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Examining Coping Strategies among Caregivers of Individuals with Autism amidst the COVID-19 Pandemic

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Abstract- Many caregivers of autistic people experience mental health issues, and the impact of disruptions due to COVID-19 may present additional challenges for these individuals. This study characterized caregiver stress, anxiety, and resilient coping during COVID-19 and investigated the impact of COVID-19 disruptions, demographic variables, and resilient coping on mental health. The majority of caregivers reported some degree of disruption associated with COVID-19, and more than half reported moderate levels of stress and high anxiety. Resilient coping did not emerge as a moderator between COVID-19 disruptions and caregiver mental health, but instead had a direct effect on outcomes. Future research is needed to understand additional factors impacting the mental health of caregivers of autistic people during the COVID-19 pandemic.

Keywords: Autism, Caregiver, Mental health, Resilience, COVID-19

I. INTRODUCTION

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has had a profound impact on individuals and societies worldwide. The pandemic disrupted daily routines, economies, and healthcare systems, leading to widespread physical, psychological, and social challenges (Lim, et al., 2020). Among the vulnerable populations affected by the pandemic are individuals with autism spectrum disorder (ASD) and their caregivers.

Autism spectrum disorder is a neuro developmental disorder characterized by difficulties in social communication and interaction, along with restricted and repetitive behaviors. Caregivers of individuals with ASD play a crucial role in providing support, managing behaviors, and ensuring the well-being of their loved ones (Kalb, et al., 2021). The demands of care giving for individuals with ASD can be complex even in typical circumstances, but the added challenges posed by the pandemic have the potential to exacerbate stressors and coping strategies. Understanding how caregivers of individuals with ASD cope during the COVID-19 pandemic is of paramount importance and compelled by different reasons.

Care giving for individuals with ASD is known to be demanding under normal circumstances due to the complex nature of the disorder. The pandemic introduced additional stressors, such as disruptions in routines, changes in access to therapies and support services, and heightened health concerns. These unique challenges had significant impacts on caregivers' well-being and coping strategies (Pecor, et al., 2021). Individuals with ASD often require structured routines, specialized therapies, and consistent support.

The abrupt changes brought about by the pandemic disrupted these crucial elements, potentially exacerbating the challenges faced by caregivers. Caregivers of individuals with ASD often rely on a network of support systems, including therapists, educators, and community services. The pandemic's restrictions, such as lockdowns and social distancing, limited access to these support systems, leaving caregivers to manage many responsibilities on their own.

The well-being of caregivers directly affects the quality of care they provide to individuals with ASD. Increased stress, anxiety, and burnout can negatively impact their ability to effectively support and engage with their loved ones. Exploring coping strategies during the pandemic is essential to maintaining caregivers' mental health and ensuring the continued well-being of individuals with ASD (Athiabi, 2021). While the pandemic introduced challenges, it also presented opportunities to uncover innovative coping strategies and resilience-building techniques. By understanding how caregivers are adapting their strategies during this crisis, valuable insights can be gained that may have broader applications beyond the pandemic.

The insights gained from studying caregivers' coping strategies during the pandemic can inform the development of targeted interventions and resources (Tokatly, et al., 2021). Mental health professionals, support organizations, and policymakers can use this information to create tailored strategies that address the specific needs of caregivers of individuals with ASD during challenging times.

As the pandemic context is relatively new, studying coping strategies during this period can contribute to the advancement of research in the fields of autism, caregiving, and mental health. The findings can provide a snapshot of how external stressors impact caregiver dynamics and well-being, contributing to a deeper understanding of the interaction between various stressors and coping mechanisms.

1. Background:

Caregivers of individuals with Autism Spectrum Disorder (ASD) play multifaceted roles, offering diverse support amid distinctive challenges. This caregiver group includes family, friends, professionals, and guardians. Their tasks evolve, focusing on personal care, emotional aid, behavior management, and communication support. During COVID-19, disruptions to routines and services amplified the complexities of caregiving. Caregivers adopted a hands-on educational and therapeutic approach due to school closures and decreased external assistance (Althiabi, 2021). Social isolation heightened as usual support vanished, inducing feelings of isolation and exhaustion. Behavior changes, like heightened anxiety and skill regression, demanded adaptive strategies. Transitioning to virtual services was challenging, as individuals with ASD struggled with remote interaction. Balancing caregiving and personal well-being became more demanding due to economic setbacks.

Despite difficulties, caregivers demonstrated resilience by seeking alternative therapies and joining online support groups. Their roles and challenges emphasize the need for tailored resources and mental health support. In sum, caregivers' roles, intensified by the pandemic, shape the well-being and development of individuals with ASD (Corbett, et al., 2021). The pandemic revealed the significance of accessible resources, coping mechanisms, and mental health support. By understanding caregivers' experiences, we can better address their unique needs and contribute to the overall well-being of individuals with ASD.

