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Navigating the Nexus: Understanding Socio-Economic Status, Social Isolation, and Depression among Primary Caregivers of Individuals with Physical Disabilities

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ABSTRACT

Current Research explored relationship between Socio economic status, Social Isolation and Depression among caregivers of individuals with physical disability. A group of 170 participants was selected using purposive sampling, with occasional utilization of the snowball technique to gather data. The sample included both married and unmarried individuals of both genders. Data collection involved the administration of three scales: the Macarthur SSS scale, comprising 2 items to gauge socioeconomic status; the LSNS, containing 10 items to assess social isolation; and the Hamilton Depression scale, consisting of 21 items to measure depression. Data was analyzed through SPSS. Values of Correlation depicts that there exists a notably weak positive correlation($r=.132$, $p<0.001$) between socioeconomic status and social isolation, alongside a notably strong negative correlation ($r=-.413$, $p<0.001$) between socioeconomic status and depression. The significant relationship between depression and the socioeconomic status of caregivers of physically disabled individuals expounds the relationship between caregiving responsibilities, limited opportunities for personal advancement, and heightened risk of psychophysiological ailments due to social isolation and neglect of health. This interconnectedness highlights the need for comprehensive support systems addressing the multifaceted challenges faced by caregivers, to mitigate adverse effects on their well-being and quality of life.

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1. Introduction

Physical disability is a traumatic event for someone's life but it is often stressful for the primary caregivers as well. Although literature often emphasizes the experiences of individuals with physical disabilities, insufficient focus is placed on the significant burden faced by their caregivers. There are various types of physical disabilities such as Traumatic Brain injury, Abbas, S. (2022) states that TBI's pervasive impact underscores the urgent need for research on predictive factors influencing the traumatic psychological state of individuals, encompassing social and emotional dimensions. Disabilities extend beyond the individual affected, profoundly impacting the entire family due to the necessity of constant support with daily activities and medical care management, and Informal caregivers face significant challenges such as physical health issues, psychological stress, social isolation, and financial strain while providing continuous care for the disabled (Thompson, Kerr, Glynn, & Linehan, 2014).

Socioeconomic status (SES) is gauged through a blend of social and economic indicators, including wealth assessment, level and type of education, and occupational status, which collectively depict an individual's or a group's societal position (Wang, Jetten, & Steffens, 2020). Social isolation, characterized by minimal interaction with others, often stems from factors such as geographic location, disabilities, or social anxiety (Turkle, 2011). perception of being lonely, distant, or lacking support. Social isolation is the absence of substantial social connections and interactions, as well as frail social ties, scant social capital, and insufficient social support (Putnam, 2000).

Social isolation manifests as a tangible representation of limited social connections and reduced social engagement. Individuals experiencing social isolation face elevated risks of cardiovascular disease, infections, cognitive decline, and mortality. Elevated levels of blood pressure, C-reactive protein, fibrinogen, and heightened inflammatory and metabolic responses to stress have been associated with social isolation. Mental health repercussions include increased susceptibility to suicide, insomnia, heightened stress, and impaired concentration, affecting individuals across all age groups (Brennan, 2021). Social engagement is one of the predictors of the overall health of individuals and the frequency of social engagements shows well-being, happiness level, and satisfaction with life. Long-term social isolation appears to change the capability of individuals to perceive internally focused thoughts (Bzdok & Dunbar, 2022). Exercise, meditation, and connection with nature can help to keep mental health stable during social isolation (Burch, 2022). Conclusively, Physical disability, socioeconomic status, and social isolation are interconnected factors that can significantly impact the well-being of individuals and their caregivers. Addressing these factors through access to resources, support services, and social engagement opportunities can help mitigate the negative effects and improve overall quality of life.

