich sollten Ähnlichkeiten und Unterschiede hervorgehoben und so systematische Beziehungen zwischen beobachteten Phänomenen globaler Reichweite aufgezeigt werden.

Des Weiteren stellt diese Arbeit einen Teil eines größeren Projektes am Institut für Ethik und Geschichte der Medizin der Universitätsmedizin Göttingen dar, das seit Mai 2022 die Meinungen der internationalen Expert*innen in einer virtuellen Ausstellung präsentiert.[4] Diese Ausstellung ist in Form von Podcasts und interaktivem Lehrmaterial öffentlich zugänglich. Die Auswahl der Themeninhalte der Interviews für die Ausstellung wurde dabei basierend auf der primären Datenerhebung und einer ersten thematischen Schwerpunktanalyse getroffen. Nach vorliegender Einwilligung wurden die Expert*innen nach dem ersten Gespräch für den Screencast erneut kontaktiert und zu ausgewählten Themen befragt. Anschließend wurden die Inhalte allgemein verständlich aufbereitet und der Öffentlichkeit in Form der genannten virtuellen, aber auch einer temporären Ausstellung im Forum Wissen (Juni - Oktober 2022) zugänglich gemacht.

[4] *Medicine and ethics go viral*, https://www.ethicsgoviral.com/ (08.01.2024)

2 Material und Methoden

Die Daten der vorliegenden Studie zu den bioethischen Konflikten im Hinblick auf die Corona-Pandemie wurden mittels qualitativer Forschungsmethoden erhoben. Im Zeitraum von November 2020 bis März 2021 wurden dazu insgesamt 39 Expert*innen-Interviews mit internationalen Bioethiker*innen geführt und anschließend ausgewertet. Die Studie wurde von der Ethikkommission der Universitätsmedizin Göttingen im Oktober 2020 genehmigt (Ref. Nr. 32/10/20) und fand im Rahmen des Projektes „Medicine and ethics go viral"[5] der Fakultät für Ethik und Geschichte der Medizin der Universität Göttingen statt.

2.1 Konzeption und Durchführung empirisch-ethischer Forschung

Die Studie wurde konzipiert, um einen Einblick in die länderspezifischen bioethischen Konflikte im Rahmen der Krisensituationen – hervorgerufen durch die COVID-19-Pandemie – zu erhalten. Dabei sollte weniger eine allumfassende Datenerhebung und -analyse erfolgen. Vielmehr ging es um den Vergleich der persönlichen Wahrnehmungen und bioethischen Einordnungen durch die verschiedenen Expert*innen im Rahmen von Interviews.

Qualitative Forschung zeichnet sich durch ihre Problemorientierung aus, mit der sie „insbesondere gesellschaftliche Wandlungsprozesse erforschen" möchte und so „neue Phänomene" hervorbringen kann (Mey und Ruppel 2018: 206). Trotz relativ kleiner Stichprobenzahlen ermöglicht sie die Erfassung spezifischer Situationen (Bengtsson 2016: 8). Aufgrund ihres explorativen Charakters eignet sich die qualitative Datenerhebung auch in empirisch-ethischen Forschungsansätzen (Döringer 2020). Dabei verweist der Begriff der empirischen Ethik auf eine Kombination von Sozialwissenschaften und normativer Ethik (Musschenga 2009) und ermöglicht somit eine Kombination aus systematischer, möglichst objektiv überprüfbarer Forschung und einer traditionellen normativ-ethischen Perspektive. Das Ziel dieses Konzeptes ist die Förderung der Kontextsensitivität der Ethik, womit eine Integration der ethisch zu beurteilenden Szenarien in die Wertvorstellungen und in das soziale Umfeld der agierenden Personen gemeint ist (Musschenga 2009). Die primäre Datenerhebung durch Expert*inneninterviews eröffnete folglich einen Zugang zu länderspezifischen Situationen und Konflikten in der Corona-Krise, die eine reine Literaturrecherche nicht hätte leisten können.

[5] https://www.ethicsgoviral.com/ (08.01.2024)

2.2 Rekrutierung der Expert*innen

Die Rekrutierung der Expert*innen, welche im Vorfeld als internationale Bioethiker*innen und Personen mit Expertise in Medizin- und PH-Ethik definiert wurden, fand von November 2020 bis Januar 2021 statt. Dabei diente das bereits bestehende Netzwerk internationaler Biothiker*innen der Forschungsgruppe von Frau Prof. Dr. Silke Schicktanz als Ausgangspunkt für die Kontaktaufnahme. Die Rekrutierung wurde mit gezielter Internetrecherche sowie durch ein entstehendes Schneeballsystem von Empfehlungen durch bereits interviewte Expert*innen ergänzt. Die Kontaktaufnahme erfolgte ausschließlich über eine universitäre E-Mail-Adresse. Die Teilnehmenden wurden nach ihrer Beteiligung an öffentlichen Diskursen zu COVID-19, etwa durch Publikationen oder Online-Konferenzen, ihrem Forschungsspektrum und ihrem Wohnsitzland ausgewählt. Da sie an der ethischen Forschung im Bereich der öffentlichen Gesundheit oder an politischen Entscheidungen im Zusammenhang mit COVID-19 beteiligt waren, verfügten sie über fundierte Kenntnisse zu den relevanten Themen, die einen realitätsgetreuen Einblick in den Ländern vorherrschenden Gegebenheiten und oft auch in die Entscheidungen der Regierungen ermöglichten. Insgesamt wurden 39 Interviews mit in verschiedenen ethischen Bereichen tätigen Expert*innen aus 34 verschiedenen Ländern geführt. Die Unterscheidung der untersuchten Länder in LMICs und HICs erfolgte auf der Grundlage der oben genannten Weltbank-Klassifikation. Tabelle 1 – Übersicht Expert*innen gibt einen Überblick über die befragten Interviewpartner*innen.

Tabelle 1 - Übersicht Expert*innen

Merkmal	**Anteil in Prozent**
Geschlecht	
Männlich	53,8 (21)
Weiblich	46,2 (18)
Ethische Expertise	
Bioethik	78,0 (29)
Public health-Ethik	22,0 (11)
Weiteres berufliches Engagement: Forschungsethik (6), Medizin (8), Politik (5)	31,6 (19)
Länderverteilung	
Europa	28,6 (11)
Österreich, Dänemark, Deutschland, Frankreich, Italien, Spanien, Schweden, Polen, Rumänien, Groß-Britannien	
Asien	25,6 (10)
Indien, Israel, Japan, Kirgistan, Oman, Pakistan, Russland, Singapur, Süd-Korea, Türkei	

Afrika	15,4 (6)
Kongo, Äthiopien, Nigeria, Süd-Afrika, Tunesien, Sambia	
Amerika	25,6 (10)
Argentinien, Brasilien, Kanada, Kolumbien, Ecuador, Mexiko, Paraguay, USA	
Ozeanien	5,2 (2)
Australien	

2.3 Datenerhebung und -analyse

Die Datenerhebung erfolgte mittels eines leitfadengestützten Expert*inneninterviews. Unter Bezugnahme auf die Literaturrecherche zu aktuellen Studien und Publikationen zu den Schwerpunktthemen wurde im Vorfeld ein standardisierter halbstrukturierter Interviewleitfaden formuliert, der darauf abzielte, den Inhalt durch die Formulierung von 13 offenen Fragen zu den genannten Themen einschließlich ihrer Unterthemen zu strukturieren (siehe Anhang 5.1 - Interviewleitfaden). Die Fragen wurden unter Berücksichtigung ihrer Klarheit, Offenheit, Neutralität, sprachlichen Angemessenheit sowie Präzision konzipiert (Gläser und Laudel 2009) und gestalteten sich in ihrer Reihenfolge variabel, sodass eine flexible Handhabung zugunsten des inhaltlichen Gesprächsverlaufs sichergestellt war. Der Leitfaden wurde vor der Verwendung auf seine Gültigkeit und Verständlichkeit hin getestet und den Teilnehmenden vor dem Interview zugesandt.

Die Datenerhebung fand zwischen November 2020 und März 2021 online über die Zoom-Plattform[6] statt. Die Interviews wurden hauptsächlich auf Englisch (35), aber auch auf Deutsch (3) und Spanisch (1) geführt und dauerten im Durchschnitt etwa 50 Minuten. Vor der Datenerhebung wurde von allen Teilnehmenden eine schriftliche und mündliche Einverständniserklärung für die Datenaufzeichnung und -speicherung eingeholt. Die Datenaufzeichnungen und Transkripte wurden pseudonymisiert und auf einem passwortgeschützten Computer des Instituts archiviert.

2.3.1 Transkription

In einem ersten Schritt wurde das digital aufgezeichnete Material mithilfe des computergestützten Transkriptionsprogramms F4[7] transkribiert, und, falls erforderlich, ins Englische übersetzt. Bezüglich der Transkriptions-Regeln wurde sich dabei an dem Konzept der inhaltlich-semantischen Transkription orientiert, welche die Sprache nach festgelegten

[6] https://zoom.us/ (08.01.2024)

[7] https://www.audiotranskription.de/f4transkript/ (08.01.2024)

Regeln deutlich glättet und den Fokus auf den Inhalt des Gesagten legt (Dresing und Pehl 2011). Hinsichtlich der Transkription unter Berücksichtigung genannter Empfehlungen ergaben sich keine Probleme. Namen und Orte wurden anonymisiert und durch Pseudonyme, die tabellarisch festgehalten wurden, ersetzt.

2.3.2 Auswertung und Interpretation

Die Daten wurden mithilfe der qualitativen Inhaltsanalyse nach Mayring (2015) analysiert. Diese gliedert sich zusammengefasst in das Kodieren, die inhaltliche Verdichtung kodierter Textstellen sowie die Etablierung eines Kategorie-Systems (Mayring 2015). Bei der Kodierung wurde wie empfohlen computergestützt mit der Software Atlas.ti™[8] gearbeitet. Sie stellt als Datenstrukturierung den initialen Schritt einer präzisen Analyse und Interpretation qualitativer Forschung dar (Saldaña 2009) und ermöglicht ein systematisches, transparentes Arbeiten (Skjott Linneberg und Korsgaard 2019). Die Kodierung fand mithilfe eines Kodierleitfadens statt, welcher zuvor basierend auf der Literaturrecherche von Juni – November 2020 deduktiv erstellt und während des initialen Kodierprozesses induktiv durch weitere Codes ergänzt wurde (siehe 5.2 - Auszug des Kodierleitfadens zu Codes der klinischen Ressourcenknappheit). Die deduktive Herangehensweise beschreibt dabei die Bildung der Codes aus den Kenntnissen der Erarbeitung des bereits vorhandenen Forschungstandes (Skjott Linneberg und Korsgaard 2019). Für die praktische Anwendung wurden aus dem Material passende Ankerbeispiele extrahiert und Regeln für den jeweiligen Code bestimmt, sodass eine Abgrenzung und Differenzierung zu einem womöglich ähnlichem Code realisiert werden konnte (Mayring 2015). Tauchte in dem Interview ein inhaltlich neuer Code auf, wurde dieser durch induktive Bildung aufgenommen und ebenfalls im Leitfaden ergänzt. Der entwickelte Kodierleitfaden wurde im März 2021 vor seiner Anwendung durch *Peer-Coding* mit einem Kollegen getestet, um eine zuverlässige *Inter-Coder-*Reliabilität sicherzustellen (Skjott Linneberg und Korsgaard 2019). Zudem wurden ca. 25% des Materials von weiteren Mitgliedern der Forschungsgruppe kodiert und eventuelle Differenzen angepasst. Die Abbildung 1 – *Coding tree* zeigt die in einem ersten Durchlauf erstellen Haupt-Codes mitsamt ihren Sub-Codes.

[8] https://atlasti.com/ (08.01.2024)

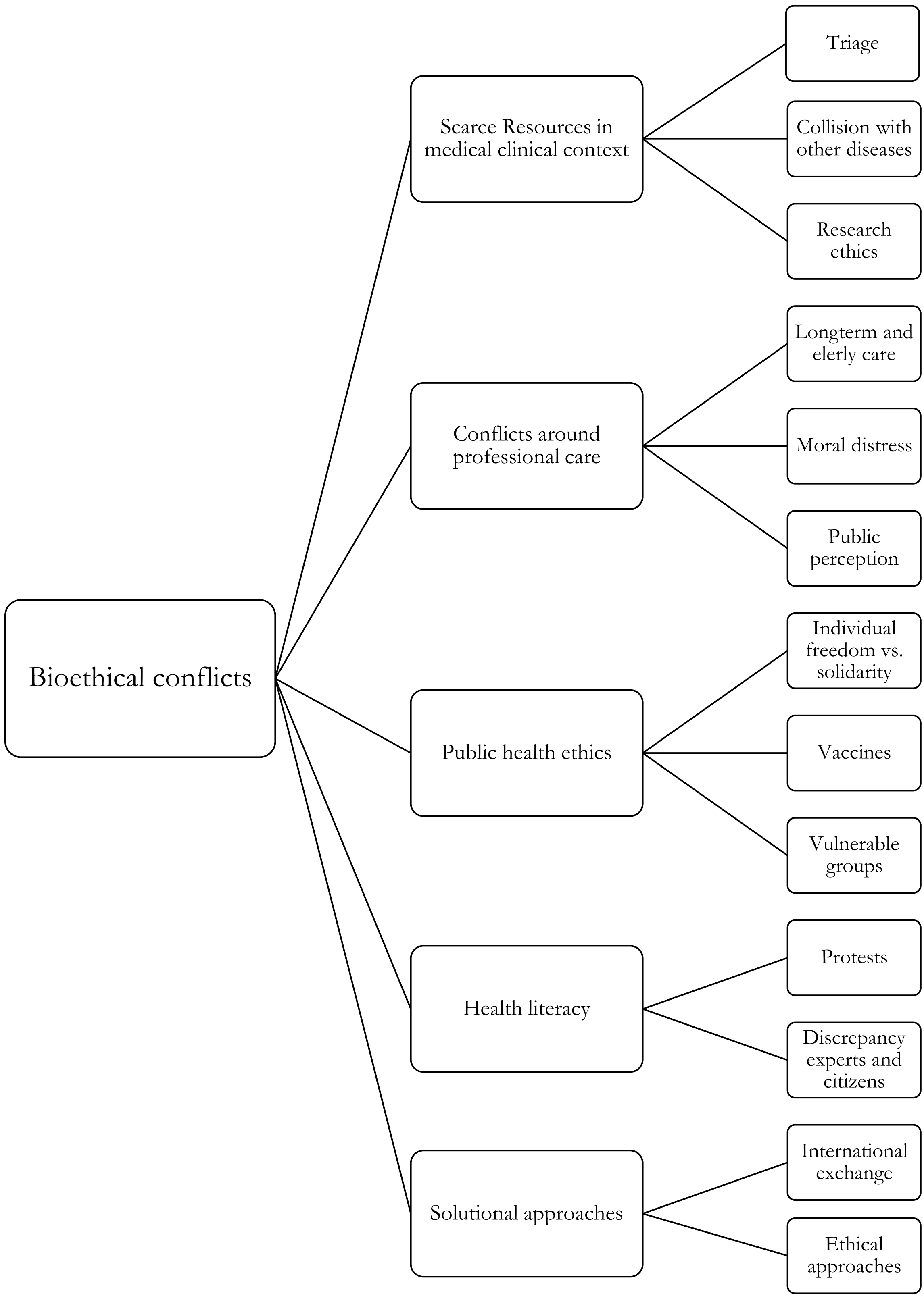

Abbildung 1 - *Coding tree*

Die generierten Codes wurden im Verlauf der Analyse erprobt, überarbeitet und präzisiert. An die Strukturierung schloss sich die Datenkondensierung mit dem Ziel der Bildung eines Kategoriesystems an.

Die durch die Codes fraktionierten Textbausteine wurden durch die sogenannte Paraphrasierung durch das Streichen von irrelevanten Informationen und Wiederholungen auf eine einheitliche Sprachebene gebracht. Daraufhin erfolgten die Generalisierung und Reduzierung der Daten (Mayring 2015). Bei der Generalisierung wurde ein einheitliches Abstraktionsniveau etabliert und mithilfe der Reduktion konnten die kondensierten Inhalte erneut selektiert, gebündelt und integriert werden. Daraufhin entstand das Kategoriensystem, welches sich im Anhang 5.3 - Übersicht Kategoriensystem findet. Eine Kategorie bildet dabei die inhaltlichen Aussagen in Qualität und Quantität eines spezifischen Codes in abstrahierter Form ab. Diese Aussagen wurden in einem letzten Schritt thematisch interpretiert und in Textform zusammengefasst. Dabei lag ein besonderes Augenmerk in der Zuordnung kodierter Textpassagen zu den jeweiligen Länder-Gruppen. Somit lassen die erarbeiteten Kategorien einerseits Rückschlüsse auf inhaltliche Unterschiede und Gemeinsamkeiten zu und geben andererseits auch quantitative Einblicke hinsichtlich der Verteilung verschiedener Phänomene. Diese Verdichtungsschritte wurden stets unter Berücksichtigung des theoretischen Hintergrunds und im Hinblick auf die Forschungsfrage durchgeführt. Die folgende Tabelle 2- Übersicht Datenkondensierung anhand des Codes „Triage“ nach Mayring (2015) veranschaulicht die hier beschriebene angewandte Methodik anhand des Beispiels kodierter „Triage-“ Textstellen.

Tabelle 2 - Übersicht Datenkondensierung anhand des Codes „Triage“ nach Mayring (2015)

Originalzitat	Paraphrasierung	Generalisierung	Reduktion
“ The way the health care system in itself is set up, there is a public and a private health care system and most ICU beds are in private most health care workers work in private so […] there is economic discrimination because the private system’ s only accessible to people who have private health insurance which you usually can only afford if you have a middle class job, so this in it of itself is a discriminating system.” (SA01)	The way health care system (HCS) set up with private and public sector: private one owning all the ICUs and health care workers - system discriminating itself. Socioeconomic discrimination because only rich people with private insurances (expensive) have access to private system and its resources	Inequity concerning HCS: socioeconomical discrimination because public sector with access for poor people badly equipped, private sector with all resources only accessible for rich (SA)	**Levels of Triage:** - Allocation of beds, ICUs, vaccines, PPE (CA22) - Clinical context most pronounced because of tangible life-deaths-decisions (CA22) - Triage already much earlier than on ICU: begins with inequal access to HCS - socioeconomical discrimination (IND, SA)
“ The triage takes place within there were you can decide who to send in which department and how. [I: Yeah] Whether somebody should be immediately taken care of or we can wait for that because there are too many patients or that this person is not going to survive so […] you cannot immediately provide care. That is within the hospital and we have no mechanism to monitor it.” (IND23)	Triage taking place already when to decide who you send to which department and how. Should you directly provide care or rather wait? In hospitals there are no strategies to monitor decisions	Triage much earlier than in hospitals when allocating beds. Begins with access to care/hospitals (IND)	
“ So, again this is not just about ICU but it was the most pronounced, in the context of ICU because it was presented as a life and death situation, [I: Mhm] whereas protective equipment and vaccines are seen less as life and death you know who gets to be saved [..] it was really an eye opening.” (CA22)	Not only about ICUs although it was most pronounced because it presented a life and death situation. PPE and vaccines are less associated to life and deaths. Described as eye opening process	Triage not only about ICUs but about vaccines, PPE. Allocation of beds still mostly pronounced because of life-death-decision. (CA22)	

3 Zusammenfassung der Ergebnisse und Diskussion

Die Datenanalyse ergab ein breites Spektrum an bioethischen Konflikten in den Bereichen der untersuchten Kategorien Ressourcenknappheit, *Public health* und Herausforderungen für die professionelle Pflege, wobei bei Letzterem meist auf das gesamte Gesundheitspersonal, also auch Ärzt*innen, im allgemeinen *Healthcare workers*, eingegangen wurde. Zur vereinfachten Betrachtung und, um trotz der Komplexität der Ergebnisse vergleichende Aussagen treffen zu können, wurden die untersuchten Länder in LMICs und HICs gruppiert. Im Folgenden werden die Ergebnisse der Studie und der veröffentlichten Publikation in stark verkürzter Form und ohne Beispielzitate dargestellt. Die Ergebnisse werden außerdem in den bestehenden Forschungsstand eingeordnet und hinsichtlich ausgewählter Aspekte diskutiert. Der ungekürzte Ergebnisteil findet sich in kompletter Form und in englischer Sprache im Anhang (siehe 5.4 - Ergebnisteil inklusive Zitate und in vollständiger Länge (Englische Version)).