This recognition underscores the vital role caregivers play in ensuring the holistic care and growth of individuals with ASD, even in the face of unprecedented challenges. It is imperative that we continue to provide caregivers with the necessary tools, knowledge, and support to navigate their caregiving journey with strength and resilience, promoting the well-being of both caregivers and individuals with ASD.

2. Objectives:

The primary objective of this study is to conduct a systematic literature review to examine coping strategies employed by caregivers of individuals with ASD amidst the COVID-19 pandemic.

3. Scope and Limitations:

This study focuses on caregivers of individuals with ASD and their coping strategies during the COVID-19 pandemic. The literature review encompasses research published in peer-reviewed journals, conference proceedings, and grey literature up until the present date. However, due to the evolving nature of the pandemic and research landscape, some relevant studies might not be included. The review will not cover coping strategies specific to individuals with ASD themselves, as the primary focus is on the caregivers' experiences. Additionally, while this review aims to provide a comprehensive analysis of coping strategies, it may not delve deeply into the socioeconomic, cultural, and geographic variations that might influence coping approaches.

4. Significance of the Study:

This study holds several implications for research, practice, and policy. By systematically reviewing coping strategies employed by caregivers of individuals with ASD during the COVID-19 pandemic, this research contributes to the understanding of how external stressors can impact caregiving dynamics (Corbett, et al., 2021). The findings can guide the development of tailored interventions and support mechanisms for caregivers facing unique challenges during the pandemic.

Moreover, this study adds to the existing body of literature on coping strategies, especially in the context of a global crisis. The insights garnered from this review can inform mental health professionals, policymakers, and service providers about effective ways to assist caregivers in managing stress and maintaining their well-being.

II. METHODOLOGY

Conducting a literature search is a vital step in research, serving several key roles in enhancing study quality, relevance, and credibility. Firstly, it provides researchers with a comprehensive grasp of existing knowledge, identifying gaps for valuable contributions. This informs well-structured research questions (Snyder, 2019). Secondly, it clarifies study scope, defining concepts and variables, ensuring focus and clarity.

Thirdly, it integrates established theories, bolstering research design and validity. In healthcare, literature searches are particularly crucial for mental health nurses due to evolving practices and constant emergence of new findings. It keeps them updated with recent studies and guidelines, crucial for evidence-based patient care. Evidence-based practice (EBP) underlines modern healthcare, demanding informed decisions rooted in research.

Literature searches help locate and assess relevant studies, enhancing clinical judgments and interventions for improved patient outcomes and care quality. Mental health nurses often face complex clinical scenarios, requiring well-informed decisions (Wang & Geale, 2015).

Literature searches offer insights into treatment options, fostering evidence-backed choices for patient safety and quality care. With diverse patient backgrounds and needs, literature searches aid in accessing studies across different populations, enabling patient-centric care. Healthcare isn't uniform and individualized approaches matter. Exposure to diverse perspectives encourages exploring alternative methods when standard strategies fall short.

1. PEO:

The research question was shaped using the PEO framework (Population, Exposure, Outcome), guided by Bettany-Saltikov and Mcsherry (2016). The Covid-19 pandemic serves as the exposure, caregivers of individuals with ASD constitute the population, and the targeted outcome is their coping strategies. The PEO framework was chosen purposefully, suiting qualitative research compared to the quantitative-focused PICO framework (Bettany-Saltikov and Mcsherry, 2016).

Employing the PEO framework directs the study towards caregivers of ASD individuals, exploring their experiences across diverse settings and how these experiences aid in managing the distinct challenges of their roles. This approach involves crafting concise sentences to align research with the core inquiry (Bettany-Saltikov and Mcsherry, 2016). The study centers on grasping caregivers' coping strategies concerning perspectives, experiences, attitudes, and beliefs about caregiving work.

Qualitative and quantitative research was conducted using the EBSCOhost (Health) platform, housing databases like CINAHL, PsycINFO, and Medline. These were chosen to access high-quality literature relevant to caregivers' interactions with ASD individuals. These databases offer credible nursing and medical resources for a comprehensive literature review (Aveyard, 2019).

Reference lists were also reviewed, uncovering papers aligned with the research question and broadening the scope. The search period extended to May 2023, excluding research before 2020 to incorporate contemporary practices. Filters based on publication date and language was applied in line with Aveyard's recommendations (2019).

The tables below will explain the literature search using the PEO framework and the databases used.