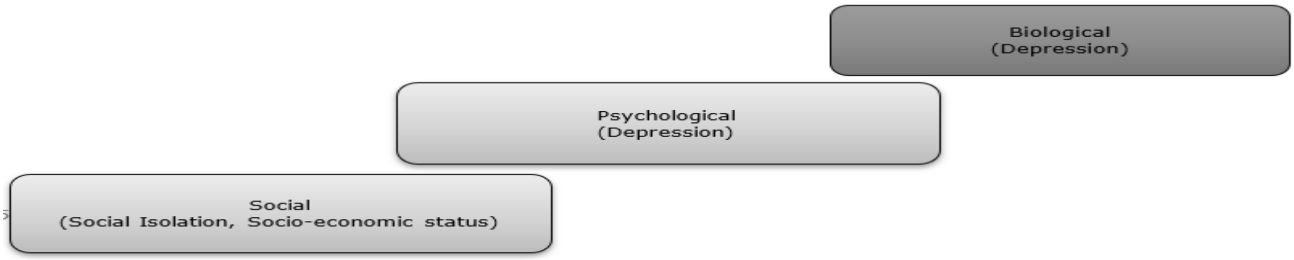
1.2. Theoretical Background

Social identity theory implies that people get their feeling of identity and belonging from their connections and social interactions. So, losing one's identity and feeling like one doesn't belong might result from social isolation (Tajfel & Turner, 1978). Attachment theory suggests that people have a natural yearning to be attached to others, especially as children. Emotional anguish and behavioral issues can be brought on by a lack of attachment and social support and thus lead to social isolation (Ainsworth & Bowlby, 1991).Social isolation, characterized by a small social network and decreased social interaction, contributes to various health risks such as cardiovascular disease, infections, cognitive decline, and mortality. Elevated levels of blood pressure, C-reactive protein, fibrinogen, and heightened inflammatory and metabolic responses to stress are associated with social isolation. Mental health consequences include a higher risk of suicide, insomnia, increased stress, and difficulties with concentration, affecting individuals of all ages.

The main focus of REBT (Rational Emotive Behavior Therapy) is to recognize negative and irrational beliefs and replace them with optimistic and rational beliefs. Distorted thinking patterns, hopelessness, and emptiness are highly associated with depression which is mostly irrational. REBT helps to replace those unhealthy and negative thinking patterns with rational beliefs for constructive and productive functioning in life (CORNELIUS, 2023). Cognitive Behavioral Therapy (CBT) proposed by Aron Beck is used for the treatment of various psychological illnesses like depression, anxiety, bipolar, substance abuse disorders, etc. CBT works in two ways. The main focus of CBT is to recognize faulty and disturbed thinking patterns and eventually substitute them to change an individual's actions. An individual's cognitions have a cumulative influence on one's emotions, actions, and responsibilities towards his surroundings (Clark & Beck, 2010).

1.1.3. Theoretical Model

Current Research is based on Biopsychosocial Model.



1.3. Biopsychosocial Model

Applying the biopsychosocial model to the context of primary caregivers of individuals with physical disabilities provides insight into the intricate relationship between social isolation, socioeconomic status (SES), and depression within this specific population. Biologically, the chronic stress associated with caregiving can trigger physiological responses, such as dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, leading to altered neurotransmitter levels and immune system functioning, which contribute to the onset or exacerbation of depressive symptoms. Psychologically, caregivers may experience feelings of guilt, grief, and emotional exhaustion as they navigate the challenges of providing care, leading to negative self-perceptions and increased vulnerability to depression. Socially, caregiving responsibilities can limit caregivers' opportunities for social interaction and engagement in activities outside of their caregiving role, heightening feelings of isolation and diminishing their access to social support networks. Additionally, the financial strain of caregiving expenses and potential disruptions to employment can further exacerbate socioeconomic disparities and increase the risk of depression among caregivers from lower SES backgrounds. Recognizing the multifaceted nature of these influences is essential for primary care providers to develop comprehensive care plans that address the biopsychosocial needs of caregivers, incorporating interventions aimed at reducing social isolation, providing support for coping with caregiving-related stressors, and addressing socioeconomic barriers to accessing resources and support services. By adopting a holistic approach informed by the biopsychosocial model, primary care providers can better support the mental health and well-being of caregivers within this population.