3.1 *Covidization* des Gesundheitssystems

Die Interviewanalyse zeigt, dass es den befragten Expert*innen zufolge vor allem zu Beginn der Pandemie global an personellen und materiellen Ressourcen im klinischen Bereich mangelte. Hierzu gehörten insbesondere Tests und PSA, wie Masken oder Schutzkittel. Viele Expert*innen, unter anderem aus Russland, dem Oman, Sambia und Argentinien, stuften das Fehlen von PSA insofern als problematisch ein, als dass durch den mangelnden Schutz schwere COVID-19-Infektionen des Personals selbst resultierten, welche in einigen Fällen sogar zum Tode führten. Dies habe wiederum den ohnehin bestehenden Personalmangel sowohl pflegerischer als auch ärztlicher Seite während der Krise drastisch verstärkt. Spezifischer berichteten die befragten Bioethiker*innen aus den afrikanischen LMICs Sambia, Äthiopien und Tunesien, dass der absolute Mangel an PSA zu einer notgedrungenen Wiederverwendung dieser führte. Die Ergebnisse verdeutlichen darüber hinaus die Disparitäten zwischen privaten und öffentlichen sowie urbanen und ländlichen Krankenhäusern insbesondere in LMICs. In öffentlichen und ländlichen Kliniken mangelte es aufgrund finanzieller Defizite bereits in frühen Phasen der Pandemie an simplen Sauerstofftherapien und an Transportmöglichkeiten zu versorgenden Einrichtungen.

Weiterhin führte die Anwendung von Priorisierungsstrategien dazu, dass aus der skizzierten absoluten Ressourcenknappheit eine insuffiziente medizinische Grundversorgung von Nicht-COVID-Patient*innen resultierte. Für die mangelhafte Versorgung dieser nannten viele der Expert*innen zwei Gründe: Auf der einen Seite habe die Politik und die Gesundheitseinrichtungen Notfällen und COVID-19 Vorrang eingeräumt, um Infektionen zu minimieren und einen Zusammenbruch des Gesundheitssystems zu verhindern; andererseits mieden die Patient*innen selbst potentiell infektiöse Einrichtungen.

Obwohl alle Interviewpartner*innen einen Mangel an medizinischem Material angaben, unterschieden sich die Ressourcenverteilung und die Folgen der Prioritätensetzung in den einzelnen Ländern. Expert*innen aus HICs wie Österreich, Großbritannien und Kanada berichteten von der Hauptstrategie, chirurgische Eingriffe und elektive Behandlungen aufzuschieben. Währenddessen wurden in Indien, Brasilien, Argentinien und Italien komplette Krankenhäuser in exklusive COVID-19-Einrichtungen umgewandelt oder vollständig geschlossen. Als problematisch ordneten mehrere Expert*innen in diesem Zusammenhang den Terminus der „Selektivität" einer Behandlung ein, da dieser intuitiv als „nicht notwendig" gedeutet werden könne, tatsächlich jedoch nur einen selektiven, also wählbaren, aber dennoch unerlässlichen Therapie-Zeitraum impliziere. So berichteten viele Expert*innen unabhängig von dem betrachteten Land und dessen Entwicklungsstatus, dass die „*Covidization*" (EC17) des Gesundheitssystems zu einem globalen Behandlungsdefizit insbesondere onkologischer Patient*innen geführt habe. Dies sei in erster Linie auf die verzögerte Diagnose bösartiger Tumore infolge fehlender Screening- und Kontrolluntersuchungen zurückzuführen und werde sich höchst wahrscheinlich in den kommenden Jahren in Form gravierender Kollateralschäden zeigen. Expert*innen aus Indien, Sambia, Nigeria, Ecuador und Mexiko zeigten sich einig, dass die Ressourcenknappheit und die damit verbundene Priorisierung von COVID-19 und Notfallpatient*innen negative Auswirkungen auf die medizinische Grundversorgung habe. Einerseits führte COVID-19 zur Vernachlässigung anderer wichtiger diagnostischer Untersuchungen im Bereich der Infektionskrankheiten, wie HIV und Tuberkulose. Andererseits entfielen durch die Umstellung auf COVID-19 notwendige Routineuntersuchungen und die jahrelange öffentliche Arbeit hinsichtlich Impfkampagnen oder der Reproduktionsmedizin sei in Ländern wie Südafrika, Indien, Argentinien und Nigeria durch die Pandemie und resultierende Priorisierungsstrategien untergraben worden. So ging beispielsweise die Zahl der offiziellen Abtreibungen sowie von schwangeren Frauen, die sich in Krankenhäusern behandeln ließen, zurück (Ahmed et al. 2021).

3.2 Regionale Ungleichheiten der Ressourcenknappheit: Herausforderungen und Lösungsansätze

Im folgenden Abschnitt werden ausgewählte Aspekte der Ergebnisse diskutiert.

Ungleiche Strukturen national und international führten zu einer ungleichen Bereitstellung von medizinischen Versorgungsressourcen und Technologien und resultierten demnach in unterschiedlichen Herausforderungen in den jeweiligen Ländern (McMahon et al. 2020; Ho und Dascalu 2021). Während verschiedene befragte Expert*innen aus den HICs als Lösungsstrategie im Rahmen von ausgelasteten Kapazitäten das Aufschieben von elektiven Maßnahmen nannten, führten die erwähnten Engpässe in den LMICs zum Ausfall essentieller Leistungen und Güter wie etwa der medizinischen Grundversorgung oder auch der Bereitstellung von Grundnahrungsmitteln (Kimani-Murage et al. 2022). Im Einklang mit weiteren durchgeführten Studien betonten diese Ergebnisse die ungleichen Ausgangsbedingungen und dementsprechend unterschiedlichen Folgen der einzelnen Ländern im Umgang mit dem neuartigen Virus (Polis et al. 2022; Ahmed et al. 2021). So fand die Triage in westlichen Ländern medial viel Aufmerksamkeit (Wilkinson 2020; Reid 2020), wohingegen Herausforderungen in der medizinischen Grundversorgung, der Vernachlässigung von Impfkampagnen oder der Betreuung von schwangeren Frauen in LMICs weitgehend unbeachtet blieben. Es lässt sich ableiten, dass die COVID-19-Pandemie verdeutlicht, wie wichtig es ist, die gesundheitlichen Folgen von Verzögerungen bei medizinischen Behandlungen in verschiedenen Aspekten zu adressieren, um die Gesundheit der breiten Bevölkerung zu schützen. Das Verlegen von Therapien erscheint als Ad-hoc-Lösung sinnvoll, führt aber zu einer ernsten Situation im Hinblick auf die Langzeitfolgen durch akut unzureichende Gesundheitsleistungen (Fazal et al. 2021; Neal 2020). Die gesundheitlichen Folgen würden also nur verzögert bei dem zuvor abgewiesenen Patient*innenkollektiv eintreten. Emanuel et al. (2020b) argumentieren, dass es keinen Unterschied in der Verteilung der Ressourcen zwischen Pandemiepatient*innen und anderen Patient*innen-Gruppen geben darf, da im Falle eines absoluten Mangels alle in gleichem Maße betroffen sind. Für künftige Pandemien erweist sich daher auf lokaler und nationaler Ebene ein interdisziplinäres Krisenmanagementteam als notwendig. Während COVID-19 lag der Fokus in den meisten der untersuchten Ländern darauf, einen Kollaps des Gesundheitssystems zu verhindern (Filip et al. 2022). Allerdings sollte ein resilientes Gesundheitssystem in der Lage sein, diejenigen aufzufangen, die trotz der Implementierung von Schutzmaßnahmen erkranken. Es ist daher von entscheidender Bedeutung, dass die Pandemie-Strategien den Schwerpunkt auf die Maximierung des Gesundheitszustands der Bevölkerung legen und nicht ausschließlich darauf abzielen, eine Überlastung des Gesundheitssystems zu vermeiden (Emanuel et al. 2020b).

3.3 *Public health*

Eine Pandemie birgt ein hohes Infektionsrisiko für die gesamte Bevölkerung und bringt eine Vielzahl von ethischen Herausforderungen mit sich. Zu den Dimensionen gehören Überlegungen zu bestimmten gefährdeten, vulnerablen Gruppen, Spannungen zwischen

Autonomie und Solidarität (sowohl auf nationaler als auch auf internationaler Ebene) und die ungleiche Behandlung bestimmter Bevölkerungsgruppen (Mastroianni et al. 2019). Im Folgenden wird in verkürzter Form auf spezifische Herausforderungen sowohl für LMICs als auch für HICs eingegangen, die die Analyse der Interviews ergab.

3.3.1 Spezifische Herausforderungen in LMICs

In den LMICs wurden höhere Armutsraten in der Gesellschaft als zentraler Ausgangspunkt für auftretende Schwierigkeiten während der Pandemie genannt. Zahlreiche Expert*innen, vor allem aus lateinamerikanischen und afrikanischen LMICs wie Ecuador, Mexiko, Sambia und Tunesien schilderten, dass sich im Falle von Restriktionen insbesondere ärmere Bevölkerungsschichten mit existentiellen Problemen konfrontiert sahen. Da die Beschränkungen die Menschen daran hinderten, ihre Häuser zu verlassen, um beispielsweise im Straßenverkauf zu arbeiten, brach für viele die einzige Einkommensquelle und somit die finanzielle Versorgung zusammen. Mehrere Expert*innen sprachen in diesem Zusammenhang von „Hunger vs. COVID". Zusätzlich waren Bioethiker*innen, darunter solche aus Indien, Sambia, Argentinien und Kolumbien, einstimmig der Meinung, dass informelle Beschäftigungsverhältnisse in Verbindung mit einem Lockdown besondere Herausforderungen darstellten. Die Beschäftigten, die z. B. im informellen Straßenverkauf tätig waren, sahen sich laut den Expert*innen nicht nur beim Verkauf von Waren eingeschränkt, sondern erlitten ebenfalls einen Mangel an Kund*innen. Es fehlte zudem bei informeller Beschäftigung die vertragliche Absicherung, sodass es im Rahmen der Pandemie zu einer Erhöhung der Arbeitslosigkeit und damit einhergehend zu einem Anstieg an Armut und Hunger kam (International Labour Organization 2020).

Darüber hinaus nannten die Befragten aus den LMICs Lateinamerikas und Afrikas, wie Mexiko, Argentinien, Paraguay, Tunesien und Äthiopien, ausdrücklich Kinder als vulnerable Gruppe während der Pandemie. Dies bezog sich hauptsächlich auf Schulschließungen und landesweite Abriegelungen mit ihren komplexen sozioökonomischen Folgen sowie einer Zunahme der häuslichen Gewalt gegenüber Kindern und Frauen. Einerseits betonten die Expert*innen aus Argentinien und Paraguay die weitreichenden gesundheitlichen Folgen für Kinder hinsichtlich des plötzlichen Wegfalls eines sicheren Mittagessens in Bildungseinrichtungen. Zudem nahm die Pandemie die Schule als sichere Institution für die tägliche Versorgung, als Bestandteil eines geregelten Tagesablaufs sowie eines stabilen sozialen Umfelds. Da die Kinder während der Pandemie kaum miteinander spielen und auch nicht mit fremden Kindern in Kontakt treten konnten, ist eine beeinträchtigte sozio-emotionale

Entwicklung laut mehreren Interviewpartner*innen zu vermuten.

Als weitere gefährdete Gruppe nannten Bioethiker*innen vor allem aus Amerika, Asien, und Afrika Frauen. Einerseits erhöhten die Kontexte, in denen Frauen und insbesondere Mütter einen großen Teil der Hausarbeit und die Erziehung der Kinder leisteten, ihre Arbeitsbelastung während der Pandemie. Die Expert*innen erwähnten zudem die Zunahme häuslicher Gewalt gegenüber Frauen und Kindern, wobei sie die Gründe dafür in dem Zusammenspiel von anhaltender Isolation auf engem Raum und wirtschaftlicher Unsicherheit sahen. Andererseits betonten Interviewpartner*innen aus LMICs wie Ecuador und Argentinien den auffallend hohen Anteil von Frauen in pflegebezogenen Berufen, was zu einer weiteren Ebene von Vulnerabilität führte (siehe Kapitel 3.3.2).

3.3.2 Spezifische Herausforderungen in HICs

Die Analyse der Ergebnisse zeigte, dass Expert*innen aus den HICs im Zusammenhang mit Vulnerabilität vor allem die Rolle der älteren Bevölkerung betonten. Gleichzeitig wiesen sie auf die problematischen Strukturen in Pflegeeinrichtungen hin, die während der Pandemie in den Fokus gerückt wurden.

Bioethiker*innen aus unterschiedlichen Ländern wie Israel, den USA, Australien und Italien betonten, dass die COVID-19-Pandemie eine bereits existierende, jedoch oft verschleierte Altersdiskriminierung offenlegte. Sie waren sich einig, dass die Kombination aus medizinischer Verletzlichkeit und sozialer Ungleichheit zu sogenanntem „*Ageism*“, also strukturellen, ethisch inakzeptablen Benachteiligungen älterer Menschen führte. Darüber hinaus stimmten mehrere Bioethiker*innen überein, dass aus einer utilitaristischen Perspektive heraus getroffene COVID-19-Politiken im Allgemeinen darauf abzielten, diese gefährdete Gruppe vor Infektionen zu schützen und einen Zusammenbruch des Gesundheitssystems zu verhindern. In vielen Ländern, unter anderem Kanada, Schweden und auch der Türkei, führte dieses Vorgehen laut den Expert*innen jedoch häufig zu einer extremen sozialen Isolation.

Zusätzlich zeigten sich die Bedingungen für Bewohnende und Mitarbeitende in Pflegeheimen während der COVID-19-Pandemie als defizitär und reformbedürftig. Nach Ansicht der Mehrheit der interviewten Bioethiker*innen stellte sich die Kombination aus der Vulnerabilität älterer Menschen und den ohnehin unzureichenden Versorgungsstrukturen innerhalb der Pflegeberufe in den HICs Amerikas, Ozeaniens und Europas als große Herausforderung dar. Auch die Fragilität von Langzeitpflegeeinrichtungen als unbeliebter Ort und die wirtschaftliche Motivation anstelle des Schutzes und Wohlergehens der Heimbewohnenden wurde von zahlreiche Expert*innen kritisiert. In diesem Sinne illustrieren die Interviews mit den Bioethiker*innen aus den HICs dramatische Defizite in der Versorgung von Pflegeheimbewohnenden – sowohl in medizinischer als auch in emotionaler Hinsicht. Besuchsbeschränkungen in Pflegeheimen, die in erster Linie zum Schutz dieser Gruppe gedacht waren, führten nach Ansicht der meisten Expert*innen aus den HICs zu einem unwürdigen Umgang dieser.

Im Gegensatz zu den in den HICs geschilderten Konflikten betonten verschiedene Bioethiker*innen aus Lateinamerika und Afrika explizit, dass die Vulnerabilität älterer Menschen in diesem Maße in LMICs nicht gegeben war. Dies ließe sich durch die jüngere demografische Struktur, kulturelle Werte sowie bedingt durch den großen Anteil familiärer begründen.

3.4 Kontextsensitivität der Vulnerabilität

Im Folgenden wird näher erörtert, warum sich die Berücksichtigung des Kontexts bei der Bewältigung von Herausforderungen im Zusammenhang mit besonders gefährdeten Gruppen und bei der Entwicklung von Lösungsstrategien im Rahmen globaler Konflikte (siehe Kapitel 3.5) von entscheidender Bedeutung zeigt.

Die Ergebnisse verdeutlichen die verschiedenen Herausforderungen in den einzelnen Ländern und zeigen somit, dass internationale Empfehlungen und Interventionen im länderspezifischen Kontext eingeordnet und nach demografischen, geografischen, ökonomischen und politischen Kriterien an den jeweiligen Staat angepasst werden müssen (Shadmi et al. 2020). Ein *Cocooning* der alternden Bevölkerung mag somit in HICs wie Deutschland mit einer Lebenserwartung von 81 Jahren zielführend sein, erscheint in einem afrikanischen Land wie Tansania mit einem Altersdurchschnitt der Bevölkerung von 18 Jahren jedoch wenig erfolgsversprechend (Worlddata.info 2023). Daraus lässt sich schlussfolgern, dass es insbesondere für im internationalen Vergleich weniger stark entwickelte Länder von großer Bedeutung ist, auf eigene Strategien und Stärken zu vertrauen und nicht etwa in HICs funktionierende Maßnahmen zu übernehmen, ohne die eigenen Voraussetzungen zu berücksichtigen.

Auch der Umgang mit den verschiedenen vulnerablen Gruppen verlangt eine kontextsensible Herangehensweise. Die Analyse der Ergebnisse verdeutlicht einerseits die Komplexität des Vulnerabilität-Begriffes im Zusammenhang mit der Pandemie und andererseits seine kontextspezifische Verwendung. Vulnerabilität definiert den Zustand, einem erhöhten Schadensrisiko ausgesetzt zu sein und sich gleichzeitig weniger in der Lage zu befinden, sich selbst zu schützen (Chadwick 2012). Daraus folgt, dass jede Person in einer bestimmten Situation verletzlich sein kann (Orth und Schicktanz 2017). Im Zusammenhang mit COVID-

19 wurden weltweit verschiedene Arten von Vulnerabilität diskutiert. Darunter zählen die medizinische Vulnerabilität hinsichtlich des Alters sowie bezüglich vorbestehender medizinischer (psychischer) Gesundheitszustände, aber auch die soziale Benachteiligung, einschließlich derer von ethnischen Minderheiten und Geflüchteten (Mastroianni et al. 2019; Stok et al. 2021). Die Ebenen der Vulnerabilität können nach dem Risiko einer hohen Ansteckung (biomedizinisch) und nach dem Ausmaß, in dem Pandemieschutzmaßnahmen indirekt Gruppen betreffen (sozial), differenziert werden. Die Umsetzung von PH-Maßnahmen zum Schutz der Allgemeinbevölkerung oder spezifischer Gruppen kann ungewollte negative Auswirkungen haben, insbesondere für besonders gefährdete biomedizinische Gruppen wie ältere Menschen (Shadmi et al. 2020). Gleichzeitig können sich die Maßnahmen auch auf andere biomedizinisch nicht gefährdete Gruppen (negativ) auswirken. Dies kann am Beispiel der Kinder nachvollzogen werden, da diese indirekt durch die Schließung von Schulen beeinträchtigt wurden (Howard-Jones et al. 2022). Während in der ersten Welle der Pandemie die Aufmerksamkeit hauptsächlich auf den biomedizinisch gefährdeten Gruppen lag (Carrieri et al. 2020; Gilbert 2020), wurden im Laufe der Zeit auch sozial vulnerable Gruppen berücksichtigt. Zu Letzteren lassen sich die unverhältnismäßigen Auswirkungen von Abriegelungen auf Frauen und Kinder in LMICs nennen. Obwohl es sich um zwei grundlegend unterschiedliche Perspektiven handelt, stellt die Vulnerabilität in beiden Kontexten das Kernthema dar. Gleichzeitig zeigen ältere Menschen sich jedoch nicht nur biomedizinisch, sondern auch sozial vulnerabel, z. B. hinsichtlich der sozialen Isolation (Buss et al. 2020). Somit überschneiden sich soziale und biomedizinische Dimensionen zwangsläufig.

Darüber hinaus ist eine Berücksichtigung der kontextspezifischen Vulnerabilität unabdingbar: In jedem Land und jeder Region gibt es spezifische, schutzbedürftige Gruppen, die besondere Beachtung erfordern (Greenaway et al. 2020). Dies zeigte sich auch in den Ergebnissen: Obwohl Kinder auch hierzulande und in weiteren HICs im Verlaufe der Pandemie als vulnerable Gruppe eingestuft wurden (Schlack et al. 2023), erwähnten die Interviewpartner*innen aus HICs sie zum Zeitpunkt der Befragung im frühen Stadium nicht, da der Fokus auf der alternden Bevölkerung lag. Es lässt sich schlussfolgern, dass sich im Rahmen eines vorausschauenden Pandemiemanagements eine kontinuierliche Identifikation von Risikogruppen sowie eine engmaschige *Surveillance* dieser als essentiell herausstellen (German Ethics Council 2016). PH-Maßnahmen in Pandemien sollten daher mit dem expliziten Ziel ausgerichtet werden, Ungleichheiten, besonders im Hinblick auf vulnerable Gruppen, zu reduzieren.

3.5 Internationale Zusammenarbeit als Ausgangspunkt für globale Gleichheit

Die Verwirklichung von Gleichheit auf der Ebene der globalen Gesundheit ist eine der größten Herausforderungen unserer Zeit. Die meisten globalen Gesundheitskonflikte unterliegen strukturellen, kulturellen, sozialen, politischen, historischen und wirtschaftlichen Determinanten innerhalb der einzelnen Nationen (Frenk et al. 2014). Die COVID-19-Pandemie hat die Notwendigkeit einer kontextbezogenen Strategieplanung, die auf den vorherrschenden Bedingungen der jeweiligen Gesellschaft basiert, verdeutlicht (Ahmed et al. 2021). Gleichzeitig bräuchte es ein übergeordnetes Gremium, um Herausforderungen internationaler Reichweite – wie etwa die Impfstoff-Verteilung oder die Ressourcenknappheit – unter der Prämisse internationaler Solidarität zu koordinieren.

