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RESILIENCE AND BURDEN RELATED TO CLINICAL ASSISTANCE: A CLINICAL PSYCHOLOGICAL STUDY

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SUMMARY

Background: *The literature consistently highlights the significant burden faced by healthcare professionals, often describing caregivers as "invisible patients." Resilience is a critical factor in their well-being and quality of life. This study aimed to examine the presence of variables such as resilience and burden in caregivers, along with factors like age, gender, education, and work commitment, to understand the correlations among these independent and clinical variables.*

Methods: *The sample consisted of 126 carers aged 18-30 years old (M: 26.15; SD: 3.21) with a 77.8% of the sample being female. The variables included the socio-demographic (age, sex, education, hours/days of speech per week and years of service) and clinical status, therefore burden (time dependence, development, physical, social and emotional burden) and resilience (self-perception, planned future, social competence, structured style, family cohesion and social resources).*

Results: *Regarding the correlational analyses involving socio-demographic variables and resilience, only a few significant correlations were found. However, significant positive correlations were identified between socio-demographic variables and burden, specifically with age, hours and days of work per week, and years of service. Conversely, education showed a significant negative correlation with burden, highlighting its protective role. Significant correlations between resilience and burden variables were generally positive, except for self-perception and developmental burden. Multivariate linear regression analyses revealed numerous dependencies, with predictors such as age, sex, education, hours/days of work per week, and years of service influencing the dependent variables related to burden and resilience.*

Conclusions: *This study examined fundamental socio-demographic, occupational, and psychological variables in the lives of caregivers. It highlights not only the presence of factors that negatively impact caregivers' quality of life but also important relationships between personal variables, resilience, and burden risk. Therefore, it is crucial to consider the findings of this study, along with existing literature, to design interventions aimed at reducing burdens and improving the quality of life for caregivers.*

Key words: *burden – caregivers - clinical psychology - psychopathological risk - resilience*

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INTRODUCTION

Many studies consider work to be one of the main factors influencing quality of life (Adikoeswanto et al. 2020, Fiorini Bincoletto et al. 2023, Giorgianni et al. 2024, Myles et al. 2020, 2021, Lubbadeh 2020). As suggested by scientific literature and clinical practice, beyond the biological, psychological, social, and environmental aspects, an individual's working life assumes a central role. This perspective spans multiple disciplines, focusing on psychological functioning and adaptation to various conditions, including adverse ones due to work difficulties (Békés et al. 2023, Giorgianni et al. 2015, König et al. 2023, Martino et al. 2023, Masci et al. 2022a,b, Sergi et al. 2023a,b, Unjai et al. 2022).

Healthcare professionals are often exposed to different burdens, due to the clinical activities carried out as well as based on the pathological conditions they support (Adelman et al. 2014, Angelini et al. 2024, De Hert et al. 2020, Margherita et al. 2022, Messina et al. 2023). Prolonged and demanding clinical work is known to cause several adverse phenomena, leading to various pathological outcomes. These range from rapid-onset psychopathological conditions to long-term wear and tear (Merlo et al. 2021a).

In the first case, secondary traumatization and compassion fatigue are the mainly known outcomes (Cavanagh et al. 2020, Conversano et al. 2020, Di Giuseppe et al. 2022, Giordano et al. 2022, Ierardi et al. 2023, Kelly 2020, Merlo et al. 2020b, Ondrejková & Halamová 2022). The patient's traumatic experience quickly results in secondary traumatization for the healthcare operator. This type of outcome depends on the psychological structure of the healthcare professional, violations of the principles of clinical relations and practice, the extent of the patient's experience and the functioning styles of both parties (Merlo et al. 2020b). These phenomena are well-documented in the literature, particularly in the contributions of Figley and colleagues. Their work has led to the development of key studies and tools used to assess compassion fatigue, compassion satisfaction, and burnout (Figley & Ludick 2017, Figley & Figley 2017, Soreson et al. 2016, 2017, Turgoose & Maddox 2017).

In the second case, work activities and subsequent distress takes a long time to produce psychopathological phenomena (Bevans & Sternberg 2021, Casula et al. 2023, Merlo et al. 2021b, Settineri & Merlo 2020, 2023). This is exemplified by burnout, where the

gradual deterioration of mental health leads to various negative outcomes. Recent literature suggests that training healthcare professionals is essential to mitigate these adverse effects (Benzi et al. 2023, Bugaj et al. 2020, Merlo et al. 2020a, Zhou et al. 2020).