2. Literature Review

Primary caregivers of individuals with physical disabilities often face significant challenges, including social isolation, due to the demands of their caregiving responsibilities. Socioeconomic status plays a crucial role, with caregivers from lower SES backgrounds experiencing heightened financial strain and limited access to support services, exacerbating feelings of isolation. It contributes to the need for targeted interventions and strategies. Literature explored that different problems influence individuals and their primary caregivers. Primary individuals who are taking care of a physically disabled person whether its temporary or permanent disability, they may face discontentment, isolation, financial pressure and much more. A study conducted by Tsao et al. (2023) indicates that the major source of death in the world is cancer and it results in gradually losing and restricted self-reliance of patients that demands assistance from informal caregivers which influences their life greatly. Anxiety and depression are mostly reported in informal caregivers. Lai, Jiang, Sun, Zhang, and Wang (2023)reported that people who were less qualified, jobless, and had minimal salaries were found to be highly correlated with depression scores. Less qualified RBD patients were more extensively prone to depression. Depression was highly reported in females whereas anxiety and depression showed a strong correlation with joblessness. CGs are found to be called “hidden patients” in the US. It was reported that CGs experienced severe physical ailments triggering various psychological illnesses like anxiety and stress, disturbed circadian rhythm, disturbed appetite, and poor digestion (Chakraborty, Jana, & Vibhute, 2023).

Caregivers face numerous difficulties financially, socially, emotionally, and physiologically while they are taking care of the patients. Continuously looking after the patients results in poorer quality of life and decreased immunity that prone CGs to vulnerable physical maladies. CGs experience various psychological illnesses like anxiety, depression, bereavement, and stress. CGs also suffer socially experiencing social isolation. They have to perform dual responsibilities which results in difficulty to perform routine tasks. Their working productivity is also affected because of the burden they are struggling with. Most caregivers are women of age 50. They face a financial crisis that is highly correlated with increased levels of anxiety and distress (Guerra-Martín, Casado-Espinosa, Gavira-López, Holgado-Castro, López-Latorre, & Borrallo-Riego, 2023). Chakraborty, Jana, and Vibhute (2023) reported that countryside CGs were more susceptible to depression than civic areas CGs. Caregivers who spent more time with the disabled showed to be positively correlated with depression and resulted in augmented chances of suffering from depression. CGs who was not contented with their present subsistence circumstances lying in the age range 45-69, lost their life partner, suffered from multiple maladies, and were financially unstable demonstrated higher levels of depression. The congenital scarce disorder that results in impairment of body parts is a Rare

Body Disease (RBD) and influences the caregiver's quality of life to a great extent like financial crisis, disturbed mental and emotional health resulting in the pervasiveness of depression and anxiety, and loss of assistance from the society resulting in feelings of isolation and loneliness. The recurrence of depression and anxiety was analyzed and reported to be high in CGs and RBD sufferers (Lai et al., 2023).

Informal CGs tend to look after the disabled which results in poorer quality of life because of the ignorance towards their health in India. Stress and the unbearable charge of responsibilities upon them weaken their immune system which makes them susceptible to life-threatening and severe disorders and adversely affects their health. It was reported that CGs were more liable to show depressive symptoms that result in a weakened immune system causing augmented chances of death (Chakraborty, Jana, & Vibhute, 2023). Caregivers are the people who give direct care and attention to disables, and lift their burden by fulfilling their needs and demands Deprivation of upper and lower motor neurons of the body is responsible for the degeneration of muscles resulting in continuous loss of body movements in ALS (Amyotrophic Lateral Sclerosis) which is a lethal neurodegenerative disorder. Patients don't suffer alone, caregivers of ALS patients also suffer in a variety of ways like poor quality of life, financial crisis, suffer from mental illnesses like depression and anxiety, no social support, and also experience various musculoskeletal symptoms because of the increased toll on the body. Schischlevskij et al. (2021) elaborated that ALS is mostly common in men while most caregivers were females and they were more likely to experience anxiety. Severe psychological and physiological ailments were reported in the high-burden group. A strong correlation was found between the caregiver burden and patients' functional status. Social isolation is a serious problem that affects family carers. Family carers are more likely to experience social isolation than others. Family carers' physical and emotional health may suffer as a result of social isolation (Baik & Jun, 2021).