Jede Pandemie muss als globale Krise verstanden werden (Frenk et al. 2014), aber die Befragten aus den LMICs kritisierten den Mangel an internationaler Zusammenarbeit. Die Datenerhebung von Dezember 2020 bis März 2021 mit Expert*innen aus der Türkei, Brasilien, Pakistan, Nigeria, Paraguay und Äthiopien ergab, dass diese einen Mangel an globaler Solidarität empfanden, die sie an den ungleichen internationalen Bedingungen hinsichtlich der Impfstoffverteilung festmachten. Wie sich im Kontext der Corona-Pandemie herausstellte, litt die globale Bereitstellung von Impfstoffen meist unter der nationalen Politik (Chutel und Santora 2021). Dabei gab es Studien, die zeigten, dass die öffentliche Meinung in HICs wie den USA und Deutschland utilitaristische und egalitäre Zuteilungsregeln, also eine faire Aufteilung der Impfstoffe unter den einzelnen Ländern, unterstützen würde (Klumpp et al. 2022). Viele Länder stellten ihre eigenen Interessen in den Vordergrund, z.B. die Sicherung der eigenen PSA und Impfstoffe, anstatt gerechte Verteilungsstrategien für die gemeinsame Nutzung knapper Ressourcen zu entwickeln. Dieses Verhalten war in der Anfangsphase verständlich, eine globale Krise erfordert jedoch eine globale, ethische und solidarische Reaktion (Ho und Dascalu 2021). Eine aktive Zusammenarbeit zwischen den Ländern ist notwendig, um Pandemien in zukünftigen Szenarien zu kontrollieren (West-Oram und Buyx 2017; Chutel und Santora 2021). Wenn nur die Länder, die über die nötigen Mittel verfügen, um Vorräte anzulegen und Impfstoffe zu kaufen, ihre Bevölkerung schützen können, werden sich die Diskrepanzen und asymmetrischen Machtstrukturen zwischen den HICs und LMICs weiterhin vergrößern (Ho und Dascalu 2021; Dalgish 2020).

Aus global-ethischer Sicht zeigt sich die Entwicklung und kontrollierte Umsetzung detaillierter Priorisierungsstrategien für eine gerechte Zuteilung als notwendig. Ruger (2009) argumentiert, dass globale Gesundheitsgerechtigkeit eine Priorisierung der Verantwortlichkeiten durch eine gemeinsame Gesundheitssteuerung erfordert. Dieser Sachverhalt bezieht sich auf die immense Bedeutung von übergeordneten Regierungsstrukturen und politischer Macht insbesondere auf internationaler Ebene. Während der Corona-Pandemie wurde deutlich, dass es besonders an internationaler Zusammenarbeit und Kompetenz mangelte. Der WHO wurde die Rolle des übergeordneten Gremiums zwar zugesprochen, jedoch sah sie sich rasch von Staaten wie den USA und China in eine Randposition gedrängt (Jones und Hameiri 2022). So fanden beispielsweise die ursprünglichen Internationalen Gesundheitsvorschriften von 2005 (World Health Organization 2016), die für die Bewältigung solcher Situationen geschaffen wurden, kaum Beachtung (Jones und Hameiri 2022; Souza et al. 2022).

3.6 Konflikte für Mitarbeitende im Gesundheitswesen

Die Analyse der Ergebnisse ergab spezifische Konflikte für die Angehörigen der Gesundheitsberufe während der Pandemie. So wiesen die befragten Expert*innen aus HICs und LMICs übereinstimmend auf verschiedene Belastungsebenen hin, darunter physische und psychische Stressfaktoren, moralische und rechtliche Herausforderungen sowie gesellschaftliche Erwartungen. Obwohl die Analyse die Situation der Pflegenden forcierte, sprachen die Expert*innen ebenso von Ärzt*innen und weiterem Gesundheitspersonal, sodass im Folgenden bei der deskriptiven Darstellung der Ergebnisse kein alleiniger Fokus auf der professionellen Pflege liegt.

Die meisten Expert*innen skizzierten *Frontline*-Lasten, indem sie eine Verschärfung der bereits bestehenden Defizite des Pflegedienstsektors betonten. Im Fokus der bioethischen Konflikte für das Pflegepersonal standen dabei bei der Mehrheit der Expert*innen die prekären Arbeitsbedingungen in Kombination mit insuffizienter Entlohnung und fehlendem öffentlichen Ansehen. Eine zentrale Ursache des Personalmangels im Gesundheitswesen sei die Unterbezahlung von qualifiziertem Personal. Mehrere Bioethiker*innen stimmten darin überein, dass zahlreiche Überstunden und übermäßig viele Schichten des Pflegepersonals zu einer Verschlechterung der Pflegequalität führten.

Die Analyse der Interviews zeigte zudem, dass psychischer Stress eine große Herausforderung für das Gesundheitspersonal während der Pandemie darstellte. Ein zentraler moralischer Konflikt ergab sich aus der Pflicht, infizierten Patient*innen zu helfen, und der möglichen Selbstgefährdung durch Kontakt mit COVID-19. Das Gefühl des Kontrollverlustes im klinischen Alltag verstärkte die Notlage der Pflege und Ärzt*innen zusätzlich. Die Überforderung durch Einsätze auf Intensivstationen oder in anderen Bereichen außerhalb der beruflichen Expertise bestimmter Mitarbeitenden wurde als wesentlicher Stressor benannt.

Darüber hinaus hatte das Gesundheitspersonal die Aufgabe, zwischen politischen Zwängen und der klinischen Realität zu vermitteln und die tägliche Konfrontation mit sterbenden Patient*innen und trauernden Angehörigen führte zu psychischen Überlastungen. Die Bioethiker*innen beschrieben, dass das Verschwimmen zwischen Arbeitsalltag und privatem Leben in konkreten Gefühlen der Erschöpfung, Burnouts, Frustration, Hilflosigkeit und Vulnerabilität resultierte.

3.6.1 Verantwortung und Organisationsethik in der Pflege

Die Relevanz notwendiger Reformen der Arbeitsbedingungen, Entlohnung und gesellschaftlicher Anerkennung haben mit der Pandemie viel Aufmerksamkeit erlangt (Rodríguez-Pérez et al. 2022). Im Folgenden soll sowohl das Thema um Verantwortung als auch die Organisationsethik in der Pflege diskutiert werden.

Um pflegeethische Herausforderungen Sektor-spezifisch adressieren zu können, muss vorerst zwischen klinischer und ambulanter Versorgung, sowie Heim- und Langzeitpflege differenziert werden (International Council of Nurses 2021). Darüber hinaus erfordert eine nachhaltige Umstrukturierung ein Nachdenken über interne Kooperationen, Hierarchien innerhalb des Gesundheitswesens sowie die Übernahme von Verantwortung und damit ein tieferes Verständnis der Organisationsethik (International Council of Nurses 2021; Deutscher Ethikrat 2022).

Letztere zeigt sich in Hinblick auf die optimale Gestaltung von Pflegeprozessen in der pflegerischen Profession als entscheidend. Die Organisationsethik umfasst moralische Grundsätze, einschließlich individueller Rechte, Eigeninteresse und sozialer Verantwortung. Sie leitet das professionelle Verhalten und betont Ehrlichkeit, Fairness und die Einhaltung rechtlicher und sozialer Verpflichtungen (Weber 1990). Viele der von uns befragten Expert*innen glichen mit ihren Aussagen den Ergebnissen aus anderen Studien, die sich mit den vielfältigen Herausforderungen von Pflegenden befassten. Diese Probleme bestanden bereits vor dem Ausbruch der Pandemie und wurden durch die COVID-19-Krise weiter verschärft (Iserson 2020; Al-Tawfiq und Temsah 2023; Cadge et al. 2021). Die Pandemie zeigte, dass Konflikte entstehen, wenn die Überschneidungen der Zuständigkeiten und Verantwortung – sowohl auf theoretischer als auch auf praktischer Ebene – nicht vollständig definiert sind. Ein grundlegender Wandel in der organisatorischen und pflegerischen Ethik bildet daher den Ausgangspunkt zur Schaffung einer ethischen Arbeitsumgebung (Wlody 2007). Dieser erfordert die Einsicht der Herausforderungen in der Praxis, klare Verantwortungsverteilungen und einen Zuständigkeitsrahmen sowie eine Reflexion der persönlichen und ethischen Wirksamkeit

(Deutscher Ethikrat 2022).

Die berufliche Verantwortung ist in der kollektiven und organisatorischen Verantwortung verwurzelt (Wöhlke und Ruwe 2023). Insbesondere im Hinblickt auf die Pflege weist sie einen nennenswerten moralischen Aspekt auf, der Engagement, Pflicht und moralische Entscheidungen umfasst (Wöhlke und Ruwe 2023). Die Einbeziehung von administrativer Pflegeethik zeigt sich als essentiell, um die professionelle Verantwortung der Pflegenden bei der Gestaltung aller Pflegeprozesse zu betonen (International Council of Nurses 2021; Torkaman et al. 2020). Daran anschließend ergibt sich die Notwendigkeit eines klaren Zuständigkeitsrahmens, um Konflikte insbesondere im alltäglichen Berufsfeld zu vermeiden. Dies gewinnt vor allem hinsichtlich der Autorität in der direkten Arbeit mit Patient*innen sowie der vermittelnden Rolle zwischen Patient*innen und Ärzt*innen an Bedeutung (Wlody 2007). Abschließend erweist sich die eigene Reflexion der Pflegenden über die ethischen Aspekte ihrer Arbeit und die daran anknüpfende Selbstwirksamkeit als unerlässlich. Somit kann sichergestellt werden, dass Pflegende in wichtige Entscheidungen der Patient*innenversorgung einbezogen werden und aktiver Teil einer breiteren Diskussion über Gleichheit und Gerechtigkeit im Gesundheitswesen sein können (Deutscher Ethikrat 2022; Kuhse 1997). Die genannten Aspekte würden nicht nur den Pflegekräften zugutekommen, sondern auch ihre Befähigung fördern, ethisch, fair und würdevoll im Umgang mit den Patient*innen zu handeln. Außerdem würde durch die Berücksichtigung und Umstrukturierung ein Grundstein auf gesundheitspolitischer Ebene gelegt, ein erster Schritt, um die Ziele der PH-Ethik zu realisieren. Dazu gehören zusammengefasst das Schützen und Fördern des Wohls der Bevölkerung, die Sicherstellung gerechter Gesundheitsversorgung, die Integration ethischer Grundsätze in Gesundheitsentscheidungen sowie die Reduzierung gesundheitsbezogener Ungleichheiten.

4 Zusammenfassung

Der Ausbruch von SARS-CoV-2 und die resultierende Pandemie brachte weltweit vielfältige Herausforderungen mit sich. Neben den gesundheitlichen Folgen bedingt durch das Virus ergaben sich im Bereich der öffentlichen Gesundheit zahlreiche Konflikte aufgrund der Etablierung von Pandemie-Schutzmaßnahmen, darunter die Identifikation und Quarantäne von infizierten Personen, die verpflichtende Nutzung von Schutzmasken und Abstandsregelungen sowie Debatten um die Impfung. Von großer Bedeutung zeigten sich zudem Missstände, mit denen sich das Gesundheitspersonal und insbesondere die Pflegenden konfrontiert sahen. Um eine Einordnung sowie eine globale Vergleichbarkeit der vielzähligen bioethischen Konflikte im Kontext von COVID-19 zu generieren und über die nationale Perspektive heraus Zusammenhänge verstehen zu können, wurde diese Expert*innenstudie konzipiert. Mithilfe eines explorativen empirisch-ethisch fundierten Forschungsansatzes, einer Datenerhebung durch ausführliche Interviews und der qualitativen Inhaltsanalyse nach Mayring (2015) gelang eine Momentaufnahme relevanter bioethischer Konflikte hinsichtlich medizinischer Ressourcenknappheit, *Public health* und der professionellen Pflege. Insgesamt wurden im Zeitraum von November 2020 bis März 2021 39 Interviews mit Expert*innen mit Expertise in Medizin- und PH-Ethik aus 34 verschiedenen Ländern geführt. Das Ziel bestand darin, eine Studie zu konzipieren, die ein umfassenderes Verständnis für die Ursprünge und Zusammenhänge von Konflikten auf nationaler und insbesondere globaler Ebene ermöglicht. Hierbei wurde angestrebt, bioethische Konflikte im internationalen Vergleich darzustellen und sowohl ihre Gemeinsamkeiten als auch Unterschiede herauszuarbeiten. Unsere Ergebnisse zeigen, dass die wahrgenommenen ethischen Herausforderungen sich weltweit zwar ähneln, die Ursachen und Folgen aufgrund länderspezifischer politischer, kultureller, historischer und wirtschaftlicher Gegebenheiten jedoch variieren und somit die Relevanz kontextsensitiver Betrachtung sowohl national als auch global betonen. Während die Verfügbarkeit international knapper Ressourcen in HICs eine untergeordnete Rolle spielte, bildete diese den Ausgangspunkt für Herausforderungen im klinischen Bereich in LMICs. Der Zugang zur medizinischen Grundversorgung stellte hier einen der größten Konflikte während der Pandemie dar, wohingegen in HICs ein großer Fokus eher auf Debatten rund um die Triage, sowie die Verschiebung von elektiven Behandlungen lag. Da in LMICs höhere Armutsraten vorherrschen, resultierte die Sicherung von täglicher Ernährung und finanziellem Einkommen für die Bevölkerung in einer existentiellen Krise. Auch die Vulnerabilität der Kinder, die vor allem im Zusammenhang mit den Schulschließungen stand, lässt sich aus den vorherrschenden Gegebenheiten in LMICs erklären. HICs sahen sich hingegen mit der Herausforderung eines würdigen Umganges mit der alternden Bevölkerung sowie den exponierten defizitären Strukturen in Pflegeeinrichtungen konfrontiert. Trotz dieser relevanten Unterschiede variabler Dimensionen stellten – unabhängig von dem Entwicklungsstand eines Landes – die prekären Arbeitsbedingungen und abnormen Belastungszustände für die Pflegenden eine globale Gemeinsamkeit dar.

Obwohl keine einzelne Studie über Expert*innenmeinungen die gesamte Komplexität der Pandemie und ihre globalen Auswirkungen erfassen kann, eröffnen die Ergebnisse ein Fenster zur ethischen Reflektion der Auswirkungen der Pandemie. Sie sollten empirisch arbeitende Bioethiker*innen dazu motivieren, in Zusammenarbeit mit PH-Expert*innen die Lücke zwischen theoretischen Erkenntnissen und praktischen Handlungen zu schließen, um aus den Erfahrungen von COVID-19-Pandemie zu lernen und somit eine globale und bioethisch fundierte Vorbereitung auf zukünftige Pandemien zu ermöglichen. Durch eine kontinuierliche Reflexion, Kooperation und Anpassung können die Lehren der Corona-Pandemie genutzt werden, um die Resilienz und ethische Handlungsfähigkeit in der globalen Gesundheitsversorgung zu stärken.

5 Anhang

Im Folgenden finden sich der semi-strukturierte Leitfaden für die Expert*innen-Interviews in englischer Sprache, ein Auszug des Kodierleitfadens sowie eine Tabelle zur Übersicht der finalen Kategorien. Außerdem wurde der komplette Ergebnisteil mitsamt Zitaten in englischer Sprache angehängt.

5.1 Interviewleitfaden

“Medicine and Ethics go viral: The ethics of COVID-19 health care - A global mapping of bioethical perspectives”

1) Please first explain briefly your expertise in bioethics/medical ethics/public health ethics. What is your personal experience and involvement in the debates about COVID-19?

   Could you please characterize briefly the health care system in your country?

2) If you characterized the bioethical debates because of the pandemic in your country, which ones would be the three most important ones you personally see?

3) When you consider the situation of clinics and ICU units in your country, how would you describe the main bioethical conflicts there?

4) How far are scarcity of allocation and conflicts of treatment priority between COVID-19 and non-COVID patients of concern in your country?

5) Considering the situation of long-term-care/elderly-care in your country, do you see any changes due to the pandemic and how would you describe them?

6) Thinking of public debates in your country around professional care (nurses and doctors) during the last months, which bioethical conflicts were mainly discussed in public/the media?

7) Does there exist any discrepancy between what is publicly discussed and what you and other experts see as the main bioethical problems?

8) What role do ethical conflicts between solidarity and individual freedom play in the public discourse in your country and in which concrete debates does this arise?

9) What role does the topic of discrimination (age, gender, migration background, disability, ethnic, colour, class, etc.) play in current debates in your country?

10) Do you see any conflicts concerning research ethics in your country?

11) Could you name concrete examples/situations where ethicists in your country are involved in finding solutions to current challenges?

12) What would you expect out of increased international exchange among bioethicists regarding all these challenges? What would be helpful?

13) Is there anything we have not discussed yet but that should be mentioned in your opinion?

5.2 Auszug des Kodierleitfadens zu Codes der klinischen Ressourcenknappheit

Tabelle A1 – Kodierleitfaden nach Mayring (2015)

Nr.	Code and Sub-code	Definition	Coding example	Do not mix up with	Encoding rule
3.0	**Allocation of scarce resources in medical-clinical context** (Scarce resources)	Any information about the description of conflicts concerning hospitals, medical care in general and the allocation of scarce resources as time, staff, equipment, knowledge	EC13: "But of course we, all the health care system has pretty much been trimmed of excess beds, so that they run at close to capacity and it's not unusual in any kind of a surge. Uh it could be a busy weekend, you can see people in hallways around emergency rooms so, this has probably pushed that up. And so that sense of dignity that people might want when they're in the hospital, that's often jeopardized is probably more significantly jeopardized, uh depending on how high the uh Covid rate is in each area." (p. 4, 131-137)		*Question 3), 4)* of the Interview Guideline dealing with bioethical conflicts in the field of clinical and medical matters, objective description and emotional evaluation
3.1	Triage	Information concerning 'Triage' (who has to be served first?)	EC02: "So we would say for Austria that triage has not become necessary in spring [...]	Only tangible statements with	*Question 3*): "When you consider the

		Description of the situation in the first wave and now and of any country-specific ethical recommendation how to decide in situation of scarcity of resources such as staff, time, beds, ventilators. Naming of specific criteria and particularities of the country and descriptions on how the situation is handled and by who	scoring was suggested and scoring is only the preparation for the decision [...] to assess the patient and we recommended this component and this is in line with other papers in German-speaking countries that these decisions are always made by at least two doctors, one of whom has a management function and, if necessary, someone from other health care levels, in particular nursing, is also involved." (p. 3,4, 135-153)	scientific/official background are to be coded, NO assumptions	situation of clinics and ICU units in your country, how would you describe the main bioethical conflicts there?"
3.2	Collision with other diseases (Collison)	Description of conflicts related to the collision of Covid-19 and other diseases that are in need of treatment. For example infection diseases like tuberculosis, cancer-patients, pregnant women Description of bioethical conflicts regarding concerns of resource allocation, injustice, postponed treatment, etc. and the reasons for it a) From the patient's view b) From the providers' view	EC01: "[..] I think it's one of special concern um because it has reduced access to healthcare for chronic illnesses such as HIV treatment such as tuberculosis treatment, um but more than that we've seen that very very clearly its reduced access to health care for reproductive health concerns so for example access to abortions has gone very low [..] we have also seen is that for fear of contact of Covid in hospital a lot of people don't go to health facilities." (p. 6, 270-81)		*Question 4):* "How far are scarcity of allocation and conflicts of treatment priority between COVID-19 and non-Covid patients of concern in your country?" Any information about limits to other non-Covid-patients because of scarce resources is to be coded

5.3 Übersicht des Kategoriensystems

Tabelle A2 - Übersicht Kategoriensystem

Main codes and sub-codes
Academic background Background in bioethics Background in public health ethics
Country background Overview health care system Most important bioethical conflicts
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5.4 Ergebnisteil inklusive Zitate und in vollständiger Länge (Englische Version)

Below, we will present the primary findings from our analysis of the interviews. To align them with the global and public health ethical framework, we have categorized them into 1) scarce resources, 2) public health, and 3) conflicts surrounding health professionals. In the preceding methodology section, we outlined the theoretical approach to data collection and analysis for this study. The subsequent presentation of the relevant interview content is based on the evaluation categories mentioned above. To ensure the highest level of transparency in presenting significant data and to provide contextual comprehensibility of the relationships, we have chosen to exemplify the countries referred to by the experts. For a more straightforward analysis, we have grouped the examined countries into high-income countries (HICs) and low-/middle-income countries (LMICs). In doing so, we were able to make comparative statements despite the complexity of the data. In some cases, rather than presenting the general content of interviews with experts discussing problematic scenarios, we have focused on highlighting the experiences of those experts who illustrated specific situations or conflicts in their respective countries.

1 Scarce Resources

The following section reveals the outcomes of the interviews concerning the shortages of material and personnel resources and their implications in the medical-clinical context during the COVID-19 pandemic. In this context, ethical issues – from prioritization strategies to the inadequate treatment of non-COVID patients and potential solutions – arose on a global, national, and clinical level.