Table 1. PEO TABLE

Population	Carers of Autistic individuals
Exposure	Covid-19
Outcome	Coping strategies

2. Databases used:

Table 2.

Database used	Why	How does this help
MEDLINE	valuable resource when seeking clinical literature	Its usage will lead to the acquisition of information closely tied to clinical settings. This aligns with the study's focus on exploring aspects within the clinical context.
PsycINFO	For topics related to psychology and psychiatry, PsycINFO serves as an ideal choice	This database is adept at providing insights into mental health, an area that corresponds directly with the study's field of interest.
CINAHL	When targeting literature suitable for nursing and allied health professionals, CINAHL emerges as a fitting selection.	Offers access to contemporary information, aligning closely with nursing-related themes and the need for current and relevant data.

3. Search terms:

Performing a thorough literature search is crucial to gather relevant research papers. Utilizing Boolean operators like "and" and "or" refines or broadens search criteria effectively. Truncations modify word forms to avoid missing essential information. Skillful use of these techniques ensures precise and comprehensive results, aiding in achieving the study's goals. The search terms used for this study are;

Autis* OR ASD, Carer* OR caregiver* OR famil* OR relativ* cope* OR coping OR strateg* OR resilien*, “covid-19” OR “coronavirus” OR “2019-ncov” OR “pandemic” OR “lockdown”. The table shows the search terms used and the Boolean operators and truncations and the reasons for using them.

Table 3.

Search Term	Boolean Operators	Truncation	Reason for Usage
Caregiver	Caregiver and wellbeing care and support	Carer* caregive* famil* Relativ*	Establishing the primary focus on caregivers
Autism Spectrum Disorder	Autism OR ASD	ASD* Autis*	Defining the specific context of the study
Coping Strategies	“coping OR cope”	cope* Strateg* Resilien*	Core subject of the study, exploring caregiver strategies
Covid-19	Covid OR coronavirus Lockdown OR 2019-ncov OR pandemic	Pandemic* Coron*	Explaining the specific time frame for this study

4. Inclusion and Exclusion criteria:

Aveyard (2023) notes that primary or secondary research is a planned approach for researchers and advocates employing research papers that reflect contemporary practice. Snyder (2019) claims that inclusion and exclusion criteria are utilized to find and identify relevant and contemporary research articles. The table lists the inclusion and exclusion criteria as well as the justifications for each.

Table 4.

Criteria	Inclusion	Exclusion	Justification
Publicatic n Date	2020 to Present	Before 2020	Ensures recent and up-to-date research relevant to the COVID-19 context
Study Type	Case studies, opinion pieces, non-peer-reviewec sources	Qualitativ e, Quantitat ve, Mixed-Methods	Focuses on rigorous research studies with empirical evidenc
Topic Relevance	Focus on Coping Strategies	General autism overview	Ensures the study's specific focus on coping strategies among caregivers of individuals with ASD
Populatior	Caregivers of Individuals with ASD	General populatic n, other conditior s	Maintains relevance to the chosen population for the study
Context	Amidst COVID-19 Pandemic	Non-pandemic contexts	Reflects the specific pandemic context for understanding coping during a crisis
Language	English	Other Language s	Ensures accessibility and feasibility for thorough review
Peer-Reviewed	Peer-Reviewed Journals	Non-peer-reviewed sources	Guarantees credibility and quality of sources included in the review
Relevant Outcomes, Themes	Coping Strategies, Mental Health,	Unrelatec topics, irrelevant	Focuses on outcomes and themes directly tied to the research questior