Elders frequently seek support from their families to deal with their ailments and other aging-related difficulties because they have become physically so weak that they can't do all of their activities on their own so their caregivers have to face social isolation. Due to the obligations of caregiving, carers may feel social isolation, which can make it challenging for them to maintain social ties and engage in social activities (Perez, Nuccio, & Stripling, 2021). Parents or caregivers of children with disabilities often struggle with psychosocial concerns such as stress, guilt, low self-esteem, negative emotions, and behaviors, fear about the children's future, anxiety and despair, and mental tiredness. Marital dissatisfaction, isolation, stigma, and a decline in social connection with other community members are larger effects on the family. Reduced family income, astronomically high financial demands, and limited access to goods and services are all financial consequences of having children with disabilities. These effects extend beyond the immediate family to include grandparents and siblings, who help with the care of a physically disabled child. One of the effects of having a child with a physical disability was recognized as family discord and husband-wife separation or divorce (Asa, Fauk, Ward, & Mwanri, 2020). Caregivers often experience social isolation due to the extensive time spent on caregiving, leading to limited social opportunities and increased feelings of loneliness. This is particularly pronounced among caregivers of adult children or spouses with disabilities, where the caregiving role can strain familial relationships. The demanding nature of caregiving significantly reduces free time for socializing, with nearly one-third of caregivers for spouses or adult children reporting feelings of social isolation, especially those experiencing higher levels of burden, stress, and sadness (Li & Anand, 2020).

Caring for family members can be rewarding yet demanding, often leaving caregivers with limited resources to prioritize their own social and physical health. Consequently, they may find themselves socially isolated, facing increased risks of anxiety, depression, and other mental health challenges. Factors contributing to this isolation include societal stigma associated with caregiving, inadequate resources, and challenges balancing caregiving duties with work and other obligations, both culturally and economically (Pohl, Bell, Woods, & Tancredi, 2019). Social isolation contributes significantly to the challenges faced by caregivers, whether paid or unpaid. The responsibilities of caregiving often restrict opportunities for social engagement, leading to feelings of loneliness and isolation. Caregivers, regardless of their compensation status, who support individuals with chronic physical disabilities are particularly prone to experiencing severe social isolation and disconnection from their communities (Sun, Finkelstein, & Ouchida, 2019). Literature supports the deprivations and mental health issues among primary caregivers in different domains but as per the knowledge of the researcher the existing literature indicates a notable gap in understanding the specific factors that influence social isolation among caregivers of individuals with physical disabilities, particularly within non-Western contexts. Similarly, there is a lack of research examining the effectiveness of interventions designed to alleviate social isolation among caregivers, especially those from lower socioeconomic backgrounds, and their subsequent impact on mental health outcomes. Empirical finding aims to explore address these research gaps by exploring the correlation between social isolation, socioeconomic status, and depression among caregivers of physically disabled individuals. By elucidating these interconnected factors, the study seeks to develop a strategic plan to enhance policy building and implement effective interventions tailored to the unique needs of caregivers. Recognizing the significant relationship between depression and caregivers' socioeconomic status underscores the importance of comprehensive support systems to address the multifaceted challenges they face. Through targeted strategies, such as providing access to resources and fostering social support networks, efforts can be made to mitigate the adverse effects of caregiving responsibilities on caregivers' well-being and overall quality of life.