1.1 Material resource scarcity in clinics

According to the interviewed experts, there was a lack of material resources in the clinical area especially at the beginning of the pandemic. This included, among others, tests, and personal protective equipment (PPE) like masks. Due to international shortages, prices for such material were extremely rising. In the context of international discrepancies between LMICs and HICs, a bioethicist from Ecuador emphasized the general inequal conditions in terms of access to the international market. Having existed already before, the pandemic increased those disparities:

> *"Obviously Ecuador is a country that didn't have the resources as for example United States or the first developed countries." (Bioethicist, Ecuador)*

From a national standpoint, irrespective of the experts' geographic origin, the majority pointed to the shortage of PPE in clinics and nursing homes as a major concern. Experts from various countries, including Russia, Oman, Zambia, and Argentina, emphasized that this shortage had serious consequences, including severe COVID-19 infections among healthcare personnel, tragically resulting in fatalities. This was exemplified by a statement from a bioethicist in Zambia:

> *"PPE have been a huge issue here. [...] I've had like on Monday [...] I didn't have any disposable PPE, so I had to use my regular one [...]. I had people with COVID, so I put it [PPE] in plastic, took it home and washed it and I will use it again."*

Interviewed bioethicists from the African LMICs Zambia, Ethiopia and Tunisia reported an alarming shortage of PPE, which forced a practice of extreme recycling, including multiple uses and private washing at home. Alternatively, healthcare personnel had to carry out their duties without protection, a situation considered unacceptable and irresponsible for both the healthcare workers (HCWs) and their patients. An expert from India revealed that patients had to bear the cost of PPE themselves, and those without the means were unable to access medical treatment. Furthermore, experts from HICs like Australia, the UK, and France emphasized the scarcity of PPE, especially during the initial wave of the pandemic:

"During the first wave there was a huge debate about the lack of medical supplies, because we gave most of our masks to China [...] so we had basically nothing. We also got- we also destroyed a lot of our masks because they were expired." (Bioethicist, France)

Additionally, the findings underscored ongoing conflicts related to under-equipped healthcare facilities that predated the pandemic. The financial limitations within healthcare systems, in particular, became even more apparent as the existing infrastructure proved insufficient to meet the demands of a crisis as demanding as the COVID-19 pandemic. Consequently, experts from LMICs such as Ethiopia, Paraguay, Ecuador, Pakistan, and Kyrgyzstan reported severe shortages in essential resources:

"The healthcare system was not ready for the pandemic, for emergency situations. So why were the hospitals not ready, why were the doctors and nurses not ready, why were there no drugs, no medicines or [why were] they stored by exorbitant and really high costs, even unofficially sold?" (Bioethicist, Kyrgyzstan)

While many interviewees discussed a widespread shortage of ICU beds in hospitals brought about by the pandemic, experts from Pakistan, Colombia, and Ethiopia highlighted a specific deficit of oxygen and ventilators, which resulted in shortages even at a basic care level. Moreover, other bioethicists from LMICs such as Mexico, Kyrgyzstan, Paraguay, Ecuador, and South Africa emphasized the fundamental inadequacy of healthcare infrastructure in local hospitals and the scarcity of ICU equipment, issues that had been present even before the crisis emerged:

"From the beginning it was clear that the public clinics wouldn't cope, that there were no near enough ICU beds in the country based on the projections that we had at that time. I think South Africa has about 3000 ICU beds in total and most of those are in the private healthcare system which most people can't access." (Bioethicist, South Africa)

The expert from South Africa drew attention to the unequal and unjust distribution of resources between private and public hospitals within her country. Furthermore, interviewees from Romania, Pakistan, Kyrgyzstan, and Paraguay highlighted resource deficiencies, particularly in rural healthcare facilities. This concern was also echoed by the Japanese expert, who noted that, in comparison to urban clinics, smaller provincial facilities did not receive an equitable allocation of beds and PPE, among other resources. Consequently, in certain countries, particularly LMICs, regional and intra-clinical resource inequities aggravated the preexisting scarcity of resources. This resulted in a temporary exacerbation of already existing bottlenecks in the provision of essential medical care for both COVID and non-COVID patients. We will illustrate this further in the following section.

1.2 Prioritization of COVID-19

The severe absolute shortage of resources in healthcare facilities led to a shift in prioritizing COVID-19 patients over others. This transition and its broader ramifications will be summarized in the subsequent section.

The majority of experts noted a shift in medical care towards focusing on COVID-19 and emergency medicine, particularly at the outset of the pandemic. Although shortages of medical supplies were a common theme among all interviewees, the allocation of resources and the consequences of priority-setting differed from country to country. In HICs like Austria, the United Kingdom, and Canada, the primary strategy involved postponing surgical interventions and non-essential treatments. Conversely, in countries like India, Brazil, Argentina, and Italy, entire hospitals were converted into exclusive COVID-19 facilities or even completely closed:

> *"What lockdown did was that it converted a large number of hospitals into COVID hospitals and from the previous experience it was very clear that a hospital which is treating COVID patients should not be treating non-COVID patients [...]. So, people who could have gone to the hospital for their own non-COVID problem were denied care because the beds were not available." (Bioethicist, India)*

> *"Many hospitals have been completly closed because of the pandemic and the patient, who usually went to this hospital, hadn't the possibility to be treated as usual. This was a big problem." (Bioethicist, Italy)*

The transformation of hospitals into COVID-19 facilities led to conflicts worldwide regarding equal access to treatment options during the pandemic. In some cases, patients could not receive their important treatment. An expert from Sweden concluded that *"prioritizing one group means making another one suffer"*.

Many experts acknowledged a dual perspective on this issue. On one hand, there was the prioritization of emergencies and COVID-19 by both government policies and healthcare institutions, with the aim of reducing infections and preventing a collapse of the entire healthcare system. On the other hand, they highlighted patients' reluctance to seek care in potentially infectious environments. Interviewees from HICs like Austria, France, and Sweden also reported that the overall reallocation of resources toward COVID-19 had led to an unequal distribution of available resources within hospitals:

> *"In terms of surgery and intensive medicine all possible treatment options were actually shut down [...] in order to have all resources available. [...] We gave up 75% of the operative and surgical resources, like not even biopsies were done [...]. Emergency care still existed and there were COVID- and Non-COVID houses [...]. Wards went on short-time [...] and they were simply sitting there waiting and the wave didn't come." (Bioethicist, Austria)*

Efforts to preventatively safeguard the healthcare system were undertaken by curbing elective procedures, screenings, and reducing the overall patient load. As stated by the aforementioned expert, a complete collapse of hospitals due to COVID-19 did not materialize. Nevertheless, this approach did result in a temporary, disproportionate shortage of medical care for other patients. Additionally, experts from various countries, including the United States, Brazil, and Tunisia, observed reduced numbers of individuals seeking medical treatment. They attributed this phenomenon to patients' reluctance and fear of entering healthcare facilities that could potentially expose them to infectious environments:

> *"It may just also be the broader environment of the pandemic where people knowing that they should stay home, knowing that the hospital is not sort of the best place to go to, postponing their arrival there." (Bioethicist, US)*

Many experts reported that the *"COVIDization"* (EC17) of the healthcare system with a treatment prioritization of COVID-19 patients resulted in a global treatment deficit especially for oncological patients. This is primarily attributable to delayed diagnoses of malignant tumours due to the absence of screening, diagnostic, and follow-up examinations. Such delays may result in the unchecked progression of these tumours:

> *"We had [oncological] patients who were delayed three months because their previous appointment was cancelled because it was thought to be an elective procedure, [but] it turned out to be much more [of] a malignant diagnosis. [..] That's really a concern because some elective procedures actually end up as non-elective emergencies." (Bioethicist, Oman)*

Concerning the delay of *"elective"* surgical procedures and therapies, the concept of *"selectivity"* was often criticized as problematic, as it was predominantly associated with *"non-essential"*. Experts from Türkiye, Oman, Canada, Singapore, and the USA stressed that labelling a procedure as elective did not negate its underlying necessity or urgency. In fact, particularly in the context of oncological diagnostics and treatments, delayed detection has severe consequences, often leading to significant collateral damage.

1.3 Specific conflicts of COVID-19 prioritization in LMICs

A detailed examination of the interview findings brought to light some noteworthy aspects concerning resource constraints in LMICs. Experts from India, Zambia, Nigeria, Ecuador, and Mexico concurred that resource scarcity and the resultant prioritization of COVID-19 and emergency patients had adverse effects especially on primary healthcare. On one hand, the focus on COVID-19 resulted in the neglect of other essential diagnostic examinations in the realm of infectious diseases, such as HIV and tuberculosis (TB). On the other hand, the shift towards COVID-19 led to the omission of necessary routine care, including treatments like dialysis for chronic renal insufficiency and control measurements for arterial hypertension:

> *"We are losing more people from HIV, from TB, from malaria [than from] COVID. But COVID, it has created this huge public health, global public health emergency and all the attention is on it […]. Now*

we have to reallocate some of the wards [...] from HIV into COVID. So, but what will happen then to these programs of HIV and TB?" (Bioethicist, Zambia)

The statement highlights the use of international standards as a guiding framework during a global crisis, but this approach concurrently resulted in a lack of consideration for the unique contexts of individual countries. In this regard, interviewees from LMICs like India, Nigeria, and Ethiopia expressed that access to medical care was further hindered by a lack of public transportation during lockdowns. Consequently, patients were not only denied access to healthcare facilities but, in extreme cases, could not even find locally accessible treatment options. Furthermore, the analysis of interviews with bioethicists from South Africa, India, Argentina, and Nigeria revealed that the pandemic had eroded years of public health (PH) work and education, such as vaccination campaigns and reproductive medicine. For instance, the number of official abortions and pregnant women seeking care in hospitals reportedly declined during the first and second waves of the pandemic:

"In the southern part of the world where [there are] campaigns of vaccination and campaigns for the children, and campaigns for letting the young women to go and to check their pregnancies, we have achieved so much in sexual and reproductive health during the last ten to fifteen years. It was all lost […] because of COVID." (Bioethicist, Argentina)

1.4 Telemedicine as a solution approach

In the context of resource constraints and the prioritization of COVID-19 patients for treatment, numerous experts explored telemedicine as a potential solution. Telemedicine emerged as an effort to provide care to other patients while minimizing the risk of infection. Opinions among experts from Argentina, Romania, Paraguay, Singapore, and Poland regarding telemedicine were mixed. They concurred that the pandemic had spurred positive change by promoting the adoption of telecommunication options, thus facilitating the treatment of patients who could avoid an elevated risk of exposure at healthcare facilities through virtual consultations. This was especially significant for patients dealing with anxiety or multiple comorbidities. For the first time, some regions had official recommendations supporting the use of telemedicine, leading to new avenues for communication and treatment:

"The public good had to be taking care of the COVID patients. So, there was a period of time and that's why telemedicine grew [...there] have been recommendations [...], but we're working on more in terms of like, if it's a first visit how do you handle it in a telemedicine situation?" (Bioethicist, Singapore)

Nevertheless, alongside these benefits, several experts highlighted the challenges and arguments against the adoption of telemedicine. Foremost among these was the limitation of conducting a physical examination through telecommunication, particularly in initial doctor-patient interactions. Additionally, some pointed out that not everyone had equal access to the necessary digital devices in all countries and across various social classes. This disparity further exacerbated existing inequalities, both within nations and globally:

> *"Telemedicine is great if you have to reach people that are not easily reachable. You have to say that in southern countries like Argentina or like in Africa and different parts of the world, it's very likely that if you can't go with a doctor, you don't have a digital device. So, there are a couple of things in this pandemic that get in even worse in terms of what happens with vulnerable persons." (Bioethicist, Argentina)*

1.5 Shortage of personnel

In the following, we will present the findings from the interviews concerning the scarcity of healthcare personnel while considering selected challenges faced by HCWs.

All interviewees emphasized that a shortage of healthcare personnel was a significant issue during the pandemic. Experts from the United Kingdom, France, Argentina, Mexico, and South Korea noted that years of mismanagement in health policy funding were an ongoing reason for the worsening of this problem during the crisis. There was already a severe lack of nurses due to inadequate compensation and insufficient recognition even before the pandemic. Consequently, interviewees from LMICs like Tunisia and Ecuador also highlighted a shortage of medical staff, partly due to the emigration of trained professionals to other countries:

> *"The main problem is the lack of staff [...]. The equipment is lacking and also the doctors - we have a big economic crisis and many of our young doctors went abroad [...] so we have many hospitals that are lacking of specialist and doctors." (Bioethicist, Tunisia)*

The shortage of healthcare personnel was attributed to several factors. On one hand, the increased demand, both qualitatively and quantitatively, for caring for COVID-19 patients was seen as a significant reason for the lack of personnel. On the other hand, the loss of HCWs due to infections with the virus and quarantine measures also played a substantial role. The physical and psychological strains on staff, including moral stress and the challenging conditions of working with COVID-19 patients without proper training and sufficient PPE, as mentioned earlier, further contributed to staff absences:

> *"Another ethical discussion is [...that] sometimes health care workers are maybe sick. But they don't want to because of the shortage of manpower, so sometimes [they] are not telling, because they don't want to hurt the colleagues." (Bioethicist, Israel)*

The expert from Israel highlighted the sense of responsibility towards colleagues, which added to the psychological burden. Similarly, experts from Austria and India acknowledged feelings of shared accountability that made it difficult for HCWs to stay away from work even when they were unwell. Consequently, the shortage of personnel during the pandemic put others at risk, including fellow health professionals, patients, and their relatives. More specific conflicts related to the nursing and healthcare profession will be discussed in greater detail in Chapter 4.

"Conflicts surrounding health professionals".

As part of reallocation measures aimed at addressing personnel shortages in line with demand, several experts mentioned the mobilization of staff from other hospital departments. However, in some instances, this reallocation resulted in shortages of personnel in other peripheral wards, essentially shifting the problem of resource scarcity. Additionally, experts from countries such as Spain and Canada described the activation of retired specialists. Without receiving proper orientation, entire teams from other areas might have found themselves working in critical care units as a result:

> *"One of our former students [...] is a pediatrics ICU consultant. And he and his sort of whole team of nurses and other people suddenly had to treat adults. [...] If people would have said "Well you can just go and do that" they would have said, rightly "Well it's outside our expertise." But there are lots of people who sort of when [...] the first wave was at its peak were sort of drafted in to do ICU work."*
> *(Bioethicist, United Kingdom)*

The reallocation of healthcare staff, coupled with the absence of intensive care expertise and training, in addition to the aforementioned stress factors on the healthcare workforce, had a direct impact on the quality of care for COVID-19 patients. Specifically, the expansion of ICU units, including ventilators and intensive care equipment, exacerbated the relative shortage of specialists. This was because the essential knowledge to operate the equipment was lacking, and any ad hoc training couldn't adequately substitute for it:

> *"And now they say it's the largest ICU units because now we are one hundred beds. [...] And that also means a lot of demanding professional attention there. [...] But also specialists and we don't have [them] in my hospital we don't have enough." (Bioethicist, Mexico)*

In summary, it can be observed that resource scarcity has given rise to various bioethical conflicts on a global scale, resulting in both commonalities and differences among individual countries. Globally, the scarcity of resources, whether material or personnel, has led to the prioritization of COVID-19 patients in clinical settings, which has often fallen short of providing adequate patient care and suitable working conditions for healthcare staff. Oncological patient groups, in particular, have experienced reduced medical care on a global scale. When differentiating between countries, the pandemic has underscored the preexisting inadequacies in healthcare structures and systems, particularly in LMICs. In these nations, a more acute expression of collateral damage related to the inadequate care of non-COVID patients has occurred, affecting additional groups in need of treatment, such as those with infectious diseases and those requiring primary and maternal healthcare. In contrast, conflicts in HICs have primarily revolved around the planned postponement of elective procedures.

2 Public health ethical challenges during the pandemic

A pandemic being a crisis threatening the infection-risk of the entire population rather than only individual patients, implies several PH ethical challenges. In the following, we will present PH ethical challenges focusing first on social and medical inequalities on the individual citizen's level, from a population-based perspective. Then, comparing between LMICs and HICs, we have looked at selected country-specific characteristics, such as vulnerable groups and challenges in implementing PH measures.

2.1 Inequality in the context of social determinants

Our findings highlight an increasing multidimensional inequality and injustice, particularly affecting socioeconomically disadvantaged groups. The analysis of the interviews underscored how preexisting social disparities have led to health inequalities by exposing individuals to an elevated risk of SARS-CoV-2 infection in both HICs and LMICs. This heightened risk was evident in several aspects, including social environment, ethnicity, housing conditions, and financial background.

In this comparative analysis, it is noteworthy that experts from both LMICs and HICs described challenges related to individual citizens. However, while many experts from LMICs, such as those from Paraguay, Ethiopia, and India, linked these challenges to a substantial portion of the population, some bioethicists from HICs like Australia, Austria, or Sweden referred to "minorities". Among these groups, they included, for instance, immigrants:

> *"In Sweden […] migrants from lower socioeconomic countries in middle east and the northern part of Africa had a three times higher fatality rate than the population in general, [...] so this is it's absolutely not true that this is a disease that equalizes people." (Bioethicist, Sweden)*

The Swedish expert, in line with several other interviewed bioethicists, highlighted that the socioeconomic disadvantage of affected groups primarily led to an elevated risk of contracting the virus.

> *"If you have less economic means if you're poor, you tend to live more close[ly] together, you have a work where you can't stay at home and work on Zoom, and then you have to, drive the bus [...] so you meet a lot of people [...] And then of course that might be an information problem if you don't speak the language and perhaps some cultural issues." (Bioethicist, Sweden)*

Several factors that increased the risk of infection, such as housing and transportation, access to digital resources, and cultural and linguistic challenges, will be examined in more detail below. Living conditions were recognized as a significant factor, as residing in crowded and confined spaces with a high population density made it difficult to adhere to restrictions like physical distancing measures and quarantine orders. Moreover, experts from South Africa, Paraguay, and Mexico reported that, in extreme cases, the lack of access to running water was already an issue before the pandemic. Consequently, the implementation of hygienic measures was explicitly identified as a fundamental challenge in these countries. This resulted in basic hygiene practices and physical distancing being privileges that were not equally accessible to all social classes:

> *"We have 25% of the population that does not have access to water. So how are you going to wash your hands? […] How do you buy soap, alcohol - we are not going to say what to buy because they are very expensive things, so what was indicated for protection is not available in the health field." (Bioethicist, Paraguay)*

Furthermore, the significance of employment conditions in exacerbating socioeconomic inequality during the pandemic was emphasized. On one hand, ensuring sufficient space and technical capabilities, as well as reliable internet access for remote work or study, was characterized as a challenge. On the other hand, several bioethicists pointed out that economically disadvantaged segments of the population were more likely to depend on public transportation for their daily work, which, in turn, increased their risk of virus exposure. The issue of health inequality was discussed by experts from various countries, including India, Kyrgyzstan, South Africa, Nigeria, Mexico, the USA, Israel, and Pakistan. They highlighted the general reliance on financial resources for direct access to healthcare, a situation that existed before the pandemic and was further exacerbated by it:

> *"So even in Pakistan the poor don't have the same access as the rich as I've just told you it's a mixed health system. If you are very poor you go to the government hospital and you wait for two hours before you are seen. If you are rich you can go to a private practitioner and be seen in two minutes. So, you know there is that inequity in terms of access and resources." (Bioethicist, Pakistan)*

2.2 Health Literacy

In the context of health determinants like living conditions, education, nutrition, and the social environment, several bioethicists also emphasized the critical role of health literacy. When it came to implementing pandemic protective measures, understanding and effectively communicating relevant information appeared to be crucial. Experts from both LMICs and HICs underscored the interconnectedness of the social environment, education, and the development and diversity of health literacy at the individual level of citizens:

> *"I mean I live in the capital so the general literacy level is much better than the rural setting so if you go to the rural one [...] and again even in the capital it depends on your status, I mean your opportunities to get information." (Bioethicist, Ethiopia)*

In greater detail, experts from LMICs, including Ecuador, Nigeria, and India, among others, highlighted a disparity in the level of health literacy between the poorer and wealthier segments of the population. In countries with a non-functioning healthcare system, health literacy was perceived as very low among the predominantly poor population. This was attributed not only to the lack of education but also to the daily struggle for survival, which persisted regardless of the presence of the SARS-CoV-2 virus:

"Sixty percent of the population has no access to money, … to health, [or] education. I would say […] the culture of health is not good in my country [...]. Some people from media to the rich [classes] can understand, can be aware of taking care." (Bioethicist, Mexico)

Our findings indicated that in HICs, including the United States, Canada, Poland, Sweden, and Israel, the development of health literacy was considered more challenging, especially within marginalized and often economically disadvantaged groups. Consequently, higher rates of COVID-19 cases were observed among migrants, ethnic minorities, and Indigenous populations. In the following, we aim to explain that a bit further.