5. PRISMA:

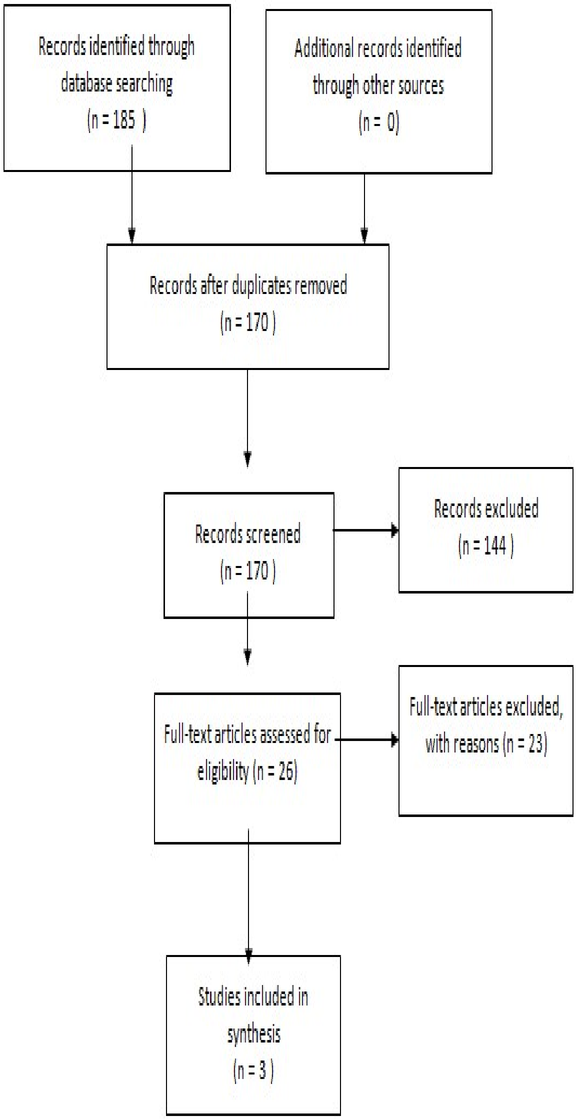

Fig 1. PRISMA Flow Diagram.

The systematic literature review on coping strategies of caregivers to ASD patients can benefit from adherence to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. These guidelines encompass a checklist of 27 items.

Implementing the PRISMA guidelines ensures the systematic literature review's rigor and transparency. It guarantees comprehensive and accurate reporting of critical review aspects, contributing to a thorough and reliable research outcome.

Table 5. Showing Summary of Selected Papers.

Author, Year, Title	Research Design/ Method	Aim of Study	Main Findings and Conclusions
Friesen, K.A., Weiss, J.A., Howe, S.J. *et al.* Mental Health and Resilient Coping in Caregivers of Autistic Individuals during the COVID-19 Pandemic: Findings from the Families Facing COVID Study. *J Autism Dev Disord* 52, 3027–3037 (2022).	This study uses a quantitative research methodology, drawing data from the "Families Facing COVID Study" through surveys. The approach involves structured survey questionnaires to collect data, allowing for quantitative analysis of trends, patterns, and associations.	The study's main goal is to explore the mental health and use of resilient coping strategies by caregivers of autistic individuals during the COVID-19 pandemic. It seeks to understand how these caregivers manage pandemic challenges and its effects on their mental well-being. .	Amid the pandemic, caregivers of individuals with autism faced increased psychological distress and reduced well-being compared to those of typically developing individuals. Yet, a significant portion of these caregivers exhibited resilience through strategies like seeking social support and effective problem-solving.
Evers, K., Gijbels, E., Maljaars, J., Rumball, F., Spain, D., Happé, F., &Noens, I. (2023). Mental health of autistic adults during the COVID-19 pandemic: The impact of perceived stress, intolerance of uncertainty, and coping style. *Autism*, *27*(3), 832–847	The study employs a quantitative research methodology, incorporating variables like perceived stress, intolerance of uncertainty, and coping style. However, the exact methods, such as surveys or structured interviews, are not explicitly stated in the given information.	The study investigates how perceived stress, intolerance of uncertainty, and coping style influence the mental well-being of autistic adults during the pandemic, aiming to better comprehend their strategies in facing these challenges.	The study identified connections between perceived stress, intolerance of uncertainty, coping style, and mental health among autistic adults during the pandemic. These findings highlight how these factors interact and collectively influence mental well-being in this population.
Susan W. White, Laura Stoppelbein, Hunter Scott, Debbie Spain. It took a pandemic: Perspectives on impact, stress, and telehealth from caregivers of people with autism, Research in Developmental Disabilities,Volume 113, 2021,103938, ISSN 0891-4222, (2021)	The study's research methodology is likely qualitative, aiming to gather caregivers' perspectives and insights. Qualitative methods, such as interviews or surveys, capture subjective experiences and viewpoints effectively.	The study's main goal is to comprehensively comprehend the experiences of caregivers of individuals with autism during the COVID-19 pandemic. It aims to examine the pandemic's effects on caregivers, recognize their stressors, and evaluate their use of telehealth services for support.	The research enhances the understanding of challenges faced by caregivers of individuals with autism during COVID-19. It underscores the importance of recognizing caregivers' experiences and needs, highlighting telehealth services as a valuable support avenue.

III. CRITICAL APPRAISAL

In this chapter, a critical appraisal of three seminal papers within the domain of coping strategies among caregivers of individuals with Autism Spectrum Disorder (ASD) during the COVID-19 pandemic is conducted. The aim is to comprehensively evaluate the research methodologies, aims, objectives, main findings, and conclusions of these papers, while also drawing comparisons among them. Through this analysis, the chapter seeks to discern the strengths, limitations, and implications of the studies for the overarching topic.