3. Method

3.1. Research Design

Current research is a cross-sectional design comprised of quantitative research approach.

3.2. Participants

A sample of 170 participants, spanning various age ranges and serving as caregivers for physically disabled individuals, was drawn from the population. The participants, aged between 20 and 70 years, represented diverse backgrounds, including urban and rural areas within Sialkot. They were selected through purposive and through snowball sampling techniques to ensure representation across different demographic strata, educational levels, vocational and occupational backgrounds, as well as varying physical and psychological states. The data collection involved administering printed questionnaires to gather responses from the participants, providing valuable insights into the experiences and challenges faced by caregivers of physically disabled individuals in the region.

3.3. Measures

The following measures were administered to the participants to collect the data. Standardized questionnaires, a self-developed demographic sheet and a consent form were utilized to assess the association among three constructs among primary care givers of individuals with physical disabilities.

3.4. Demographic Information

Background information for the subjects was collected through a demographic sheet, which included details such as name, age, educational attainment, marital status, place of residence, religious affiliation, birth order, and socioeconomic status.

3.5. Measurement Scales

3.5.1. The Macarthur Scale of Subjective Social Status (Macarthur SSS Scale)

Developed by health psychologist Nancy Adler and her team in 2000, the MacArthur Scale of Subjective Social Status (MacArthur SSS Scale) assesses an individual's perception of their relative position within their social group. Utilizing a symbolic ladder as a visual representation, this scale aims to capture a person's subjective evaluation of their social standing based on traditional socioeconomic status indicators. Additionally, it facilitates comparisons across diverse populations, enhancing the applicability of research findings.

3.5.2. The Lubben Social Network Scale (LSNS)

The Lubben Social Network Scale (LSNS) is a brief survey designed to gauge the perceived level of social support older individuals receive from both family members and friends. Typically requiring 5 to 10 minutes to complete, it offers a quantitative assessment. The LSNS-R demonstrates very high reliability, as evidenced by its internal consistency Cronbach Alpha rating of .78. Moreover, there exists a connection of 0.68 between the original LSNS and the LSNS-R, indicating a significant relationship between the two versions.

3.5.3. Hamilton Depression scale

The Hamilton Rating Instrument for Depression (HAM-D) is widely recognized as the leading clinician-rated tool for assessing the severity of depression in individuals diagnosed with a depressive disorder. Utilizing a 17-item scale, scores are tabulated, with a maximum score of 52 possible. Interpretation of scores categorizes them as follows: 0–7 indicating normal levels, 8–16 suggesting mild depression, 17–23 indicating moderate depression, and scores over 24 indicating severe depression.

3.6. Procedure

The empirical findings aligned with our key variables: social isolation, Socioeconomic status and Depression. Prior to data collection, we secured permissions from the authors of the scales via email and obtained approvals from institutions such as Govt. Allama Iqbal teaching Hospital, Govt. Sardar Begum Hospital Sialkot, Basic Health Unit Bharath and private clinics as well to gather responses. Both male and female care givers participated, with explicit verbal and written consent obtained. Detailed instructions were provided to ensure participants understood how to provide responses, maintaining adherence to ethical guidelines throughout the research process. Although many of the individuals visiting the disabled persons' physicians were sufficiently literate to comprehend the questionnaires, the researcher was present to provide clarification and explanation for each statement as needed. The collected data underwent thorough analysis using SPSS for a comprehensive analysis and interpretation.

3.6. Ethical Considerations

The current research adheres strictly to ethical guidelines. Both verbal and written informed consent was obtained from the participants. Consent was obtained from the authors of the scales and institutions from where data was collected. Confidentiality is maintained throughout the research process, and a thorough risk/benefit analysis has been conducted, with debriefing provided to participants.