Indigenous populations were identified as particularly vulnerable with respect to health literacy by experts from Ecuador, Mexico, Colombia, Paraguay, Australia, and Canada. They highlighted the difficulties in establishing health literacy within these populations, primarily due to language and cultural barriers, including religious rites. An expert from Paraguay succinctly summarized this issue:

"There was a little bit of discrimination, I think that in some way the Indigenous groups, I don't know to what extent they were informed. [...] they are really groups that you have to give them information in their language." (Bioethicist, Paraguay)

Additionally, experts from the UK, Sweden, Ecuador, and Paraguay highlighted that linguistic and social isolation from mainstream society resulted in limited access to essential information for minority groups in general. Furthermore, some bioethicists stressed the significant role of religious rites and gatherings, which had a diminishing effect on the development of health literacy and, consequently, on the adherence to necessary pandemic protection measures. For instance, experts from Singapore, Israel, South Korea, as well as from Colombia, Argentina, and India explained that the observance of rituals and customs often held greater importance than compliance with restrictions:

"This is a problem not just in Israel also in ultra-orthodox Jewish communities in the United States for example, I know that there was several conflicts with the police in New York in Brooklyn [...] the question of funerals is a problem and also weddings." (Bioethicist, Israel)

"You'll find a lot of Hindu religious congregation taking place during the lockdown." (Bioethicist, India)

The quotes highlight the impact of cultural attitudes on health literacy. Experts frequently emphasized their own cultural understanding in discussing conflicts within their respective countries. For instance, bioethicists from Latin American nations such as Ecuador, Paraguay, Mexico, and Argentina underscored the importance of culturally rooted interpersonal relationships and physical closeness in relation to the acceptance of protective measures:

> *"The masks and the isolation of the patient in the hospital […] is also something that for our culture is terribly heavy […] so we are anything but puritan, we like human contact and for us that thing has been a very important issue". (Bioethicist, Argentina)*

In summary, preexisting social disparities lead to health inequalities and an elevated risk of exposure to SARS-CoV-2. The pandemic exacerbates and amplifies these disparities, which manifest in various forms, including social environment, socioeconomic background, and health literacy, often tied to the financial status of individuals.

2.3 Public health ethical conflicts in LMICs

In LMICs, the higher prevalence of poverty within society was identified as the initial factor contributing to emerging challenges during the pandemic. To provide a more comprehensive understanding, we will delve into the causes and repercussions of liberty-restricting measures in LMICs. Additionally, we will spotlight the vulnerability of children in the context of immediate and long-term collateral damage resulting from school closures.

2.3.1 Specific challenges LMICs

To reduce the spread of infections, many countries worldwide implemented pandemic protection measures, which included the wearing of masks, maintaining physical distancing, and enforcing lockdowns or restrictions on movement. Numerous experts, particularly those from Latin American and African LMICs like Ecuador, Mexico, Zambia, and Tunisia, highlighted that these measures, especially lockdowns, presented existential challenges for impoverished populations. In particular, the ability to work and earn a living was completely eliminated by these pandemic protection measures. This situation was perceived as a fundamental conflict. Restrictions prevented people from venturing out to work, such as selling items on the streets, resulting in a loss of their sole source of income. Since many families rely on their daily earnings for food, some experts described this predicament as a choice between "hunger vs. COVID". An expert from Argentina provided the following insight in this context:

> *"Because of the high poverty levels – we live from hand to mouth, people have to wake up every day and they get daily wages from selling, [...] so you eat what you can make in one day and, the next day you die. So now the ethical issue is … can we have even say a one week shutdown? [...] the consequences would actually be worse".*

Furthermore, experts from countries like India, Zambia, Argentina, and Colombia, to name a few, emphasized the challenges faced by those in informal employment arrangements during lockdowns. Workers engaged in informal street vending were not only restricted from selling but also suffered from a lack of customers. Experts from Argentina, India, Nigeria, and Tunisia also pointed out the absence of job security and payment structure in informal occupations. Consequently, many bioethicists from LMICs reported a significant increase in unemployment rates, leading to a sharp rise in poverty and hunger. Another issue highlighted by experts from Tunisia and India was the situation in which the state imposed restrictions but simultaneously failed to fulfil its responsibility in supporting its citizens. From a PH ethical perspective, reciprocity and fairness in pandemic measures would be deemed an essential foundation:

> *"People were also starving because they had no income, because the entire economic activity had come to standstill. And the government did it without having an ethical obligation of caring for them. [… But] if you take measures [restricting] peoples' rights […] then you must reciprocate it by providing them support so that they can survive." (Bioethicist, India)*

2.3.2 Children and women as a vulnerable group in LMICs

The pandemic has had varying effects on specific vulnerable groups across the globe. The analysis of the interviews highlighted children and women as particularly vulnerable in LMICs, while elderly individuals were identified as vulnerable in HICs.

Interviewees from LMICs in Latin America and Africa, such as Mexico, Argentina, Paraguay, Tunisia, and Ethiopia, specifically identified children as a vulnerable group during the pandemic. This vulnerability was intricately linked to school closures and nationwide lockdowns, which had complex socio-economic consequences as mentioned earlier. Experts from Argentina, Brasilia, and Tunisia, for example, explained that the forced confinement of families often resulted in a tense atmosphere, leading to increased domestic violence against children and women. An expert from Tunisia emphasized this issue:

> *"Domestic violence against the wife, against the child […] many problems increased […] the lockdown is good perhaps for the epidem[ic] but it is not good for all the other aspects."*

Furthermore, experts from Argentina and Paraguay named the sudden elimination of a safe lunch in educational institutions as another detrimental consequence of school closing. Particularly in the case of poorer families in LMICs, ensuring adequate nutrition for children became a challenge, leading to serious health consequences:

> *"It is a population that goes to school and there they eat school lunch. These families stopped [...] to receive the food that sometimes for some families and these children is the only food they receive. And sometimes [the] parents go to work and leave the children at school as a safe place." (Bioethicist, Paraguay)*

Experts were in agreement that the pandemic disrupted schools as a safe place for daily care and as an integral part of a structured daily routine and stable social environment. Additionally, the limited interaction among children during this period, both in terms of playing and meeting new peers, had a detrimental effect on their socio-emotional development. According to experts from South Korea and Ethiopia, this likely resulted in underdeveloped socio-emotional skills among children. Moreover, the bioethicist from Ethiopia noted that children were primarily affected by the social stigmatization associated with COVID-19, often being prohibited from spending time with children from infected families:

"Someone who has COVID was labelled with some kind of stigma [...] that was also big labelling put onto your family, this was a family with COVID so my kids might not play with your kids."

Even though children were not at a significantly elevated medical risk, they still had to adhere to restrictions in order to prevent any increase in infection rates. Many experts from LMICs noted that these countries have a much younger demographic structure and lower rates of severe cases. However, measures such as lockdowns and school closures were enforced as strictly as in HICs. Additionally, bioethicists from various regions including the Americas, Asia, and Africa identified women as a vulnerable group in this context. On one hand, women, especially mothers, were considered vulnerable due to the traditional division of roles, which meant increased childcare and household responsibilities during the pandemic:

"Most of the nurses that we have, seventy percent [...] of nurses [are women]. On one hand, we have nurses [...] working extra hours, [being] most exposed to the virus and sometimes they are mothers that take care of children. [Also] domestic violence increases." (Bioethicist, Ecuador)

Interviewees also highlighted a rise in domestic violence, especially directed towards women and children. The reasons were primarily attributed to heightened tensions within households due to prolonged family confinement, economic insecurity, and reduced social interaction. Conversely, experts from LMICs like Ecuador and Argentina emphasized the disproportionately high number of females in caregiving professions. Consequently, women experienced an increased workload and faced elevated risks of both COVID-19 exposure and domestic violence.

2.4 Public health ethical conflicts in HICs

While our results highlighted children and women as vulnerable groups in the context of the pandemic and lockdowns, the analysis of interviews with experts from HICs shed light on the vulnerability of the elderly population. This vulnerability was closely linked to the societal devaluation of the elderly and the larger proportion of the aging population in Western countries, as well as the vulnerabilities of nursing homes and long-term care facilities in general.

2.4.1 Elderly as a vulnerable group

Many of the interviewees from various HICs recognized the elderly as a vulnerable group in the context of the pandemic. Experts from Israel, the USA, Australia, Italy, among others, emphasized that a previously hidden devaluation of old age became more apparent and explicit. They agreed that social inequality resulted in health inequality for the elderly:

"We had especially, when there was the first wave of COVID-19, a very sad situation with the triage, with the choice of who should have the possibility to have this emergency intervention. And there was a sort of discrimination against the older people and that is people like me." (Bioethicist, Italy)

Many experts, including those from Türkiye, Sweden, Oman, and Canada, concluded that the combination of medical vulnerability and so-called "ageism" led to structural and ethically unacceptable disadvantages for the elderly. The implementation of protective prevention measures and cocooning strategies resulted in significant social isolation of elderly individuals in many countries, particularly in Europe and North America:

"What I mean is that discriminatory stigmatizing attitude towards the elderly, [... not] all of the elderly people were [treated] like this [… but even now] there is a ban for the elderly people not to go out after four o'clock [...] we have to think of how can we help them." (Bioethicist, Türkiye)

The primary motivations, viewed from a utilitarian perspective, were to protect the vulnerable elderly group from infection and prevent a collapse of the healthcare system. However, in many HICs such as Canada, Sweden, and Austria, these plans often resulted in extreme social isolation, particularly in nursing homes. In the context of bioethical conflicts, we will delve into the inadequate structures of nursing homes in HICs in more detail below.

2.4.2 Nursing homes and long-term care facilities

Nursing homes and long-term care facilities have proven to be highly vulnerable settings during the COVID-19 pandemic. According to many bioethicists, the convergence of elderly vulnerability, the fragility of long-term care facilities due to their unpopularity, and pre-existing deficiencies within the nursing profession has presented a significant challenge in HICs in America, Oceania, and Europe. In this context, a bioethicist from Austria summed up the deep-seated structural discrimination based on age at a multidimensional level:

'In the German-speaking countries we have profound age discrimination.... That means not only the old person goes into a spiral of grievance, but being old triggers grievance and that affects [also] the relatives. And the third path is the discrimination of elder-care workers." (Bioethicist, Austria)

In terms of the demands on caregivers, many bioethicists from countries like Romania, Kyrgyzstan, Argentina, Canada, and Türkiye, among others, described a significantly increased workload during the pandemic. They also noted the absence of professional and psychologically relieving training, leading to profound states of exhaustion and a sense of losing control. Particularly at the outset of the pandemic, caregivers in nursing homes felt utterly overwhelmed and isolated, dealing with unpredictable deaths. This, coupled with staff infections, quarantine measures, and resignations, further aggravated the already existing personnel shortages:

"In the early days there was not enough protective equipment, there is shortage of healthcare staff everywhere and there is an increasing rate of disease [...] which exacerbates the shortage. There has been moral distress there has been fatigue [...], there has been a phenomenon of nurses quitting similar to other countries." (Bioethicist, Canada)

Experts from HICs like Canada, Austria, Israel, Sweden, and Australia, as well as from Argentina, identified a significant contributing factor to high infection and mortality rates in nursing facilities: the practice of having one nurse employed in multiple facilities, which existed even before the pandemic. The low wages of nursing staff often necessitated holding multiple jobs to make ends meet. This unfortunate situation resulted in the transmission of the SARS-CoV-2 virus between different facilities during the crisis, as explained by an expert from Australia:

"This has really shown ... how bad aged care is in Australia [...]. Old people are highly vulnerable. [Facilities were] one of the main places where people got sick and died [...], the infection control was very poor, the quarantine of the workers was very poor [...] they don't get paid properly, [lots] had part time jobs and they're moving from one home to another, spraying infection."

Furthermore, experts from Austria, France, and the United Kingdom pointed out the national inequalities in the distribution of essential materials, like protective equipment and tests, between hospitals and nursing homes. Given that nursing homes were already considered socially unpopular, this accentuated their vulnerability at the level of material supply:

"It was difficult to get enough personal protective equipment, [it] was bought by the government and primarily went to the healthcare system [...] which made it difficult for nursing homes to protect their staff and their residents adequately." (Bioethicist, UK)

The structure of nursing homes also faced criticism, as some experts highlighted that these institutions often prioritized economic motives over the protection of residents. This led to a situation where the well-being of residents was not the primary concern. Additionally, a few experts, including those from Canada and Austria, pointed out that hospitals and nursing homes tended to work against each other rather than cooperating during the crisis, even refusing to provide care for residents from nursing homes:

"I'll say it colloquially: Don't bring us any old people with COVID into the hospital. And that has led, on the one hand, I think to an underuse of geriatric, gerontological patients at home and in the homes. [...] in Austria there is the right to treatment, and it was not perceived here, [... like] the people were not tested at all and thus remained in the home." (Bioethicist, Austria)

In the end, considering all the aspects mentioned, a dramatic undersupply of the residents, both medically and socio-emotionally, took place. Most experts from HICs emphasized that the worldwide visiting restrictions in nursing homes, which were primarily intended to protect this vulnerable group, resulted in undignified treatment.

Contrary to the conflicts in HICs outlined, various experts from Latin America and Africa stated explicitly, that vulnerability of the elderly did not exist to the same extent as it does in HICs. As reasons for that difference, they named varying demographic structures and the self-reliance of caring for loved ones at home:

> *"I don't see that as a major problem in Pakistan because we don't have many people living by themselves. Most people live with their children with families, I think there is the concept [...] that you protect your elderly." (Bioethicist, Pakistan)*

Still, bioethicists from Argentina, Colombia, and India spoke of vulnerability among the elderly in terms of medical care, primarily due to a lack of financial resources stemming from insufficient pensions. In healthcare systems that rely heavily on private supplementary benefits and where universal, fair access cannot be guaranteed, this results in inadequate health insurance:

> *"One lesson I would beg them [the government] to learn is that they have to change the health system in India. Unless they make health system universally accessible, it will not be possible for the vulnerable people - and old people are vulnerable people- to get the full range of services that is needed." (Bioethicist, India)*

2.5 Consequences of protection measures

Regarding PH ethical challenges, we also identified various conflicts related to the tension between individual freedom and collective well-being, especially in terms of the acceptability of pandemic measures.

2.5.1 Further vulnerable groups

The analysis highlighted that the vulnerability associated with social inequality can be categorized into several distinct groups, including age-based, socioeconomic, gender-based, and medical-clinical vulnerabilities. Our findings reveal that, in addition to the aging population in Western countries, patients with various pre-existing medical conditions were considered vulnerable. Most of the interviewed experts referred to patients with chronic illnesses, such as oncological patients and those with other infectious diseases like HIV or TB. These individuals were more susceptible to the virus due to their weakened immune systems and, due to limited healthcare capacities during the pandemic, often couldn't receive necessary treatment. This complex interplay of factors resulted in collateral damage to chronically ill patients:

> *"Then they came out with a very irrational guideline that if you want to have dialysis here you must produce a certificate saying that you don't have COVID. That means you have to undergo COVID test [...] and COVID testing is like if I'm tested today, I get my results after one of two days. [.. meaning] my dialysis is already delayed and now I have to delay further. [...] And in the hospitals a large number of surgeries were cancelled." (Bioethicist, India)*

In addition, experts from Paraguay, Oman, Israel, the UK, Canada, and Israel emphasized the vulnerability of persons with disabilities and also those with psychiatric illnesses. They attributed vulnerability primarily to the fact that, for example, patients with disabilities were not even considered in recommendations regarding prioritization decisions:

"The national bioethics council had a discussion, and it finally created a huge media coverage and discussion because it was perceived that they didn't' take enough into consideration the question of people with disabilities." (Bioethicist, Israel)

Furthermore, an expert from the UK criticized the implementation of a "frailty score" in terms of prioritization guidelines. Emphasizing the discrimination of disabled people, the score did not even consider diverse types of handicaps but just labelled an affected person:

"There's ongoing debate about [...] that it creates problems - using frailty [scores] creates problems for people who are disabled in advance. […] Because many of those would by this frailty scale sort of have quite a lot of frailty but there's a question of whether it involves then disability discrimination and whether the scale is balanced at all for instance for people who have cognitive disabilities." (Bioethicist, United Kingdom)

2.5.2 Basic value conflicts: Autonomy vs. solidarity

Regarding the PH ethical challenges during a pandemic, many experts mentioned the inescapable tension between individual autonomy and the collective common good. Bioethicists primarily from HICs such as the USA, Canada, Japan, and Germany stated that there was a strong general impression of striving towards individualism in their country:

"*Individual freedom is extremely much discussed whereby the side of solidarity is not illuminated at all.So, what is constantly discussed in the public debate, on Facebook, on all social media platforms [...] and on the demonstrations and so on is this individual freedom." (Bioethicist, Germany)*

Protests against COVID-19 measures and vaccinations, framed as demands for individual freedom, were noted in many countries, particularly in HICs. In contrast, bioethicists from LMICs like Ecuador, Colombia, Nigeria, Tunisia, and South Africa reported that such claims for individual freedom were more prevalent among the upper social classes, while the general population displayed more solidarity and cooperative behaviour:

"Overall there was especially in the beginning a very strong sense of solidarity […] I think there was a very strong fear and people were very aware of the fact that the health care system couldn't cope, so I think there was also the sense it's at everybody's best interest [...] people really worked into it and I understood it." (Bioethicist, South Africa)

In LMICs, protest movements against COVID-19 measures appeared to be more driven by existential concerns, leading to varying perceptions of individualism based on social class. Bioethicists from African and Latin American countries pointed out that poorer individuals were not protesting measures for the sake of individual freedom but due to the necessity of earning income for survival, as discussed earlier.

Regarding the implementation of protective measures during a pandemic, solidarity within society played a significant role. Dealing with the risk of infection was seen as *"not an individual decision because individual behaviours can harm others"* as summarized by a bioethicist from Denmark. Most experts agreed that solidarity is a dynamic and heterogeneous construct that manifests on various levels. It involves solidarity between individuals and groups, such as neighbours, as well as between hospitals and cities, and ultimately on a global level between countries in terms of sharing knowledge and vaccines. While some experts, including those from Türkiye, Romania, Austria, and Paraguay, described solidarity as citizens coming together, bioethicists from Australia, Singapore, Poland, and South Africa emphasized that adhering to protective measures demonstrated solidarity. A bioethicist from Germany stressed the high complexity of the term solidarity, also explaining that *"[solidarity] is the only way to approach such a pandemic [...] in the end it is not about the individuals and their freedom in the case of an infectious disease."*

Indeed, the analysis of the interviews indicated a differentiation of the understanding of solidarity in the presentation of experts from HICs and LMICs. Hence, bioethicists from LMICs such as India, Brazil, South Africa, and Paraguay primarily reported an expression of solidarity in helpfulness, such as through community cooking. Interestingly, experts from Latin America in particular described unsolicited interpersonal assistance taking place, although basic hygienic conditions as well as physical distancing were least feasible:

> *"One of the things that you saw a lot is oyas populares [public cooking] here. [...] So when we had people who were not working and people who could not get medicine, the population organized themselves [...] they used to meet in the churches and then those who had a market, or a store would donate oil or rice." (Bioethicist, Paraguay)*

Finally, bioethicists from HICs, like Austria, Italy, Poland, Australia, and Singapore, regarded solidarity more as meticulous adherence to pandemic protection measures and the use of technologies like contact tracing apps. They highlighted that the use of such apps had sparked national debates, with discussions centering around the ethical conflict between individual freedoms and the benefits for the general population. This reflected a different perspective on solidarity, emphasizing the role of technology in containing the pandemic:

> *"[South Korea] implemented a strong distant contact tracing system, so, if one [is] known, as a patient with the COVID-19, their [...] move line [and visits] and much personal information, are open to [the] public [which is] mak[ing] them suffering from their privacy." (Bioethicist, South Korea)*

As the expert from South Korea, further bioethicists from Israel and Russia reported a high intensity of contact tracing causing a great debate about civil liberties and privacy scandals. In these countries, however, there was also a lack of personal consent for the tracking of citizens' personal data. Interviewees from other, mainly European countries, including Denmark, France and Italy explained the lack of trust in digital technology and the resulting mistrust of these apps. Interestingly, experts from LMICs did not report bioethical conflicts related to contact tracing apps at all.

2.5.3 Political trust and protest movements

A large proportion of the interviewees from LMICs with a tendency towards political instability, such as Brazil, Ecuador, Tunisia and Nigeria, described that general health literacy, and thus acceptance of measures regarding SARS-CoV2, was diminished by general distrust of the national government. This argument was also supported by the experts from Russia and Türkiye. The tension between individual freedom and the collective common good, which was explained earlier, played a significant role in protests and demonstrations during the pandemic. However, there were differences between LMICs and HICs in terms of the specific reasons that led to these protests.

In LMICs, political dissatisfaction was a major trigger for demonstrations. Many experts from LMICs with a history of political instability, such as Brazil, Ecuador, Tunisia, and Nigeria, highlighted that general health literacy and acceptance of COVID-19 measures were diminished due to widespread distrust of the national government. This sentiment was also echoed by experts from Russia and Türkiye.