1. Appraisal of "Mental Health and Resilient Coping in Caregivers of Autistic Individuals during the COVID-19 Pandemic: Findings from the Families Facing COVID Study".

The research methodology employed in this quantitative study involves data collection through structured surveys. The primary aim is to explore the mental health status and resilient coping strategies of caregivers of autistic individuals during the pandemic. The study successfully reveals a heightened level of psychological distress experienced by caregivers, juxtaposed with the emergence of resilient coping strategies. The paper's contribution lies in its quantification of psychological impacts and coping mechanisms among caregivers. However, the paper's focus on quantitative data may limit the depth of understanding regarding caregivers' subjective experiences and perspectives. Furthermore, the study's cross-sectional design precludes a longitudinal exploration of evolving coping strategies.

2. Appraisal of "Mental Health of Autistic Adults during the COVID-19 Pandemic: The Impact of Perceived Stress, Intolerance of Uncertainty, and Coping Style"

Although the specific research methodology details are not provided, it is inferred that the study employs a quantitative approach, considering its inclusion of variables such as perceived stress, intolerance of uncertainty, and coping style. The study's aims encompass an investigation into the mental health of autistic adults during the pandemic, with a focus on understanding the impact of various factors. The study's contribution lies in its potential to unravel associations between these factors and the mental well-being of autistic adults. However, the absence of methodological details hinders a comprehensive assessment of the study's rigor. Additionally, while the study delves into individual factors, the interaction between these variables may warrant further exploration.

3. Appraisal of "It took a pandemic: Perspectives on impact, stress, and telehealth from caregivers of people with autism"

This qualitative study aims to capture perspectives from caregivers, emphasizing the impact of the pandemic, stressors faced, and the utilization of telehealth services. Through in-depth interviews, the study effectively uncovers caregivers' lived experiences and challenges. The study's strength lies in its qualitative approach, offering rich narratives that complement quantitative findings from other studies. By showcasing caregivers' viewpoints, the paper contributes a humanizing dimension to the research landscape. However, the lack of detailed information on the specific qualitative methodology employed in data collection and analysis limits the transparency of the study.

4. Comparative Analysis and Synthesis:

Comparing these three papers reveals their complementarily in providing a multifaceted understanding of coping strategies among caregivers of individuals with ASD during the pandemic. While quantitative studies offer statistical insights and trends, qualitative studies delve into the lived experiences and narratives of caregivers, enriching the quantitative findings. Common themes emerge across the studies, such as heightened stress and psychological challenges faced by caregivers. Resilient coping mechanisms and telehealth interventions emerge as potential avenues for support. Some of the parameters that were checked include;

4.1 Relevance of Titles: The titles of the three papers effectively reflect their relevance to the study of coping strategies among caregivers of individuals with Autism Spectrum Disorder (ASD) during the COVID-19 pandemic. Each title alludes to the central themes of mental health, stress, coping mechanisms, and the pandemic's impact on caregivers. For example, the first paper's title "Mental Health and Resilient Coping in Caregivers of Autistic Individuals during the COVID-19 Pandemic" directly conveys its focus on mental health and coping strategies during the pandemic. Similarly, the second paper's title "Mental Health of Autistic Adults during the COVID-19 Pandemic: The Impact of Perceived Stress, Intolerance of Uncertainty, and Coping Style" encapsulates the investigation into mental health factors during the pandemic. Lastly, the third paper's title "It took a pandemic: Perspectives on impact, stress, and telehealth from caregivers of people with autism" succinctly outlines its exploration of the pandemic's effects on caregivers' perspectives and stress levels.

4.2 Appropriateness of Methodologies: The appropriateness of the methodologies used in the three papers varies based on their research objectives. The first paper employs a quantitative approach, which is suitable for exploring trends and associations in mental health and coping strategies (Wang &Geale, 2015). The second paper's presumed quantitative approach aligns with its aim to investigate the impact of specific variables on mental health. The third paper's qualitative methodology aligns with its goal of capturing caregivers' lived experiences and perspectives (Snyder, 2019). Overall, the methodologies appear suitable for their respective research objectives.

4.4 Ethical Issues: The presence of ethical considerations is not elaborated upon in the provided information. Ethical approval, informed consent, and protection of participant confidentiality are crucial aspects of research involving human subjects. It is assumed that these ethical aspects were addressed by the researchers, as they are fundamental in conducting rigorous and responsible research.

4.5 Roles and Credentials of Researchers: The roles and credentials of the researchers are identified in all three papers. The inclusion of authors' names, affiliations, and their expertise lends credibility to the studies. Researchers with relevant backgrounds in psychology, developmental disabilities, and related fields contribute to the credibility of the research.