4. Data Analysis

For the analysis of data SPSS.26 was used. Any missing and incomplete gathered data was screened and cleaned. Descriptive statistics were used to calculate the mean standard deviation, demographic variables and percentages.

4.1. Results

Table 1: Correlation analysis

	Variables	N	M	SD	1	2	3
1.	Socio-economic status	170	3.37	1.05	1	.132	-
2.	Social isolation	170	10.91	5.69	.133	1	-
3.	Depression	170	21.72	6.91	-.413	-	1

P<.001

Values of Correlation depicts that there exists a notably weak positive correlation(r=.132, p<0.001) between socioeconomic status and social isolation, alongside a notably strong negative correlation (r=-.413, p<0.001) between socioeconomic status and depression. The significant relationship between depression and the socioeconomic status of caregivers of physically disabled individuals expounds the relationship between caregiving responsibilities, limited opportunities for personal advancement, and heightened risk of psychophysiological ailments due to social isolation and neglect of health. This interconnectedness highlights the need for comprehensive support systems addressing the multifaceted challenges faced by caregivers, to mitigate adverse effects on their well-being and quality of life.

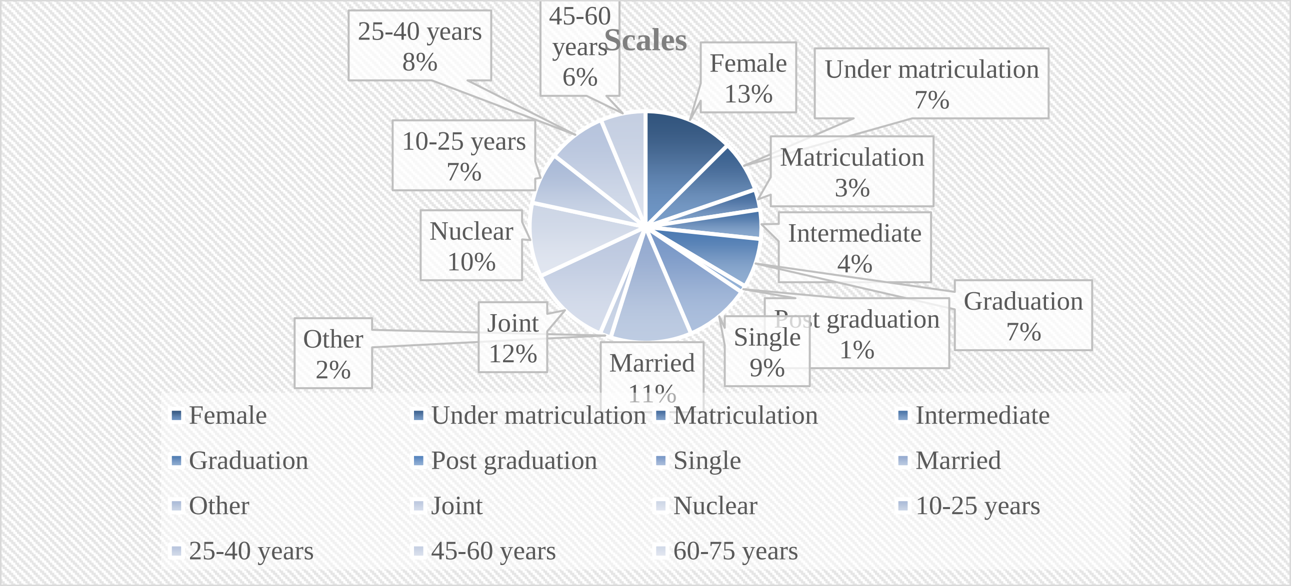
Table 2 shows mean, standard deviation, and F-values for social isolation and depression across demographic variables i.e., age, education, marital status, family status, and income. Results indicated non-significant mean difference across various groups on social isolation with F (4, 65) =3.835, P>0.005. The value of η2 was 0.190 (<0.50) for social isolation which indicated a small effect size whereas the value of η2 was 0.875 (>0.50) for depression which indicated a large effect size. The post-hoc Comparisons indicated non-significant between-group mean differences between each group with other groups.