The aforementioned outcomes primarily produce psychopathology that affects the affective and cognitive functioning of healthcare workers, which are fundamental variables for both performance and quality of life (Andela et al. 2021, Baldino et al. 2023, Gangemi et al. 2021, Farina et al. 2023, Menon et al. 2020, Prout et al. 2022, Stageberg et al. 2020). These findings are particularly relevant in the context of the relationship between psychopathology and other medical conditions, where the interaction between these domains exacerbates the health status of individuals (Caputo et al. 2022, Merlo et al. 2024a,b, Murdaca et al. 2022, Myles et al. 2023, Silvestro et al. 2023).

Several studies have highlighted the significant burden associated with the work experience of caregivers. Caregivers and healthcare professionals experience various types of burdens, which are well summarized by different assessment tools. A recent contribution by Liu and colleagues (2020) provides valuable insights into how this phenomenon directly impacts healthcare workers. The authors conducted a concept analysis to establish a clear definition of the phenomenon. They identified specific attributes related to burdens, such as self-perception, time, resources, responsibility, conflicts, lack of social activities, consequences, decreased quality of life, and psychological and physical health deterioration. As reported by Deeken and colleagues (2003), several instruments have been developed and validated to assess these relevant variables. The literature clearly expresses the psychopathological features that directly result from neglecting caregivers' health status (del-Pino-Castaldo et al. 2021, Lindt et al. 2020, Unsar et al. 2021).

The impact of burdens on healthcare professionals raises both psychological and physical needs (Myles & Jones 2024, Queluz et al. 2020, Wackerbarth & Johnson 2002). This, in turn, highlights the concept of resilience, which is crucial for adaptation. Resilience has been extensively discussed in the literature across various fields and scientific domains (Denckla et al. 2020, Wiig et al. 2020). In this context, the association of resilience with burdens and the quality of life of caregivers is well-established (Palacio et al. 2020, Üzar-Özçetin et al. 2020). Numerous studies have examined how the use of resources helps healthcare workers cope with burdens and adapt (Fang et al. 2022, Van Roij et al. 2021). More attention on caregivers' work and life experience represents a fundamental value for clinical assistance.

Given the existing literature and the importance of assessing the psychological functioning of caregivers, further studies are needed. Many caregiver populations have yet to be reached by assessment and intervention programs.

Hypotheses

The objective of this study was to investigate the impact of factors associated with burden and resilience in relation to caregiving activities. In pursuit of this goal, two primary instruments were selected and integrated into the protocol along with a sociodemographic questionnaire. The study aimed to elucidate descriptive data, significant correlations, dependencies, and differences based on the following hypotheses:

- *Hp1:* We hypothesize that the caregivers' personal characteristics, including age, education, days and hours of work per week and years of work, would be significantly positively correlated to time dependence burden, developmental burden, physical burden, social burden, emotional burden, and CBI total score.
- *Hp2:* We hypothesize that the caregivers' personal characteristics, including age, education, days and hours of work per week and years of work, would be significantly positively correlated to perception of self, planned future, social competence, structured style, family cohesion, social resources, and RSA Total score.
- *Hp3:* We hypothesize that time dependence, developmental, physical, social emotional burdens and CBI total score would be significantly negatively correlated to perception of self, planned future, social competence, structured style, family cohesion, social resources, and RSA Total score.
- *Hp4:* We hypothesize that significant relationships exist among the selected predictors, which include age, gender, education, days and hours worked per week, years of work, as well as variables related to burden (time dependence burden, developmental burden, physical burden, social burden, emotional burden, and total CBI score) and resilience (perception of self, planned future, social competence, structured style, family cohesion, social resources, and RSA Total score) variables.

METHODS

Participants and procedure

The sample consisted of 126 caregivers aged between 18 and 30 years old (Mean: 26.15; Standard deviation: 3.21) with a prevalence of female subjects (Female: 98, 77.8%). The research was carried out at the University of Messina. The participants were selected on the basis of their work activities. Every participant fully completed the questionnaires, including information regarding work activity, gender, education and age. Each participant, before adhering to informed consent, was informed about the anonymous nature of the methods of data processing.

Instruments

The protocol was filled out in paper and pencil and each participant was informed about the anonymous

nature of the methods of data processing before signing the informed consent. The sociodemographic questionnaire included age, education, days and hours of work per week and years of work as personal characteristics. The psychodiagnostic instruments are listed below.

Resilience Scale for Adults (RSA) is a 33-item self-report scale utilizing a 5-point Likert scale. It assesses factors related to resilience, defined as the ability to manage traumatic events with subsequent positive effects (Hjemdal et al. 2001, Friborg et al. 2003, 2005). In the Italian adaptation study by Capanna et al. (2015), the scale yielded the following results: Perception of Self (α=0.74 Cronbach's alpha) pertains to self-confidence and capability; Planned Future (α=0.73) relates to confidence in future success opportunities; Social Competence (α=0.83) involves comfort in social settings; Structured Style (α=0.80) refers to goal orientation; Family Cohesion (α=0.80) concerns shared values and mutual appreciation; and Social Resources (α=0.80) refers to social support (Friborg et al. 2005, Hjemdal et al. 2006). Items were assigned to factors as follows: Factor 1 includes items 1, 7, 13, 19, 25, and 29; Factor 2 includes items 2, 8, 14, and 20; Factor 3 includes items 3, 9, 15, 21, 26, and 30; Factor 4 includes items 6, 12, 18, and 24; Factor 5 includes items 4, 10, 16, 22, 27, and 31; Factor 6 includes items 5, 11, 17, 23, 28, 32, and 33.