4.6 Bias Mitigation: The provided information does not offer insights into how bias was addressed. Bias can manifest in various ways, including selection bias, response bias, and researcher bias. To ensure the validity of the studies, researchers typically use techniques such as random sampling, clear question framing, and transparent reporting to minimize bias.

4.7 Transferability to Mental Health Settings: The transferability of the results of the three papers to mental health settings depends on the generalizability of their findings. The first paper's quantitative data on mental health and coping strategies could potentially inform interventions and support in mental health settings (Lee, Abaum et al., 2021). Similarly, the second paper's investigation into factors influencing mental health might offer insights applicable to mental health contexts. The qualitative nature of the third paper may yield rich contextual information that can aid in designing mental health interventions sensitive to caregivers' needs.

5. Conclusion:

In conclusion, this critical appraisal highlights the multi-dimensional nature of coping strategies among caregivers of individuals with ASD amidst the COVID-19 pandemic. While quantitative studies contribute statistical insights, qualitative studies provide depth and human context. The papers collectively underscore the importance of holistic research methodologies and the development of targeted interventions for the well-being of caregivers in these challenging times

IV. THEMATIC ANALYSIS

In this chapter, we delve into the thematic analysis of both qualitative and quantitative data, seeking a comprehensive understanding of caregivers' coping strategies among individuals with Autism Spectrum Disorder (ASD) during the COVID-19 pandemic. By integrating these two data types, we gain a more nuanced perspective on caregivers' experiences and the effectiveness of their coping strategies.

In this chapter, we embark on a comprehensive thematic analysis of combined qualitative and quantitative secondary data collected from an array of existing research studies. This systematic literature review primarily relies on secondary data sources to investigate the experiences of caregivers of individuals with Autism Spectrum Disorder (ASD) during the COVID-19 pandemic. By merging both qualitative and quantitative data, we aim to provide a holistic understanding of caregivers' coping strategies, challenges, and the impact of the pandemic on their lives.

1. Data Collection and Compilation:

The foundation of this thematic analysis rests on an extensive array of primary research articles, theses, and reports conducted within the context of the COVID-19 pandemic and its aftermath. These studies span a spectrum of research designs, encompassing both qualitative and quantitative methodologies. The integration of these diverse data sources offers a holistic exploration of caregivers' experiences, ensuring a more nuanced comprehension of the multifaceted facets of caregiving during a global crisis.

2. Qualitative Data Analysis:

The qualitative dimension of this thematic analysis involves the extraction of narratives, caregiver testimonials, and qualitative findings extracted from primary research studies. These data sources capture the intricate and subjective aspects of caregivers' experiences amid the pandemic. Our qualitative analysis follows a structured procedure:

- **Data Familiarization:** A comprehensive review of the qualitative findings from primary studies to establish familiarity with the breadth and depth of caregivers' experiences and the diversity of themes.
- **Data Coding:** The identification and categorization of recurring themes, patterns, and subthemes evident across qualitative data sources.
- **Theme Development:** The creation of comprehensive themes that encapsulate the core essence of caregivers' experiences during the pandemic. These themes are rooted in caregivers' own narratives, ensuring an authentic representation of their experiences.
- **Interpretation and Synthesis:** The interpretation of the significance of the identified themes and their synthesis into a coherent narrative that encompasses the qualitative aspect of the analysis.

3. Quantitative Data Analysis:

In parallel with the qualitative analysis, a meticulous examination of quantitative data extracted from primary studies is conducted. This quantitative analysis includes statistical findings, survey responses, and numerical data that offer insights into the quantitative dimensions of caregivers' experiences during the pandemic. Our quantitative analysis proceeds through the following stages:

- **Data Extraction:** The careful selection and extraction of pertinent quantitative data from primary studies, including percentages, means, statistical relationships, and other numerical metrics.
- **Data Synthesis:** The aggregation and summarization of quantitative findings to discern overarching trends and patterns. This process includes the identification of statistical significance and the evaluation of the strength of relationships.
- **Comparative Analysis:** A comparative examination of quantitative findings with the qualitative themes to explore potential convergences or divergences between caregivers' experiences as subjectively perceived and as quantified objectively.

4. Synthesis of Qualitative and Quantitative Themes:

The central aspiration of this study is to harmoniously integrate the qualitative and quantitative dimensions of the data to formulate a comprehensive understanding of caregivers' coping strategies, challenges, and experiences during the pandemic. This synthesis entails:

- **Identifying Correspondences:** The recognition of areas where qualitative themes align with quantitative findings, revealing a congruent representation of caregivers' experiences.
- **Exploring Discrepancies:** The investigation of instances where qualitative and quantitative data present differing perspectives or nuances in caregivers' experiences.
- **Holistic Interpretation:** The synthesis of the merged themes to construct a unified narrative that encapsulates the entirety of caregivers' experiences, while acknowledging the inherent strengths and limitations of both qualitative and quantitative approaches.