> *"It's almost like a country where everything is left to itself to run and you just have to find how to make sure you survive. [...] And with COVID right now, there is a huge problem of security. You have a population that doesn't believe there's COVID, [...] because they don't trust their government." (Bioethicist, Nigeria)*

Many problems with bioethical conflict potential arising from the pandemic were actually politicized. This led to a critical attitude towards political power holders and possible corruption. Some experts from LMICs such as Argentina, Nigeria and Russia emphasized this circumstance minimizing the will of individual citizens to act in the interest of the common good:

> *"The politicization of the conflicts [...] Some people said well as the national government imposes the use of masks and I'm against the national government, I will not use the masks." (Bioethicist, Argentina)*

Several bioethicists also explained, that a lack of transparency and realistic information regarding concrete infection development as well as political decisions lowered the health literacy of citizens:

> *"The lack of transparency and the sheer apparent maladministration cause a great lack of trust on part of the public against the government and the state [... The vaccine roll out is] unknown, it is not shared with the public transparently. People are quite aware of it, so they are trying to find out their way by themselves." (Bioethicist, Türkiye)*

Few experts from LMICs reported widespread protests against restrictions of individual freedom, with more emphasis placed on the challenges posed by lockdown measures for disadvantaged populations, such as street vendors. In contrast, HICs like Canada, Germany, Japan, and Australia experienced numerous protests against mask mandates, while anti-vaccination protests were more common in countries with early access to vaccines like the United Kingdom, Italy, Sweden, and Canada. Furthermore, experts from South Africa, Russia, Kyrgyzstan, India, Türkiye, Brazil, Pakistan, Ethiopia, and Oman noted that nationwide protests were relatively uncommon in their respective countries. They attributed this to the stringent nature of exit restrictions in some cases, coupled with limited democratic structures that might hinder organized protests.

In a unique case, Sweden experienced protests advocating for more restrictive measures, which deviated from the global trend of protests against COVID-19 restrictions. This highlights the diverse and complex responses to the pandemic across different countries, influenced by a variety of factors including local governance, cultural norms, and socio-economic conditions:

"The protests are rather for more restrictions. [...] like we don't lock down enough, or we're not recommended to wear masks or things like that. So, there are some protests in the debate that we should, have a harder lockdown."

Many profound conflicts existed within countries and acted as a brake on PH policies. These included in LMICs increased prevalent poverty rates, in addition to deep mistrust of national policies. Conversely, PH conflicts in HICs occurred rather in the front of calls for autonomy and freedom, e.g. by criticizing the vaccine roll-out.

In summary, the COVID-19 pandemic has presented numerous PH ethical challenges worldwide. While there are some commonalities between LMICs and HICs, such as the vulnerability of certain groups and emerging tensions, there are also significant differences. The analysis highlighted the difficulties faced by LMICs in implementing pandemic protection measures while upholding PH ethical values like reciprocity, equity, and fairness. Many profound conflicts within these countries hindered the effective implementation of PH policies. These challenges included high poverty rates and a deep-seated mistrust of national policies. Conversely, in HICs, PH conflicts often revolve around calls for individual autonomy and freedom, particularly concerning issues like vaccine distribution. These countries grappled with a different set of ethical challenges compared to LMICs. In essence, the pandemic illuminated the complex interplay of socio-economic, political, and cultural factors that influence the response to PH crises, with different countries navigating these challenges in their own unique ways.

3 Global solidarity and international exchange

The findings of our study underscore the global nature of the pandemic, emphasizing the need for a coordinated international response characterized by collaboration and solidarity. All the experts we interviewed emphasized the importance of increased international exchange, both in theory and practice, when addressing a global crisis. They pointed out that the similarities in experiences across different regions should be viewed as an opportunity for mutual learning, rather than a challenge. However, it's worth noting that experts from various countries, including Zambia, South Korea, Spain, and Sweden, also stressed the importance of tailoring approaches to local contexts and specific conflicts. They emphasized that adapting strategies to individual circumstances was crucial for achieving a more equitable global response:

> *"I think that the pandemic is really a global challenge - it brings out the need for a global pandemic thinking, global bioethics, but [they] must also be attentive to the contextual differences." (Bioethicist, Sweden)*

Some interviewees from Türkiye, Brazil, Paraguay, and Ethiopia emphasized the absence of global solidarity, particularly regarding the global distribution of COVID-19 vaccines. They highlighted that vaccines were a scarce resource on a global scale, and all nations were grappling with the same crisis. The lack of global solidarity, according to these experts, exacerbated inequalities between LMICs and HICs. This perspective was primarily articulated by experts from underserved countries, including Nigeria, Pakistan, Paraguay, and Ethiopia. They pointed to the unequal distribution of vaccines, framing it as an example of unfair and unequal conditions:

> *"I think for developing countries that's another ethical concern [...] the vaccines are expensive [and there is some] scepticism about vaccines [... but] assuming they work, and they are effective then the next question is: who can afford them? [In] poor countries like Ethiopia the government has other priorities, like infectious diseases." (Bioethicist, Ethiopia)*

The COVID-19 pandemic's worldwide scope underscores the critical need for a unified international response characterized by cooperation and solidarity. Enhancing international collaboration and recognizing the potential for mutual learning from shared experiences have proven to be pivotal components of effective solutions. Nevertheless, it is crucial to acknowledge the necessity of adapting approaches to local contexts and specific challenges.

4 Conflicts surrounding health professionals

The analysis of the results unveiled distinct challenges faced by health professionals during the pandemic. The interviewed experts identified multiple layers of burden, encompassing physical and psychological stressors, moral and legal dilemmas, along with societal expectations. While our primary focus was on the conditions of nurses, the experts encompassed HCWs at large, also including doctors. Consequently, we will present the conflicts for HCWs in the subsequent discussion, highlighting specific challenges for nurses at some points.

4.1 "Frontline" burden

HCWs, both in clinical and outpatient settings, encountered unique challenges related to their profession during the pandemic. Many experts referred to this as the "frontline" burden. The majority of bioethicists highlighted the worsening of pre-existing deficiencies within the nursing service sector during the crisis. An expert from France noted persistent financial cutbacks that have persisted for years:

"We've been chipping away at the public health system for about twenty years now and it's really starting to show, and for the last five to ten years there's been systematic protests about the lack of pay and the stress on healthcare workers."

In this context, the majority of interview partners underscored the widespread issue of inadequate compensation for nurses, highlighting that they are generally underpaid. Experts from Poland, the USA, Mexico, India, Zambia, and Türkiye, among others, concurred that this is primarily a consequence of understaffing. The latter does not only elevate the workload for the staff but also necessitates extra hours and shifts, ultimately contributing to a decline in the quality of care:

"We do not have many doctors and nurses specialized in intensive care. Because they are very underpaid. It's a specialization which is quite demanding [...]. And they got exhausted [...] they work for seventy-two hours." (Bioethicist, Argentina)

Bioethicists from LMICs including India, Kyrgyzstan, Zambia, and Argentina, as well as from Türkiye and Oman, emphasized the critical issue of inadequate access to PPE as a significant exacerbating factor that further deteriorated working conditions. Consequently, this led to higher infection and mortality rates among healthcare providers and workers in the healthcare sector:

"Look at the numbers of the health care professionals who die due to COVID [...]. COVID-19 it's quite high in Türkiye, so that've been something we have missed - to take necessary precautions for protect not only our citizens but [also our] health care professions." (Bioethicist, Türkiye)

Finally, various bioethicists, including those from the United States, Canada, and Spain, presented policy solutions to address the acute shortage. These solutions involved, for instance, seeking assistance from retired nurses and physicians, as well as enlisting the support of trained military personnel. Several experts expressed criticism towards the temporary nature of these redistribution measures, once again highlighting the systemic mismanagement of the nursing profession:

"This is actually also necessary again from the immediacy - I believe that the caregivers are to be supported and that the COVID care has shown because they are not only to be supported on the individual level but also on the organizational and societal level." (Bioethicist, Austria)

Moreover, half of the interviewees stressed that, at the time of data collection, no official, quantifiable, or substantial changes had been observed, such as improvements in working schedules or compensation. Consequently, many experts concurred on the necessity for an overhaul of working conditions.

4.2 Psychological and moral distress

Beyond the structural shortcomings highlighted earlier, the analysis of the interviews underscored the specific psychological and emotional burdens experienced by healthcare providers. All interviewees unanimously acknowledged that psychological stress, in particular, posed a significant challenge for HCWs during the pandemic. Experts from various countries, including Ethiopia, Pakistan, Canada, and Poland, described the profound moral dilemma stemming from the conflict between the obligation to care for infected patients and the potential risk to one's own health when dealing with COVID-19. An expert from Japan delved into the perspective of the caregivers involved:

"Many of the health professionals providing care for COVID-19 patients are in an ethical dilemma: they wish to provide care but their situation is very hard so they may not be able to continue their job."

A bioethicist from Poland commented on this from the perspective of the general population:

"Bioethical debates basically revolve around the degree to which medical professionals have to respond to patients' needs. What level of risk they are expected to take […]. A number of people say this is just a job like any job […]. So you should not expect that doctors to be heroes. [Others say] the duty of the doctor is much stronger."

Numerous bioethicists, both in HICs and LMICs such as France, Israel, Italy, Denmark, Pakistan, and South Africa, emphasized the importance of recognizing that these conflicts could lead to moral distress. This distress was primarily driven by a sense of losing control in the daily clinical practice when it came to providing optimal care to patients:

"Well I think there was a lot of distress in nursing homes in the first wave. Especially in those nursing homes which had a lot of COVID-19 cases and deaths because [...] they saw the residents dying, they didn't feel that they had the support to what was necessary to care appropriately or prevent its sort of spreading." (Bioethicist, UK)

Additionally, bioethicists from Romania, Argentina, Türkiye, and Canada, among others, explicitly cited the excessive demands of assignments in foreign specialties or even intensive care units without prior adequate training as a grand stressor in the inpatient environment:

> *"In some other cities because of the lack of the medical staff [doctors and teams of] surgeons, neurosurgeons, dermatologists were involved...and those individuals were really against it because they said...we are not really trained for this situation." (Bioethicist, Romania)*

Furthermore, several experts highlighted the challenges faced by particularly nurses who found themselves in the role of intermediaries between political constraints and the practical clinical reality. Throughout the pandemic HCWs, by virtue of their profession, not only served as points of contact for patients and their families, addressing their needs, but also assumed the role of executing state decisions, as explained by bioethicists from Romania, Austria, and the United Kingdom. This dual responsibility often created a sense of pressure to meet the various demands.

Numerous bioethicists assert that the daily exposure to dying individuals and the compassionate management of the grief experienced by their relatives have become significant sources of psychological strain. Experts from Japan, Spain, Sweden, Paraguay, and Argentina depicted the treatment of dying patients during the pandemic as frequently lacking in dignity. In countries like South Korea, Austria, and Mexico, saying goodbye to close relatives upon their demise was often impossible, generating a sense of injustice for both relatives and patients, thereby fostering helplessness among caregivers:

> *"Something very painful for society [...] and also for patients because they die alone with a tube or unconscious and [there is a lack of] rituals [...], of culture regarding death. [...] If something happens they just make a call, and that's the way you, you see how your family is and that's painful for our society and also for the personnel [...]. And the last goodbye almost never exists." (Bioethicist, Mexico)*

Beyond their inherent sense of responsibility towards their patients, HCWs also carried the weight of responsibility for their colleagues and loved ones. This further blurred the line between their professional and personal lives, as healthcare professionals often distanced themselves from family members and friends to shield them from potential infection. Consequently, they found themselves without a refuge from their emotional burdens after work. Several experts specifically mentioned feelings of exhaustion, burnout, frustration, helplessness, exploitation, and vulnerability:

> *"They [doctors and nurses] are tired [. . .] emotionally and spiritually and physically tired because some of them cannot see their own family. In order to [protect] them [. . .] they have decided to go into the hotel facilities paid for by donors, and they don't go home." (Bioethicist, Mexico)*

Finally, bioethicists from Ecuador, Israel, Paraguay, and France explained that it was a common occurrence for nurses to ultimately leave their positions, manifesting as a refusal to work.

Furthermore, numerous protests, in which medical staff publicly pleaded for stricter PH measures, have taken place as experts from Canada and the UK, for example, stressed:

"Professions are constantly throwing out they're exhausted [...]. Nurses have in fact come online and said patients are suffering and what we need is better conditions for our work. [...] and it ends up sounding a little bit like using someone's trauma to manipulate better working conditions." (Bioethicist, Canada)

4.3 Public perceptions of nurses

Our findings underscored the significance of public perception regarding nurses and their profession. Interviewees from various countries, including Germany, Austria, Zambia, Brazil, and Ecuador, reported that public attitudes towards nursing professions initially became more appreciative during the early stages of the pandemic, with increased general attention and media coverage. However, more than half of the experts noted that public perceptions of nursing had evolved in a paradoxical manner, transitioning from viewing them as "heroes" during the initial phase to experiencing stigmatization and discrimination:

"So at the beginning, especially in the first wave, [...] there were lots of gratitude and clapping [... later on] there was a gratitude, but it wasn't like in the first wave, it's like people got a bit [...] COVID or pandemic fatigue. [... People] were cynical." (Bioethicist, Israel)

In this context, a large number of the experts, including those from South Africa, Poland, India, and Türkiye agreed that the gesture of clapping hands alone was insufficient, as it did not represent active support of the population in solidarity:

"Health care professionals are quite frustrated; they are not affected by the clapping hands. Instead of clapping hands they want humane working conditions [...] nurses for example are underpaid, they want their extra working hours paid [...] they are quite frustrated and disappointed, but they keep on working under these conditions." (Bioethicist, Türkiye)

The gesture failed to bring about any enduring improvements in working conditions. It also had no impact on the prevailing hierarchical structures within clinics, frequently resulting in the subordinate position of nurses in comparison to doctors. Finally, a number of experts, including those from Australia, Poland, Russia, and Japan, highlighted the vulnerability of nurses within the healthcare system, given the complexities of the circumstances described.

To summarize the challenges faced by healthcare professionals, particularly nurses, during the COVID-19 pandemic can be differentiated into several levels of burden, including physical and psychological stress, moral and legal dilemmas, and societal expectations. These challenges were experienced by health professionals globally. Issues such as understaffing, underpayment, lack of access to personal protective equipment, and inadequate policy responses have been contributing to the burden on healthcare professionals. Additionally, especially nurses experienced psychological and moral distress, including the ethical dilemma of balancing patient care with personal health risks, excessive demands on HCWs in different specialties, and the emotional toll of dealing with dying patients and their families. Lastly, the public perception of nurses underwent a transformation during the pandemic. While initially celebrated as heroes, this perception gradually evolved into stigmatization and discrimination. As a result, the findings underscore the pressing need for substantial support and the enhancement of working conditions for healthcare professionals, with a specific focus on nurses. These actions should extend beyond symbolic gestures such as applause and recognition.

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RESEARCH

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Scarce resources, public health and professional care: the COVID-19 pandemic exacerbating bioethical conflicts — findings from global qualitative expert interviews

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Abstract

Background Since spring 2020, the SARS-CoV-2 virus has spread worldwide, causing dramatic global consequences in terms of medical, care, economic, cultural and bioethical dimensions. Although the resulting conflicts initially appeared to be quite similar in most countries, a closer look reveals a country-specific intensification and differentiation of issues. Our study focused on understanding and highlighting bioethical conflicts that were triggered, exposed or intensified by the COVID-19 pandemic in low and middle-income countries (LMICs) and high-income countries (HICs).

Methods We conducted qualitative interviews with 39 ethics experts from 34 countries (Argentina, Australia, Austria, Brazil, Canada, Colombia, Denmark, Ecuador, Ethiopia, France, Germany, India, Italy, Israel, Japan, Kyrgyzstan, Mexico, Nigeria, Oman, Pakistan, Paraguay, Poland, Romania, Russia, Singapore, South Korea, Spain, Sweden, South Africa, Tunisia, Türkiye, United-Kingdom, United States of America, Zambia) from November 2020 to March 2021. We analysed the interviews using qualitative content analysis.

Results The scale of the bioethical challenges between countries differed, as did coping strategies for meeting these challenges. Data analysis focused on:

a) Resource scarcity in clinical contexts: Scarcity of medical resources led to the need to prioritize the care of some COVID-19 patients in clinical settings globally. Because this entails the postponement of treatment for other patients, the possibility of serious present or future harm to deprioritized patients was identified as a relevant issue.
b) Health literacy: The pandemic demonstrated the significance of health literacy and its influence on the effective implementation of health measures.
c) Inequality and vulnerable groups: The pandemic highlighted the context-sensitivity and intersectionality of the vulnerabilities of women and children in LMICs and the aged in HICs.
d) Conflicts surrounding healthcare professionals: The COVID-19 outbreak underscored the tough working conditions for nurses and other health professionals, raising awareness of the need for reform.

†Sabine Wöhlke and Silke Schicktanz shared last authorship.

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Conclusion The pandemic exposed pre-existing structural problems in LMICs and HICs. Without neglecting individual contextual factors in the observed countries, we created a mosaic of different voices of experts in bioethics across the globe, drawing attention to the need for international solidarity in the context of a global crisis.

Keywords COVID-19, Pandemic, Bioethics, Vulnerability, Global Comparison, Experts, Qualitative Interviews

Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus causing COVID-19, was first detected in December 2019 in Wuhan, China. Its rapid spread to many other countries led the World Health Organization (WHO) to declare the international developments surrounding the virus to be a pandemic on March 11, 2020 [1]. Worldwide, the COVID-19 outbreak had serious health consequences including long hospitalizations and high mortality rates [2, 3]. Many countries responded by implementing public health (PH) strategies to control COVID-19 outbreaks, using policies that included identifying and quarantining infected individuals, mandating the wearing of protective masks, social distancing and restrictions on international travel [4, 5]. PH strategies gave rise to a multitude of bioethical conflicts and challenges across the globe, and this study investigated their similarities and differences drawing on expert interviews. "Bioethics" is used in the study as an umbrella term for ethical issues, problems and dilemmas arising in the fields of biology, research, medicine, PH and healthcare [6]. Depending on the context, we differentiate between medical ethics (all clinical settings), PH ethics (collective issues) and nursing ethics specifically. To answer our research question of how, in cross-national comparison, bioethical conflicts were triggered or exacerbated by the COVID-19 pandemic, we categorized our findings into four main topics including A) resource scarcity in medical contexts, B) health literacy, C) inequality and vulnerable groups and D) conflicts surrounding health-care professionals [5, 7]. These ethical categories were established deductively from empirical findings; their theoretical foundations had been outlined previously, between June and November 2020. We distinguished between low and middle-income countries (LMICs) and high-income countries (HICs) by using the World Bank classification of countries based on Gross National Income: lower-income (< $1,085), lower-middle income ($1,085—$4,256), upper-middle income ($4,256—$13,205) and high-income (> $13,205) [8].

Background

COVID-19 created or exposed various conflicts of resource scarcity in clinical settings as decisions about the allocation of scarce resources had to be made. While this situation has been widely discussed in HICs especially as 'triage' in the clinical setting [9–12], in other countries, particularly in LMICs, prioritization decisions entailed also excluding individuals from basic healthcare access completely [13]. Under conditions of resource scarcity in clinical settings, some countries formalized priorities in the allocation of life-saving resources, such as ventilators and ICU beds, favouring certain populations [11, 14]. In this context, the prioritization of COVID-19-related cases also led to the postponement of other treatments [15], for example tuberculosis (TB) and human immunodeficiency virus (HIV) in Congo [16]. This raises potential bioethical conflicts of resource allocation.

PH ethical dilemmas principally derive from the tensions between the public good and restrictions on personal freedom [17]. Infection-control measures like masks and contact restrictions, for example, were imposed to protect population health but were often criticized as an unjustifiable curtailment of individual freedom. While the intensity of contact tracing in countries such as Israel and South Korea led to discussions about data protection and protests against interventions intended to reduce virus spread [18, 19], debates about vaccines ranged from possible vaccination mandates [20] to global equitable distribution and national prioritization [14, 21]. Health literacy – the skills to understand and to use relevant health information – has been identified as an essential determinant of public acceptance of measures [22]. Yet, the promotion of health literacy has become increasingly complicated in the twenty-first century due to the spread of disinformation and conspiracy theories in social media, leading to a decrease in the acceptance of important PH interventions [22, 23].

Vulnerability is understood as a state of being at increased risk of harm with reduced capacity to protect oneself [24] and is also a component of ethical debate. In the context of COVID-19, social and medical inequalities in the discriminatory attitudes towards older people in HICs have become apparent, giving rise to further ethical issues [25, 26]. Meanwhile, in Latin American countries the protection of women and children was discussed during the first wave of the pandemic [27]. Other literature identifies conflicts around additional vulnerable groups, such as people with disabilities and ethnical minorities, as a pressing global issue [28].

Finally, health-care professionals[1] gloablly experienced specific 'frontline' stressors [29], including, for example, high workloads under scarcity of staff, time and protective equipment [12, 30–32]. These added tensions strained the integrity of professional standards, particularly in nursing, that are already at risk due to permanently difficult working conditions [31]. They created sometimes contradictory political demands and high societal expectations [12]. Additionally, various challenging situations, such as patient mortality and the safety of colleagues and families, further increased mental stress. Moral dilemmas were more frequent, resulting in 'moral distress' [33] for many health professionals.