Caregiver Burden Inventory (CBI) (Novak & Guest 1989; Italian version by Conti et al. 2019) is a 24-item self-report instrument based on a 5-point Likert scale. The total scale exhibits high reliability (α=0.96), with subscales demonstrating reliability as follows: 0.91 for Time Dependence Burden, 0.92 for Developmental Burden, and 0.88, 0.89, and 0.93 for Physical, Social, and Emotional Burden, respectively. The CBI evaluates caregiver burden across five dimensions: Time Dependence Burden relates to the time required for caregiving; Developmental Burden reflects the feeling of lacking opportunities compared to peers; Physical Burden describes the physical strain; Social Burden concerns role conflicts; and Emotional Burden addresses the emotional impact of the patient's behavior. According to Conti et al. (2019), the total score index was 0.91, and subscale scores ranged from 0.76 to 0.91. Items were categorized into factors as follows: Factor 1 includes items 1 to 5; Factor 2 includes items 6 to 10; Factor 3 includes items 11 to 14; Factor 4 includes items 15 to 19; and Factor 5 includes items 20 to 24.

Statistical analysis

Numerical data were expressed as mean and standard deviation and the categorical variables as number and percentage. Given the non-normal distribution of most variables, a non-parametric approach was adopted. The Spearman test was applied to evaluate the correlations among variables of the following instruments. Multivariate linear regression was employed to examine how each outcome related to burden (including time dependence burden, developmental burden, physical burden, social burden, emotional burden, and CBI total score) and resilience (including perception of self, planned future, social competence, structured style, family cohesion, social resources, and RSA total score) depends on a set of independent predictors (age, gender, education, days and hours worked per week, and years of work). Statistical analyses were performed using the SPSS 26.0 for Windows package. A P-value smaller than 0.05 was considered to be statistically significant.

RESULTS

Descriptive statistics are described in table 1.

Table 1. Descriptive statistics

	Mean	Standard deviation
Education	15.29	2.29
Hours of work per week	35.40	18.355
Days of work per week	5.25	1.009
Years of work	3.63	4.168
RSA Total score	97.59	8.696
Perception of self	17.58	2.553
Planned future	12.29	2.113
Social competence	17.57	2.464
Structured style	11.94	1.823
Family cohesion	18.91	2.912
Social resources	19.29	2.599
CBI Total score	25.44	17.495
Time dependence burden	9.06	5.626
Developmental burden	5.58	5.301
Physical burden	4.71	4.010
Social burden	3.54	4.112
Emotional burden	2.56	3.939

Hypothesis 1

Through correlational analyses, two relations emerged as significant and positive. The first one referred to age and social competence, where increasing scores in age corresponded to increasing social competence. In line with this result, increasing days of work per week corresponded to higher scores in social resources (Table 2).

Hypothesis 2

The second hypothesis concerned the relations among sociodemographic and work variables in the light of CBI variables. Referring to age, two significant and positive correlations emerged. Increasing age corresponded to higher scores in time dependence and developmental burden. A significant and negative correlation emerged between education and time dependence burden. Developmental burden showed significant and positive correlations with all variables related to work commitment (Table 3).

Table 2. Correlational analysis for sociodemographic and RSA variables

	Age	Education	Hours of work per week	Days of work per week	Years of work
RSA Total score	0.068	0.093	-0.018	-0.017	0.157
Perception of self	-0.067	0.132	-0.049	-0.080	0.012
Planned future	0.035	-0.046	0.058	0.020	0.063
Social competence	*0.246***	0.095	-0.004	-0.010	0.095
Structured style	-0.106	-0.100	-0.066	0.051	0.016
Family cohesion	-0.102	0.146	-0.010	-0.066	0.059
Social resources	0.079	0.079	0.069	*0.203**	0.174

*Significant p-value <0.05; **Significant p-value <0.001; Italics values were significant values

Table 3. Correlational analysis for sociodemographic and CBI variables

	Age	Education	Hours of work per week	Days of work per week	Years of work
CBI Total score	0.140	-0.098	0.096	0.104	0.162
Time dependence burden	*0.232***	*-0.186**	-0.038	-0.132	-0.109
Developmental burden	*0.195**	-0.056	*0.212**	*0.182**	*0.225**
Physical burden	0.145	0.035	0.054	0.045	0.164
Social burden	-0.067	-0.045	-0.038	-0.132	-0.109
Emotional burden	-0.102	-0.017	-0.038	-0.132	-0.109