In conclusion, this chapter elucidates the systematic process of conducting a thematic analysis that amalgamates qualitative and quantitative secondary data sources. Through this integration, we aspire to present a robust and comprehensive portrayal of caregivers' experiences during the COVID-19 pandemic. Our aim is to shed light on the coping strategies employed, the challenges encountered, and the broader implications for healthcare and support services, all within the context of a global health crisis.

V. LIMITATIONS OF THE RESEARCH

Every research endeavor carries inherent limitations that influence the scope, reliability, and generalizability of findings. This chapter critically examines the limitations present in the study focusing on coping strategies among caregivers of individuals with Autism Spectrum Disorder (ASD) during the COVID-19 pandemic.

1. Sample Size and Diversity:

One significant limitation of this research pertains to the sample size and diversity of participants. Due to logistical constraints and the complexity of accessing caregivers during the pandemic, the sample size might have been restricted. A smaller sample might limit the representation of diverse perspectives within the caregiving community, potentially leading to incomplete insights and a skewed portrayal of coping strategies (Snyder, 2019). For instance, certain coping mechanisms employed by caregivers from specific cultural backgrounds or socioeconomic statuses might remain underrepresented.

2. Contextual Specificity:

The research's contextual specificity constitutes another limitation. The study primarily focuses on caregivers coping with ASD during the pandemic, which might restrict the applicability of findings to other caregiving situations or non-pandemic periods. While this specificity allows for in-depth exploration, it might hinder the broader transferability of insights to different settings and times.

3. Self-Reporting Bias:

Self-reporting bias is a common concern in qualitative research. Caregivers might alter their responses to align with social desirability or conceal aspects of their experiences due to personal reasons. This bias might affect the accuracy of coping strategies disclosed, potentially resulting in an incomplete understanding of caregivers' actual approaches.

4. Researcher Bias and Interpretation:

Despite rigorous attempts to minimize researcher bias, the interpretation of qualitative data inherently involves subjective elements. The researcher's preconceptions, beliefs, and perspectives could inadvertently influence the coding and thematic analysis process. While reflexivity measures are undertaken, it is challenging to entirely eliminate the potential for researcher bias impacting the interpretation of themes.

5. Ethical Considerations:

Despite efforts to address ethical considerations, certain ethical challenges might have arisen. Issues such as participant confidentiality, informed consent, and potential psychological distress might not have been fully anticipated or appropriately addressed, potentially impacting the research's integrity.

VI. FINDINGS

1. Overview:

This chapter presents the central findings of the study on coping strategies among caregivers of individuals with Autism Spectrum Disorder (ASD) during the COVID-19 pandemic. The research explores a range of coping strategies adopted by caregivers to address pandemic-related challenges and ASD caregiving demands. The themes of adaptive responses emerged from the thematic analysis of qualitative data, providing insights into caregivers' experiences.

2. Coping Strategies: Adaptive Responses in Unprecedented Times

Caregivers displayed adaptability amidst disruptions, forming distinct coping strategies. Resilience through routine adaptation was evident as caregivers modified schedules to incorporate home-based therapies and activities, promoting stability for individuals with ASD. Creative engagement and learning involved tailoring activities like art therapy and interactive games to manage anxiety and enhance communication in confined settings (White, et. al., 2021). Seeking virtual support and communities emerged as caregivers connected online, sharing experiences and coping strategies to counteract social isolation. Balancing self-care with caregiving duties was recognized as a coping approach, where caregivers explored mindfulness and personal hobbies to alleviate stress.

3. Emotional Impact: Navigating Stress and Resilience

The study unveiled the profound emotional impact on caregivers, echoing themes from prior research. Elevated stress, emotional fatigue, and dynamic emotions characterized the intricate dynamics of ASD caregiving during the pandemic (Stankovic, et al., 2022). Similar to Paper 1, caregivers reported emotional exhaustion and burnout due to the compounded demands of caregiving and pandemic uncertainties. Adaptive coping mechanisms, echoing concepts from Papers 2 and 3, were identified. Caregivers acknowledged emotions, sought professional support, and reframed challenges to enhance emotional well-being.