Through our study of expert opinion, we provide an exploratory contribution that takes a global perspective. It complements existing studies, which focus predominantly on single countries. We conducted interviews with 39 experts in bioethics (including clinical ethics) or PH ethics. A third of these experts are addtionally involved in medical research or policymaking related to COVID-19. Their expertise in relevant topics provides valuable insights into the realities of different countries and cannot be adequately captured quantitatively. By comparing their appraisals of the bioethical issues of COVID-19, we hope to open a globalised perspective on ethical issues for future pandemics.

Methods and materials

Study design

For this exploratory study we used qualitative research methods to identify bioethical conflicts created or revealed by the COVID-19 pandemic. We conducted 39 semi-structured expert interviews. The aim of our qualitative study was to fill the gap of a global perspective by classifying commonalities and differences perceived in bioethical conflicts in context of the COVID-19-pandemic in 34 countries. The study is part of a larger project at the Department of Medical Ethics of the University of Göttingen that has presented the experts' assessments in an internet-based virtual exhibition since May 2022. It is publicly accessable in the form of podcasts and interactive teaching material.[2] The study was approved by the Ethics Committee of the University Medical Center Göttingen (32/10/20).

Sampling, data collection, consent

Recruitment of experts took place from November 2020 through January 2021 and was based on the department's exiting international network of scientists, a targeted internet search and an emergent snowball system using recommendations from third parties and interviewed experts. Participants were selected regarding their involvement in public discourses concerning COVID-19, such as published papers and participation in international online sessions on COVID-19, their spectrum of research and country of residence. Some were representatives on ethics committees, some were lecturers on the pandemic and others were involved in clinical practice as physicians and spoke of their 'front-line' experience. To ensure confidentiality, we give no details regarding the professional status of interviewees, but some have more clinical expertise and others a more theoretical background.

In total, we conducted 39 interviews with experts of different ethical fields, reporting from 34 different countries. The differentiation of the countries studied into LMICs and HICs was based on the World Bank's classification.[3] Table 1 provides an overview of the experts interviewed.

We collected the data in form of semi-structured expert interviews. With reference to a literature review of publications up to November 2020 regarding potential ethical conflicts worldwide in context of COVID-19, a standardized semi-structured interview guide was formulated, aiming to structure the content by means of 13 open-ended questions regarding scarce resources, PH and professional care (including further sub-topics, see Additional file 1: Interview guideline). The guide was pretested in three interviews to ensure its validity and comprehensibility and sent to participants prior to the interviews.

Data collection took place online via Zoom[4] between November 2020 and March 2021. All interviews were conducted by J.V. with the majority in English (35), but also in German (3) and Spanish (1). The average interview lasted about 50 min. Prior to data collection, written

[1] The nursing profession diverges internationally. By 'health-care professionals' we mean all staff working in health institutions (doctors, nurses, etc.), whereas when specifically using the term 'nurses' we mean trained nurses in outpatient and clinical contexts.

[2] *Medicine and ethics go viral*, https://www.ethicsgoviral.com/ (01/06/2023). The project also produced a physical exhibition in the *Forum Wissen* in Göttingen from June to October 2022. For the virtual exhibition additional and new podcasts were produced based on preliminary data analysis.

[3] https://data.worldbank.org/country/XO (01/06/2023). For clarity, we have combined the groups of low income, low-middle income and upper middle-income countries into LMICs.

LMICs: Argentina, Brazil, Colombia, Ecuador, Ethiopia, India, Kyrgyzstan, Mexico, Nigeria, Pakistan, Paraguay, Tunisia, Türkiye, Zambia, South Africa. HICs: Australia, Austria, Canada, France, Germany, Italy, Israel, Japan, Oman, Poland, Russia, Romania, Singapore, South Korea, Spain, Sweden, United-Kingdom (UK), United States of America (USA).

[4] https://zoom.us/ (01/06/2023).

Table 1 Participant characteristics ($n = 39$)

Characteristics	% (n)
Gender	
Male	53.8 (21)
Female	46.2 (18)
Field of ethical expertise	
Bioethics (including clinical ethics)	78.0 (29)
Public health ethics	22.0 (11)
Parallel working: Research ethics (6), physicians (8), politics (5)	31.6 (19)
Experts stemming from the following continents	
Europe Austria, Denmark, Germany, France, Italy, Spain, Sweden, Poland, Romania, UK	28.2 (11)
Asia India, Israel, Japan, Kyrgyzstan, Oman, Pakistan, Russia, Singapore, South Korea, Türkiye	25.6 (10)
Africa Congo, Ethiopia, Nigeria, South Africa, Tunisia, Zambia	15.4 (6)
America Argentina, Brazil, Canada, Colombia, Ecuador, Mexico, Paraguay, USA	25.6 (10)
Oceania Australia	5.2 (2)

and verbal informed consent for data recording and storage was obtained from all participants. For the next analytical step, recordings and transcripts were then pseudonymized and anonymized for publication.

Data analysis

Data was analysed by means of qualitative content analysis [34]. The material was reproduced verbatim and, if necessary, translated into English. Analysis of the material involved the language-condensation and coding of the transcripts. The coding guideline (see Additional file 2: Code overview), had been created deductively following a literature review. Additionally, inductive codes were added during the coding process and further compared with existing research. The coding guideline was pretested by peer-coding before application. Furthermore, 25% of the collected material was peer-coded by the co-authors and one external colleague.

The coding process was performed using the software Atlas.ti™.[5] In a first run of the material review, 16 so-called *main codes* were created (see Additional file 2: Code overview), which already represented general terms for selected quotations or context units taken from the text. In several condensing steps, irrelevant information and repetitions were deleted and a transformation of the text on a uniform language level took place. Condensing steps were always carried out with consideration of the theoretical background. For more detailed access to the text, these main codes were subsequently expanded, specified and revised, always in light of the research question. Hence, in addition to the main codes, 43 sub-codes (see Additional file 2: Code overview) were inductively created and added to the coding guideline. Subsequently, a reduction and abstraction of the coded text passages was performed to finalize the category system. Coded text passages were then thematically interpreted, supported with anchor examples and summarized in text form, always identifying the countries.

Results

Our data analysis identified a wide range of bioethical conflicts. For analysis, we structured this range using three main topics: scarce resources, public health and professional care. Each main theme includes more than one subtheme as summarized in Table 2. For transparency and contextual comprehensibility, we mention the countries related to the experts' statements. For simplification, we grouped the countries into HICs and LMICs, as national income impacts national healthcare systems. These findings are described below (see also Additional file 3: Results summary):

Table 2 Overview themes and subthemes

A) Effects of scarcity for the clinical context
A1) Different dimensions of resource scarcity between LMICs and HICs
A2) Prioritization of COVID-19 patients
B) Health literacy
C) Inequality and vulnerable groups
C1) Poverty as a specific challenge for LMICs
C2) Children and women as a specific vulnerable group in LMICs
C3) Older people as a specific vulnerable group in HICS
D) Conflicts surrounding health-care professionals
D1) Frontline burdens
D2) Psychological and moral distress

[5] https://atlasti.com/ (01/06/2023).

Effects of scarcity for the clinical context

Concerning the scarcity of resources and the consequences of prioritization in the medical-clinical context during the COVID-19 pandemic, ethical problems of global, national and regional scope became apparent. We present them in the following.

Different dimensions of resource scarcity between LMICs and HICs

According to all interviewed experts, there was a pronounced lack of material resources in the clinical setting, especially at the beginning of the pandemic. This included COVID-19 tests and personal protective equipment (PPE). In the context of international discrepancies between LMICs and HICs, experts from Ecuador, Ethiopia and Türkiye emphasized the unequal conditions in terms of access to the international market.

From a national perspective, regardless of the interviewed experts' origin, the majority identified the lack of PPE in clinics and nursing homes as one of the biggest problems. Experts from Russia, Oman, Zambia and Argentina, among others, mentioned the resulting serious COVID-19 infections and COVID-related deaths among healthcare personnel themselves. Furthermore, interview partners from the African LMICs Zambia, Ethiopia and Tunisia reported that the severe lack of PPE resulted in extreme re-usage of used materials which can be problematic for hygienic reasons.

> *'PPE has been a huge issue here. [...] I didn't have any disposable PPE, so I had to use my regular one [...]. I had people with COVID, so I put it [PPE] in plastic, took it home and washed it and I will use it again'. (Zambia)*

Emphasizing that long-existing financial deficiencies in healthcare systems became more apparent, experts from the LMICs Ethiopia, Paraguay, Ecuador, Pakistan and Kyrgyzstan reported serious scarcities in terms of basic resources. Additionally, other experts from LMICs like Mexico, Kyrgyzstan, Paraguay, Ecuador and South Africa emphasized a fundamental lack of health infrastructure and ICU equipment in local hospitals that had already existed before the crisis:

> *'From the beginning it was clear that the public clinics wouldn't cope, that there were no near enough ICU beds in the country based on the projections that we had at that time. I think South Africa has about 3000 ICU beds in total and most of those are in the private healthcare system which most people can't access'. (South Africa)*

Interviewees from Pakistan, Kyrgyzstan, Paraguay, Romania and Japan accentuated deficits of resources especially in rural health facilities. Compared to urban clinics, small provincial ones were not as well supplied during the pandemic, which resulted in a national and inter-clinical inequality of providing medical care.

Prioritization of COVID-19 patients

The severe shortage of material but also of personnel resources in clinics resulted in the prioritization of COVID-19 patients over other patients who, consequently, were harmed. The majority of experts reported a focus of medical care on COVID-19 and emergency medicine, especially during the initial period. Though shortage of medical material was mentioned by every interview partner, reported resource allocation and consequences of priority-setting varied across the countries. Especially in HICs, such as Austria, the United Kingdom and Canada, the main strategy was to postpone surgery interventions and non-essential treatments. Meanwhile, in India, Brazil, Argentina and Italy entire hospitals were transformed into exclusive COVID-19 facilities or even totally closed to redistribute available resources:

> *'Many hospitals have been completely closed because of the pandemic and the patient, who usually went to this hospital, hadn't the possibility to be treated as usual. This was a big problem'. (Italy)*

The transformation of hospitals into COVID-19 facilities led to conflicts worldwide regarding equal access to treatment options during the pandemic. An expert from Sweden concluded that *'prioritizing one group means making another one suffer'.*

Most experts considered two sides. On the one hand, there has been a prioritization of emergencies and COVID-19 cases by policy and/or by the healthcare facilities themselves, aiming to minimize infections and to prevent a collapse of the entire system. On the other hand, patients themselves refused to visit potential infectious institutions, such as clinics. Interview partners from HICs such as Austria, France and Sweden, also reported a general mobilization of resources towards COVID-19, which resulted in an unequal distribution of available resources on different wards in hospitals. By limiting elective procedures, screenings and the overall number of patients in general, an attempt was made to prevent the system from becoming overburdened. Many experts reported that this *'Covidization'* (EC17) of healthcare systems resulted in a global treatment deficit, especially for oncological patients all over the world. Delayed diagnosis of malignant tumours due to reduced screening, diagnosis and control examinations, potentially has led to an increase in undetected tumours, as an expert from Oman with clinical experience stated:

> *'We had [oncological] patients who were delayed three months because their previous appointment was cancelled because it was thought to be an elective procedure, [but] it turned out to be much more [of] a malignant diagnosis. […] That's really a concern because some elective procedures actually end up as non-elective emergencies.'*

Regarding the postponement of elective surgical interventions and therapies, the concept of *selectivity* was often described as problematic, as it was mostly equated with *non-essential.* Experts from Türkiye, Oman, Canada, Singapore and the USA emphasized that the designation of a procedure as elective does not automatically exclude the existing necessity or (potential) urgency of this procedure. On the contrary: especially in the case of oncological diagnostics and therapies, delayed detection can have grave consequences.

Furthermore, numerous experts, especially from LMICs such as India, Zambia, Nigeria, Ecuador and Mexico, elucidated the negative effects on essential diagnostic examinations in the field of infectious diseases, such as HIV and TB:

> *'We are losing more people from HIV, from TB, from malaria [than from] COVID. But COVID, it has created this huge public health, global public health emergency and all the attention is on it […] Now we have to reallocate some of the wards … from HIV into COVID. So, but what will happen then to these programs of HIV and TB?' (Zambia)*

As the statement shows, international standards were often used as a guide in a global crisis. This, in a number of cases, led to a lack of contextualizing national situations and needs of healthcare systems of respective countries.

Finally, the analysis of interviews with interview partners from South Africa, India, Argentina and Nigeria indicated that the pandemic might also undermine years of public work and education, for example, in the fields of vaccination or reproductive medicine. For example, the number of registered abortions and of pregnant women seeking care in hospitals reportedly dropped significantly during the first and second waves of the pandemic:

> *'In the southern part of the world where [there are] campaigns of vaccination and campaigns for the children, and campaigns for letting the young women to go and to check their pregnancies, we have achieved so much in sexual and reproductive health during the last ten to fifteen years. It was all lost […] because of COVID.' (Argentina)*

Health literacy

The high risk of population infection in a pandemic creates ethical conflicts for PH policy. In the context of health-influencing factors such as living space, education, nutrition and social environment, various experts mentioned the decisive influence of health literacy. Regarding the implementation of pandemic protection measures, the ability of the public to comprehend medical information seemed essential. Experts from LMICs such as Ecuador, Nigeria and India noted a health literacy gap between rich and poor. In countries without a functioning healthcare system, health literacy in the predominantly poor population was considered very low. This was not only seen due to the lack of education, but also due to dissatisfaction with the government and the daily struggle for survival, regardless of the SARS-CoV2-virus:

> *'Sixty percent of the population has no access to money,...to health [or] education. I would say [...] the culture of health is not good in my country […]. Some people from the media to the rich [classes] can understand, can be aware of taking care.' (Mexico)*

Our results showed that also in HICs, including the United States, Canada, Poland, Sweden and Israel, health literacy was seen as more deficient in marginalized and often financially weaker groups, such as migrants and ethnic minorities. Thus, education and social background has been identified as relevant factor in the context of health literacy:

> *'It's not exactly shocking that someone who grows up in an environment like that is not getting access to the same resources than someone who's living in a […] wealthy neighbourhood.' (USA)*

Experts from many countries, including the UK, Australia, Sweden, Ecuador and Paraguay, explained that being linguistically, socially and culturally separated from the majority society led to the lack of access to relevant information for minorities in general. In addition, some interview partners emphasized the key role of religious rites and gatherings, which showed a diminishing effect on the establishment of health competence and thus on the implementation of necessary pandemic protection measures. For example, experts from Singapore, Israel, South Korea, but also from Colombia and India stated that the realization of rituals and customs often outweighed compliance with restrictions in their importance, also pointing to a specific influence of cultural attitudes regarding health literacy.

Especially Latin American interview partners (from Ecuador, Paraguay, Mexico and Argentina) ranked interpersonal relationships and physical proximity as a significant influence on the acceptance of protective measures. This indicated a cultural influence on the representation of conflicts:

'The masks and the isolation of the patient in the hospital [...] is also something that for our culture is terribly heavy [...] so we are anything but puritan, we like human contact and for us that thing has been a very important issue.' (Argentina)

Inequality and vulnerable groups

The COVID-19 pandemic disproportionately affected vulnerable groups, both highlighting and exacerbating existing social and economic inequalities. This section presents experts' perspectives on ethical challenges in LMICs stemming from high poverty. Below, we look at the rationale for and consequences of public safety measures with a focus on the vulnerability of women and children affected by lockdowns.

Poverty as a specific challenge for LMICs

Higher poverty rates in LMICs were identified as the root of many difficulties. To minimize infections, countries mandated protective measures including masks and social distancing mandates as well as restrictions on mobility. Numerous experts, primarily from Latin American and African LMICs such as Ecuador, Mexico, Zambia and Tunisia, noted that lockdowns in particular created existential problems for the poor because, for example, street vending is the only source of income for many. Because many families' food choices often depend on their daily earnings, some experts talked of *'hunger vs. COVID'.* An expert from Argentina reported in that context:

'Because of the high poverty levels – we live from hand to mouth, people have to wake up every day and they get daily wages from selling, [...] so you eat what you can make in one day and, the next day you die. So now the ethical issue is ... can we have even say a one week shutdown? [...] the consequences would actually be worse.'

Moreover, experts from India, Zambia, Argentina and Colombia, among others, concurred that informal employment relationships presented difficulties in the context of any lockdown. Those employees working in, for example, informal street vending were not only restricted in selling goods, but also lost customers. Given the absence of the laws protecting employees, numerous experts from LMICs reported an increase of unemployment, resulting in a sharp rise of poverty and hunger.

Furthermore, interview partners from Tunisia and India stressed that the state had imposed restrictions without offering support to affected citizens. This kind of reciprocity and fairness regarding pandemic measures should be indispensable, experts said:

'People were also starving because they had no income, because the entire economic activity had come to standstill. And the government did it without having an ethical obligation of caring for them. [... But] if you take measures [restricting] peoples' rights [...] then you must reciprocate it by providing them support so that they can survive.' (India)

Data collection from December 2020 until March 2021 with experts from Türkiye, Brazil, Paraguay and Ethiopia showed also their concern with the lack of global solidarity regarding the distribution of COVID-19-vaccines. Since vaccine distribution only began in mid-December 2020 [35], interviews conducted in November 2020 did not address this topic.

A lack of global solidarity heightened inequalities between LMICs and HICs. Exclusively experts from underserved countries such as Nigeria, Pakistan, Paraguay and Ethiopia, among others, reported the unequal distribution and thus contextualized an expression of unfair conditions:

'I think for developing countries that's another ethical concern [...] the vaccines are expensive [and there is some] scepticism about vaccines [but] assuming they work, and they are effective then the next question is: who can afford them? [In] poor countries like Ethiopia [...] the government has other priorities, like infectious diseases.' (Ethiopia)

Children and women as a specific vulnerable group in LMICs

In terms of specific vulnerabilities, the pandemic caused different effects globally. Although we identified several different vulnerable groups, in this paper we will present the results on children and women as a vulnerable group in LMICs and on elderly people in HICs.

Interviewees from LMICs of Latin America and Africa, such as Mexico, Argentina, Paraguay, Tunisia and Ethiopia, explicitly named children as a vulnerable group during the pandemic. This was mainly related to school closures and nationwide lockdowns with their complex socio-economic consequences. Experts from Argentina, Brazil and Tunisia explained that lockdowns often contributed to increased domestic violence against children and women:

'Domestic violence against the wife, against the child [...] many problems increased [...] the lockdown is

> *good perhaps for the epidem[ic] but it is not good for all the other aspects.' (Tunisia)*

Additionally, experts from Argentina and Paraguay noted that kids' suddenly no longer having access to a free lunch in educational institutions as another negative consequence of school closures. Especially poorer families in LMICs cannot ensure sufficient nutrition for the children, thus lockdowns entailed grave consequences for health. Experts agreed that the pandemic also took away school as a safe daycare option and as a component of a stable daily routine and social environment. Moreover, as children could not play much with each other, nor interact with new children, their socio-emotional development was severely impaired. Consequently, socio-emotional skills may have developed less well, according to experts from South Korea and Ethiopia.

Women were identified as another vulnerable group by several interview partners from America, Asia, Europe and Africa. On the one hand, women's and especially mothers' traditional gender role –housework and the upbringing of children – meant that the pandemic increased their workload:

> *'Most of the nurses that we have, seventy percent of nurses [are women]. On one hand, we have nurses [...] working extra hours, [being] most exposed to the virus and [...] sometimes they are mothers that take care of [their own] children. [Also] domestic violence increases.' (Ecuador)*

Interviewees also mentioned increased domestic violence, particularly against women and children. They saw the reasons mainly in the intensification of tensions within households during the prolonged confinement of families at home, economic insecurity and lower social interaction. On the other hand, experts from LMICs such as Ecuador and Argentina stressed the very high proportion of females in care-associated professions. Hence, women had a higher workload while also bearing an increased risk of exposure both COVID-19 and domestic violence.

Older people as a specific vulnerable group in HICS

Experts from HICs stressed above all the vulnerability of the aging population. As shown in the following, this relates mainly to the cultural bias against the elderly in Western countries as well as to the vulnerability of residents in nursing homes, especially regarding SARS-CoV-2.