Table 2: Mean, Standard Deviation, and One-Way Analysis of Variance in Social Isolation and Depression

	2 Age		3 Education		4 Marital Status		5 Family Status		6 Income				
Variables	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**F (4,65)**	**η²**	**Post-Hoc**
Social isolation	7.90	5.19	13.91	7.53	11.00	4.46	16.75	4.34	10.00	1.41	3.835	0.19	1<2>3<4>5
Depression	20.90	7.02	25.25	6.32	21.40	7.11	21.75	4.57	14.00	1.41	1.540	0.87	1<2>3<4>5

Note: SI: Social Isolation, D: Depression

Figure 1: Pie-Chart of Demographic Variables



5. Discussion

The hypotheses presented delve into the intricate dynamics surrounding depression, social isolation, and socioeconomic status among caregivers of physically disabled individuals. Results suggests that depression correlates with social isolation, aligning with existing literature indicating that caregivers often experience feelings of loneliness and detachment due to the demanding nature of their role. This hypothesis underscores the potential impact of social isolation on caregivers' mental health, emphasizing the importance of addressing social support networks to mitigate depressive symptoms. Research findings propose a broader interconnection between depression, social isolation, and socioeconomic status, recognizing the complex web of factors influencing caregivers' well-being. This finding acknowledges that socioeconomic status can shape both social isolation and depression, with financial strain and limited resources exacerbating feelings of loneliness and contributing to depressive symptoms. The role of socioeconomic status in depression among caregivers of physically disabled individuals underscores the significance of economic factors in shaping caregivers' mental health outcomes, emphasizing the need for interventions that address financial stressors and promote access to resources and support services. In summary, these findings shed light on the multifaceted challenges faced by caregivers, highlighting the interconnected nature of depression, social isolation, and socioeconomic status. By understanding these relationships, researchers can better inform the development of comprehensive support systems tailored to caregivers' needs, ultimately enhancing their well-being and quality of life.

6. Conclusion

The association between depression and the socioeconomic status of caregivers tending to physically disabled individuals elucidates the profound impact of caregiving duties, constrained avenues for personal growth, and heightened susceptibility to psychophysiological distress due to social isolation and neglect of self-care. This interconnectedness underscores the imperative for holistic support systems, adept at addressing the myriad challenges encountered by caregivers, to alleviate the detrimental effects on their overall well-being and enhance their quality of life.

6.1. Study Implications

These findings emphasize the importance of addressing social isolation and socioeconomic factors in interventions aimed at mitigating depression among caregivers of physically disabled individuals. Current research has both theoretical and practical implications. Theoretically, current research presents a deeper understanding of the mechanisms through which social support networks and financial resources impact caregiver mental health, elucidating pathways for intervention development. By addressing social isolation and socioeconomic factors could be key components of a comprehensive approach to depression prevention and management among caregivers of physically disabled individuals. Practically present study provides a comprehensive understanding that practical support, such as financial assistance and access to resources for caregiving responsibilities, should be provided to alleviate the economic burden on caregivers. Healthcare professionals and policymakers should consider integrating these findings into the design and implementation of support programs for caregivers, ensuring they are tailored to address the specific needs identified in this study. Future research should further explore the effectiveness of interventions that target social isolation and socioeconomic factors in improving mental health outcomes for caregivers of physically disabled individuals, with a focus on developing evidence-based practices.

6.2 Limitations of the study

Current study's limitations include a predominantly illiterate participant demographic, potentially skewing data representation. Social desirability bias was evident in response recording, and the exclusion of non-binary genders limits generalizability. Moreover, lengthy measurement scales posed comprehension challenges, especially for uneducated caregivers.

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