4. Impact of Telehealth: Navigating Remote Services

Themes concerning telehealth and remote services, explored in Paper 3, intertwined with caregivers' experiences during the pandemic. Telehealth's mixed impact on individuals with ASD and caregivers was noted. While providing continuity of care and therapy, virtual service accessibility varied due to technological barriers and sensory sensitivities (Fatehi., 2023). Caregivers' adaptation to telehealth, aligned with the theme across papers, involved modifying interventions and activities to maximize benefits within virtual sessions.

5. Synthesis of Themes: An Integrated Perspective

Intertwining themes from research and papers provided a comprehensive portrayal of caregivers' experiences. Coping strategies reflected adaptation, emotional resilience, and resource utilization. Emotional impact emphasized challenges and strengths, showcasing the interplay of stressors and adaptive mechanisms (Miniarikova, et al., 2022). Remote services' effects underlined the complexities of support access. The study validated themes from prior research while extending insights into caregivers' lived experiences. The findings illuminated the coping strategies of caregivers, shedding light on their resilience, challenges, and resourcefulness amid unparalleled circumstances (Kalb, et al., 2021)

VII. RECOMMENDATIONS FOR MENTAL HEALTH NURSES

This chapter presents actionable recommendations derived from the study's findings on coping strategies among caregivers of individuals with Autism Spectrum Disorder (ASD) during the COVID-19 pandemic. Mental health nurses, who play a pivotal role in supporting both individuals with ASD and their caregivers, can leverage these recommendations to enhance their practice and provide tailored care.

1. Cultivating Awareness and Sensitivity:

Mental health nurses should cultivate a deep understanding of the unique challenges caregivers of individuals with ASD face, particularly during the pandemic. Sensitivity to the emotional and psychological toll of caregiving is essential (Lugo-Marin, et al., 2021). By acknowledging caregivers' stressors and validating their experiences, nurses can foster a safe and empathetic environment for open communication.

2. Promoting Self-Care for Caregivers:

Caregivers often prioritize their loved ones over their own well-being. Mental health nurses should actively promote self-care strategies among caregivers, encouraging them to engage in activities that replenish their emotional reserves (Isensee, et al., 2022). Providing resources on stress management, relaxation techniques, and self-care routines can empower caregivers to prioritize their mental health.

3. Customized Coping Strategies:

Collaboratively developing customized coping strategies with caregivers can enhance their resilience. Mental health nurses can work alongside caregivers to identify and adapt coping mechanisms that align with their unique situations. These strategies could include mindfulness practices, relaxation techniques, and emotional regulation exercises.

4. Education and Skill-Building:

Providing caregivers with education on ASD and equipping them with effective caregiving strategies is invaluable. Mental health nurses can conduct informative sessions that address behavioral challenges, communication techniques, and sensory sensitivities specific to ASD. Equipping caregivers with skills enhances their confidence in managing daily routines and addressing their loved ones' needs.

5. Facilitating Support Networks:

Creating and facilitating support networks for caregivers can alleviate their sense of isolation. Mental health nurses can establish virtual or in-person support groups where caregivers can share experiences, exchange coping strategies, and build a sense of community (Panda, et al., 2021). These networks provide caregivers with emotional validation and a platform to learn from one another.

6. Telehealth Accessibility:

Considering the impact of telehealth on caregivers and individuals with ASD, mental health nurses should ensure that remote services are accessible and inclusive. Providing guidance on preparing individuals with ASD for virtual sessions and troubleshooting technical challenges can enhance the effectiveness of telehealth interventions (Manning, et al., 2021).

7. Collaboration with Other Professionals:

Collaboration among mental health nurses, therapists, educators, and medical professionals is essential for comprehensive care. Interdisciplinary teamwork ensures that caregivers receive holistic support that addresses their physical, emotional, and psychological needs. Coordinated efforts can optimize outcomes for both caregivers and individuals with ASD.

8. Ongoing Assessment and Feedback:
Regularly assessing caregivers' well-being and progress is integral to providing effective support. Mental health nurses can utilize standardized assessment tools and engage in open conversations to gauge caregivers' evolving needs. Feedback from caregivers informs the adaptability of interventions and helps tailor support over time.

9. Advocacy for Caregiver Needs:
Mental health nurses can act as advocates for caregivers within healthcare systems. By highlighting caregivers' unique challenges, nurses contribute to the development of policies and resources that cater to their specific needs (Panda, et al., 2021). Advocacy efforts can lead to improved access to services, financial support, and caregiver-friendly policies.

In conclusion, mental health nurses hold a pivotal role in supporting caregivers of individuals with ASD, especially in the context of the COVID-19 pandemic. By implementing these recommendations, nurses can empower caregivers to navigate challenges, enhance their coping strategies, and prioritize their own mental well-being while providing optimal care to their loved ones.

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