Most of the interviewees from HICs identified older people as a vulnerable group in terms of pandemic effects. Experts from Israel, the USA, Australia and Italy, among others, emphasized that an already existing but hidden low esteem for old age became more transparent and explicit. They agreed that social inequality led to general health inequality for the elderly:

> *'We had, especially when there was the first wave of COVID-19, a very sad situation with the triage, with the choice of who should have the possibility to have this emergency intervention. And there was a sort of discrimination against the older people and that is people like me.' (Italy)*

Experts from Sweden, Canada, Oman and Türkiye especially concluded that the combination of medical vulnerability and so-called 'ageism' resulted in structural disadvantages for older people that were ethically unacceptable in their view. Having been made from a utilitarian perspective, COVID-19-policies aimed at protecting this vulnerable group from infection and at preventing a collapse of the healthcare system. However, especially in nursing homes in many countries such as Canada, Sweden and Türkiye, this planning often led to extreme social isolation:

> *'What I mean is that discriminatory stigmatizing attitude towards the elderly, [not] all of the elderly people were [treated] like this [but even now] there is a ban for the elderly people not to go out after four o'clock. [...] We have to think of how can we help them.' (Türkiye)*

Additionally, nursing homes and long-term care facilities as place of older people have proved to be places creating immense vulnerability for their inhabitants during the COVID-19-pandemic. According to many experts, the combination of the vulnerability of older people, the fragility of long-term care facilities as unpopular places and already deficient supply structures within the nursing profession have emerged as significant challenges in HICs in America, Oceania and Europe. In this context, a bioethicist from Austria summarized the profound structural discrimination of age on a multidimensional level as follows:

> *'In the German-speaking countries we have profound age discrimination.... That means not only the old person goes into a spiral of grievance, but being old triggers grievance and that affects [also] the relatives. And the third path is the discrimination of elder-care workers.'*

Experts from HICs such as Canada, Austria, Israel, Sweden and Australia, but also from Argentina, saw one driver for immense infection and mortality rates in nursing facilities in the need of nurses being employed in several facilities at the same time, which already was a practice before the pandemic. This unfortunate situation then led to the spread of the SARS-CoV2-virus between different facilities during the crisis. In addition, experts from Austria, France and the United Kingdom identified national inequalities in the distribution of materials such as PPE and tests between hospitals and nursing homes, accentuating the vulnerability of these facilities on the supply level:

> *'It was difficult to get enough personal protective equipment, [it] was bought by the government and primarily went to the healthcare system [...] which made it difficult for nursing homes to protect their staff and their residents adequately.' (UK)*

The management of nursing homes was often criticized. Here, interviewees found it problematic that the economic motivation of institutions was of priority instead of the protection of residents. Moreover, a few experts, including those from Canada and Austria, pointed out that hospitals and care homes increasingly tended to work against each other during the crisis, for example, by hospitals refusing to admit residents of the homes. In the end, considering all aspects mentioned, dramatic deficits in the care of nursing home residents – both, medically and emotionally – emerged. According to most experts from HICs, visiting restrictions in nursing homes, which were primarily intended for protection this group, resulted in undignified treatment.

Contrary to the conflicts outlined in HICs, various experts from Latin America and Africa stated that vulnerability of the older people did not exist to the same extent as in HICs. As a reason for that difference, they named their countries' different demographic structures and the self-reliance of caring for family members at home:

> *'I don't see that as a major problem in Pakistan because we don't have many people living by themselves. […] Most people live with their children with families, I think there is the concept that you protect your elderly.' (Pakistan)*

Still, interview partners from Argentina, Colombia and India spoke of vulnerability of the older people in terms of medical care, primarily due to of a lack of financial resources and insufficient pensions. Where healthcare systems rely heavily on private supplementary benefits, universal, fair access cannot be guaranteed, which is leading to insufficient healthcare.

Conflicts surrounding healthcare professionals

The analysis of the results revealed specific conflicts for health professionals, especially nurses, during the pandemic. Several levels of burden, including physical and psychological stressors, moral and legal challenges as well as societal expectations, were identified by the interviewed experts across the globe.

'Front-line' burdens

Healthcare professionals, both in clinics and in outpatient services, faced specific professional ethics conflicts. Most experts called this a 'front-line' burden, speaking, among other factors, of an exacerbation of already existing deficits in the healthcare system generally and in nursing care specifically. Experts from France and Austria mentioned funding cuts, ongoing for years:

> *'We've been chipping away at the public health system for about twenty years now and it's really starting to show, and for the last five to ten years there's been systematic protests about the lack of pay and the stress on healthcare workers.' (France)*

In this context, the majority of interview partners emphasized that nurses in particular are generally underpaid. Experts from Poland, USA, Mexico, India, Zambia and Türkiye, among others, also agreed that this results primarily from understaffing. This does not only increase staff workload but also leads to extra hours and shifts, which are associated with a reduction in the quality of care.

Several experts, including those from the US, Canada and Spain, noted temporary policies implemented in reaction to acute staff shortages. These included, for example, appealing to retired nurses and physicians for support or activating military personnel.

About half of the interviewees emphasized that at the time of data collection there had been no official measurable or significant changes, for example, regarding working schedules or payment. Hence, numerous experts agreed that the working conditions needed radical improvements:

> *'This is actually also necessary - I believe that the caregivers are to be supported and that the COVID care has shown because they are not only to be supported on the individual level but also on the organisational and societal level.' (Austria)*

Psychological and moral distress

In addition to the structural deficits outlined above, the analysis of the interviews accentuates psychological and emotional burdens faced by healthcare professionals.

All interviewees agreed that psychological stress in particular was a major challenge for health professionals during the pandemic. Experts, including those from

Ethiopia, Pakistan, Canada and Poland, described the fundamental moral difficulties arising from the clash between the duty to help infected patients and the danger of infecting oneself through contact with COVID-19. An expert from Japan focused on the perspective of the caregivers involved:

> *'Many of the health professionals providing care for COVID-19 patients are in an ethical dilemma: they wish to provide care but their situation is very hard so they may not be able to continue their job'.*

A bioethicist from Poland commented on this from the perspective of the general public, also considering the challenges for doctors in this context:

> *'Bioethical debates basically revolve around the degree to which medical professionals have to respond to patients' needs. What level of risk they are expected to take [...]. A number of people say this is just a job like any job [...]. So you should not expect that doctors to be heroes. [Others say] the duty of the doctor is much stronger'.*

Several interview partners from HICs such as France, Israel, Italy and Denmark and from LMICs like Pakistan and South Africa emphasized the possibility of these conflicts turning into moral distress. Primarily fuelled by a feeling of loss of control in everyday clinical life regarding adequate care for patients, distress was increased by precarious working conditions due to missing PPE and additionally exacerbated by social expectations. Moreover, experts from Romania, Argentina, Türkiye and Canada, among others, explicitly noted that being assigned to intensive care units or other areas outside a worker's professional expertise without prior adequate training was a major stressor in the hospital environment:

> *'In some other cities because of the lack of the medical staff [doctors and teams of] surgeons, neurosurgeons, dermatologists were involved...and those individuals were really against it because they said...we are not really trained for this situation'. (Romania)*

Several experts also reported the specific challenges of nurses mediating between political constraints and clinical reality. During the pandemic, due to their profession, nurses were not only contact persons for patients and relatives and thus responsible for helping them address their needs, they also functioned as an executor of state decisions, as interview partners from Romania, Austria and the UK noted.

According to numerous experts, the daily, intense confrontation with patients dying in one's care and handling grieving relatives had also become drivers for psychological overload. Experts from Japan, Spain, Sweden, Paraguay and Argentina described the treatment of dying patients during the pandemic as often undignified. In South Korea, Austria and Mexico, for example, it was not possible to say goodbye to close relatives. This resulted in a sense of injustice for relatives and patients, also creating feelings of helplessness for caregivers.

In addition to their personal sense of responsibility towards patients, healthcare professionals also felt responsible towards their colleagues and their loved ones. This blurred the boundary between the professional and the private sphere even more, as they distanced themselves from family members and friends to protect them from potential infection. Not only did this cut them off from emotional respite after work, it also caused fatigue and feelings of frustration, helplessness, victimhood and vulnerability:

> *'They [doctors and nurses] are tired [...] emotionally and spiritually and physically tired because some of them cannot see their own family. In order to [protect] them [...] they have decided to go into the hotel facilities paid for by donors, and they don't go home'. (Mexico)*

Finally, interview partners from Ecuador, Israel, Paraguay and France explained that it was common for healthcare professionals and notably nurses to ultimately flee their jobs in the sense of refusing to work. Moreover, numerous protests, in which medical staff publicly pleaded for stricter PH measures, have taken place, as experts from the UK and Canada, among others, stressed:

> *'Professions are constantly throwing out they're exhausted [...]. Nurses have in fact come online and said patients are suffering and what we need is better conditions for our work'. (Canada)*

Discussion

Our findings illustrate the complexity of bioethical issues arising from the COVID-19 pandemic. We identified various political, economic and societal problems that have existed for years but were spotlighted and amplified by the pandemic. Although these challenges are known, our material reveals significant disparities between LMICs and HICs, a critical aspect often underrepresented in the bioethical discourse. By highlighting existing gaps in the current bioethical debate, our analysis contributes to critical-constructive rethinking of a more globalised perspective for bioethics. In the following discussion, we focus on three topics of high relevance for advancing discussions on global bioethics: vulnerability, the role of organisational ethics in the clinical setting and global inequalities.

The concept of vulnerability as a relevant issue

The analysis of our results highlights the complexity of vulnerability in the context of the pandemic and shows that the concept of vulnerability was used in a highly context-specific manner. Our results say nothing about which groups in the countries studied are genuinely vulnerable but rather reflect discourse priorities generated in the media or in the professional environment of the experts at the time of the interview. Currently, although vulnerability is an acknowledged part of the field of PH ethics [24], our interviews showed that in practice, PH ethics does not sufficiently discuss the general importance of vulnerability, its contextual complexity and all its implications. The vulnerability of specific groups creates a fundamental dilemma for PH ethics and thus deserves more attention.

Context-sensitive vulnerability

Generally, being vulnerable means to be at an increased risk of harm with reduced capacity to protect oneself [24], entailing that any person can be vulnerable in in a specific situation [36]. The concept of vulnerability is too abstract and broad to be used without further differentiation. Regarding COVID-19, different kinds of vulnerability have been discussed globally including medical vulnerabilities like age (as in 'the elderly') or pre-existing conditions and socially defined vulnerabilities including those of ethnic minorities and refugees [7, 37]. We differentiate the levels of vulnerability into the risk of high infection (biomedical vulnerability) and by the degree to which pandemic protection measures disproportionately affect specific groups (social vulnerability).[6] The negative consequences of PH interventions designed to protect the general populations or specific groups can lead to vulnerabilities in highly biomedically vulnerable groups such as older people. Additionally, these interventions may also create vulnerabilities in non-biomedically vulnerable groups, as in the example of children being indirectly harmed by school closures (see Additional file 4: Overview vulnerabilities).

Intersectional vulnerability

The focus of discussions about vulnerability was mainly on biomedically vulnerable groups during the first wave of the pandemic [25, 38] and broadened over time. Later, social inequalities like the disproportionate impact of lockdowns on women and children in LMICs became an issue. Although those are two fundamentally different perspectives, we still speak of *vulnerability* in both contexts. Older people are not only biomedically but also socially vulnerable. When social isolation occurred due to social-distancing policies [39], social and biomedical dimensions necessarily intersected.

Our results highlight the lack of a consideration of pandemic-related vulnerability in the public bioethics discourse. As the immediate focus is either on the consideration of only medically vulnerable groups or on only socially vulnerable groups, their intersection is less often an issue. However, since biomedical and social vulnerability are directly and indirectly related, PH ethics must discuss both separately and in their intersection. Furthermore, it is necessary to consider context-specific vulnerability: every country and every region has its own kinds of vulnerable groups requiring special attention [40]. The phenomenon of vulnerability also demonstrates the transnational connections of national conflicts [37].

Reducing vulnerabilities

The discourse cited here may still sound abstract, but Marckmann et al. (2015) stress the necessity of providing practice-oriented analyses that use a structured methodology for applying normative criteria to PH issues [41]. As PH interventions in a pandemic are meant to protect population health, they should also be designed to avoid exacerbating vulnerabilities and inequalities [41]. We showed that this was not always the case. In a pandemic that required a public and global health ethical focus, reflection of and protection of vulnerable groups should be elevated to an explicit PH ethical objective.

Organisational ethics needed

Our results indicate the COVID-19-pandemic exacerbated already-existing precarious circumstances and the multifaceted physical and psychological challenges faced by health professionals globally. While the interview analysis reveals that all healthcare workers were under increased stress, our discussion will centre on the role of nurses. They occupied a special position in the pandemic linking the medical profession, patients and society and, in our opinion, are still underappreciated. Additionally, with the steadily growing world population and increased life expectancy worldwide, nursing care in particular is playing an increasingly important role [42, 43].

Understanding the impact of the pandemic on nursing means understanding norms of internal professional collaboration, hierarchies within health services and the distribution of professional responsibilities. All of these touch on organisational ethics, which involve behaviour-guiding moral principles like individual rights, self-interest and social responsibility and norms like honesty, fairness and compliance with legal and social obligations [44]. The ethical obligation of professional care is conventionally thought of as based on the principle of

[6] Also including cultural influences.

beneficence and thus recognizes a special moral obligation of nurses to advance patients' well-being [45]. Yet the additional burdens of societal medical emergencies cannot be borne by nurses alone, especially given their precarious working conditions [46–48].

What can we conclude from these results for future bioethical debates? Overall, it is of great relevance to establish concepts of organisational ethics regarding nursing in order to reflect actual professional routines in different settings and organisations [45, 49]. The complexity of the organisation of nursing should be respected. Nursing practice is affected by a broad range of organisational differences, including for example, those between community and in-home settings or between long-term and short-term care [45].

Essential reflection on responsibilities

Professional responsibility involves individual responsibility within the caregiver-patient relationship, but it also entails responsibilities within organizations and other collectives. The latter highlights the need for nurses to work collectively within the healthcare system to fulfil their professional obligations [50]. In essence, in nursing, 'responsibility' involves determining the cause of problems, assigning accountability for outcomes and distributing accountability among involved parties. It also encompasses the commitment to the whole setting, the duty to accomplish nursing tasks with empathy and awareness for moral decision-making [50]. For this to happen and to empower nurses to recognize and fulfil their responsibilities, however, a fundamental restructuring of nurses' roles must take place at the macro (health policy), meso (clinic) and micro (ward) levels.

On the macro level, the general inclusion of administrative and specific nursing ethics is needed to sharpen professionalization and actualise the assumption of professional responsibility by considering the expertise of nurses in the design of all care processes [45, 51]. Nurses' own reflection on the ethical dimensions of their work should lead to their involvement in all significant decisions related to patient care. In addition to professionalizing the field of nursing, the development of a framework for nursing ethics would also contribute to broader discussions on equity and justice in healthcare [49, 52].

On the meso and micro levels, many of our interviewed experts concurred with several studies regarding the numerous already-existing problems that were exacerbated by the COVID-19 crisis [29, 53, 54]. The pandemic showed how conflicts arose when the overlap of responsibility was not fully defined and thus often rested with nurses, whose authority was increased by their daily patient contact and by their mediating role between patients and the doctors. A fundamental change in terms of organisational and nursing ethics would be key for defining the ethical environment [55]. This would not only benefit nurses but also contribute to their ability to act ethically, fairly and with dignity towards patients and thus to meet the goals of PH ethics.

Global inequalities and global solidarity

Achieving equality at the level of global health is one of the greatest challenges in contemporary times. Most global health conflicts are subject to structural, cultural, social, political, historical and economic determinants within individual countries [56]. The COVID-19 pandemic has brought into focus the importance of considering national circumstances and contextual factors in formulating effective pandemic strategies [57]. Hence, global inequalities call for global solidarity as a collective response to address pressing social and economic disparities across the world.

Increasing awareness of global inequalities in HICs

Global ethics is of enormous significance in a pandemic. The challenges national governments are likely to face, such as vaccine distribution, the protection of vulnerable groups or resource scarcity all have global dimensions [58, 59]. For instance, significant disparities exist between LMICs and HICs in terms of their access to goods traded on international markets. This leads both to shortages and surpluses of medical care resources and technologies. While various interviewed experts from HICs took issue with the postponement of elective measures, the shortages mentioned in LMICs resulted in supply-chain breakdowns for truly essential goods such as primary healthcare or even food. Hence, global inequalities in the starting conditions hindered the handling of the novel virus [57, 60]. Increasing awareness of these disparities, especially among the perspective of the more powerful HICs, is the necessary first step to pave the way towards greater equality between LMICs and HICs.

Reliable global governance and international cooperation

Global health inequality is a well-known problem. Ruger (2009), for example, argues that global health justice requires prioritizing responsibilities through shared health governance to reduce inequalities in healthcare capacity. This points to the importance of governance structures and political power on national and international levels [61]. Precisely this international competence was lacking in the Corona pandemic, as the WHO was quickly marginalized by the more powerful states such as the USA and China. Its 2005 International Health Regulations [62] once designed to regulate such a situation, were quickly dismissed [63, 64].

Any pandemic must be understood as global crisis, but interviewees from LMICs criticized the lack of international cooperation. As we have seen during COVID-19, the global contribution of vaccines suffered from national politics, despite indications that public opinion in HICs, such as the USA and Germany, would support more utilitarian and egalitarian allocation rules [65]. Many countries prioritized their own interests, such as securing their own PPE and vaccines, rather than developing equitable distribution strategies for sharing scarce resources. This behaviour was understandable in the initial period [59], but a global crisis requires a global ethical, solidarity-based response. Active cooperation between countries is necessary to control pandemics in future scenarios [66, 67]. If only those countries with the means to stockpile supplies and buy vaccines can protect their populations, discrepancies and asymmetrical power structures between HICs and LMICs will widen [59, 68]. The COVAX-Initiative [69] for global equitable distribution of COVID-19 vaccines was a sensible idea in theory but fell short due to insufficient support. As of January 2021, 90 million doses had been administered worldwide but only 25 in sub-Saharan Africa outside of vaccination trials [67]. From a global ethical perspective, developing detailed strategies for fair allocation is necessary, but so too is a consideration of national and international governance structures including their political impact and the role of expertise in policy making.

Limitations

A first limitation of this study is that we identified experts online and via publications; thus the definition of expertise may be biased by our language abilities and by the experts' international visibility. To overcome this limitation, we also used a snowball-recruitment system which extended our contacts with experts less visible in those international bioethical discourses we are familiar with. Another selection bias may have been introduced because some experts declined participation due to fear of political retribution. That some interview partners requested anonymity indicates this may have been an issue.

Second, we interviewed in the rule only one expert per country. Therefore our study cannot claim quantitative representativity; rather, our focus was on taking an explorative snapshot of various experts' opinions during one critical episode of the pandemic [70–72]. Our primary objective was to make a broadly comparative and exploratory contribution to the bioethical discourse related to the pandemic under the constraints of time and uncertainty.

Finally, we tried to overcome the European perspective on the pandemic through comparison across global regions. However, our approach may still introduce Eurocentric bias through in the study design itself. Through constant self-reflection and communication within the research group, we tried to minimize this potential bias.

Conclusion

We conducted a qualitative study on the opinions of bioethics experts regarding bioethical issues arising from the COVID-19 pandemic in international comparison. We found that perceived ethical challenges were similar across the globe but that their perceived consequences and causes show country-specific cultural, infrastructural and economic differences. In summary, the purpose of seeking a deeper understanding of a globalised perspective on ethical issues related to pandemics is essential for crafting more effective and equitable preparedness and responses to future global health crises. It might help policy organisations and health policymakers to identify potential ethical problems and develop ethical frameworks and related strategies at early crisis stages – regarding human rights, fair allocation of scarce resources, the need for more contextualized health literacy, among others, to address them in advance. Lastly, the connections linking countries and populations during a pandemic situation were highlighted, underscoring the importance of international collaboration. Identifying specific needs can promote cooperation among nations and organisations to collectively address the bioethical challenges of pandemics. Although no single study of expert opinion can capture the full complexity of the pandemic and its global impact, our findings open a window onto the pandemic's ethical ramifications and should motivate empirical bioethicists, in collaboration with PH experts, to continue the analysis of experts' insights so as to be better prepared for the next pandemic.

Abbreviations

COVID-19	Coronavirus disease 2019
HIC	High-income country
HIV	Human immunodeficiency virus
LMIC	Low and Middle-income country
PH	Public health
PPE	Personal protective equipment
TB	Tuberculosis
SARS-CoV-2	Severe acute respiratory syndrome coronavirus type 2
UK	United Kingdom
USA	United States of America

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12889-023-17249-4.

Additional file 1. Interview Guideline.

Additional file 2. Code overview.

Additional file 3. Summary results.

Additional file 4. Overview vulnerabilities.

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Authors' contributions
J.V. was responsible for data collection, data analysis and interpretation of the results. J.V. wrote this manuscript and prepared Tables 1– 2 and the supplementary material. S.S. and S.W. were responsible for the design of the study, reviewing data analysis and for providing guidance throughout the manuscript development process. All authors reviewed and approved the final manuscript.

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Availability of data and materials
The datasets used and/or analysed during the current study are not publicly available because they could reveal the identity of interview partners. Data is available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
Informed consent was obtained from all participants prior to participation using an electronic consent form. Personal information was removed from transcripts, which were stored on a password-protected department computer to ensure confidentiality. This electronic consent form and study procedures were approved by the Georg-August-Universität Göttingen (32/10/20). All methods were performed in accordance with the institution's IRB guidelines and regulations.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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