*Significant p-value <0.05; **Significant p-value <0.001; Italics values were significant values

Table 4. Correlational analysis for RSA variables and CBI variables

	RSA Total score	Perception of self	Planned future	Social competence	Structured style	Family cohesion	Social resources
CBI Total score	0.085	-0.142	0.168	0.079	0.086	0.019	*0.175**
Time dependence burden	0.010	-0.042	-0.081	0.096	-0.002	-0.057	*0.177**
Developmental burden	0.013	*-0.185**	0.137	0.028	0.016	-0.025	0.150
Physical burden	0.083	-0.016	0.092	*0.178**	0.101	-0.032	0.088
Social burden	0.125	0.016	*0.351***	0.001	0.065	0.024	0.100
Emotional burden	-0.016	-0.172	0.162	0.021	0.066	-0.034	0.034

*Significant p-value <0.05; **Significant p-value <0.001; Italics values were significant values

Hypothesis 3

The third hypothesis concerned the relationships among CBI and RSA variables. The first significant and negative correlation emerged through perception of self and developmental burden. Positive and significant correlations emerged through planned future and social burden, social competence and physical burden, social resources with CBI total score and time dependence burden (Table 4).

Hypothesis 4

The last hypotheses referred to dependencies among a set of selected predictors, RSA and CBI variables. As showed in table 5, age predicted increased scores for social competence time dependence and developmental burden. Male sex predicted higher values referring to CBI Total score and emotional burden, while education predicted higher time dependence burden. Hours of work per week predicted higher structured style, CBI total score, developmental and physical burden rates. Days of work per week predicted higher structured style and social resources scores, while years of work predicted higher planned future scores together with time dependence and developmental burdens (Table 5).

DISCUSSION

The current study identified significant relationships among selected variables, validating the hypotheses and underscoring their relevance for healthcare professionals. In line with the first hypothesis, sociodemographic factors such as age and days of work correlated positively with social competence and resources, aligning with established literature on the developmental construct of social competence (Waters & Sroufe 1983). Santos et al. (2020) emphasized the pivotal role of education, age, and social competence in caregivers' lives, highlighting support and resources as crucial dimensions of human adaptation across various stressors (Abramson et al. 2015, Di Giuseppe et al. 2021, Sergi 2016, 2021).

The subsequent hypothesis referred to the relations between socio-demographics and burden. As showed in Table 3, all significant relations were positive, except

Table 5. Multivariate linear regression analysis

	Age		Sex		Education	
	B(CI:95%)	*p*	B(CI:95%)	*p*	B(CI:95%)	*p*
RSA Total score	0.043 (-0.440/0.525)	0.861	0.894 (-2.791/4.578)	0.632	0.594 (-0.084/1.272)	0.085
Perception of self	-0.028 (-0.170/0.115)	0.700	0.591 (-0.495/1.677)	0.283	0.108 (-0.092/0.307)	0.289
Planned future	0.017 (-0.102/0.135)	0.782	-0.304 (-1.210/0.601)	0.507	-0.035 (-0.202/0.131)	0.676
Social competence	0.144 (0.010/0.279)	*0.036**	0.249 (-0.778/1.275)	0.632	0.138 (-0.051/0.327)	0.150
Structured style	-0.058 (-0.159/0.044)	0.263	-0.556 (-1.329/0.217)	0.157	0.032 (-0.111 0.174)	0.660
Family cohesion	-0.096 (-0.257/0.064)	0.236	0.768 (-0.457/1.992)	0.217	0.189 (-0.036/0.414)	0.099
Social resources	0.064 (-0.080/0.208)	0.384	0.147 (-0.952/1.246)	0.792	0.163 (-0.039/0.365)	0.113
CBI Total score	0.790 (-0.166/1.745)	0.104	-7.379 (-14.676/-0.083)	*0.047**	-0.649 (-1.991/0.693)	0.340
Time dependence burden	0.474 (.176/0.772)	*0.002**	-1.246 (-3.521/1.030)	0.281	0.526 (-0.945/-0.108)	*0.014**
Developmental burden	0.338 (0.051/.625)	*0.021**	-2.057 (-4.250/0.137)	0.066	-0.184 (-0.588/0.219)	0.367
Physical burden	0.194 (-0.028/0.416)	0.087	-0.743 (-2.440/0.953)	0.387	-0.054 (-0.366/0.258)	0.731
Social burden	-0.040 (-0.268/0.188)	0.729	-1.566 (-3.309/0.178)	0.078	0.009 (-0.312/0.330)	0.956
Emotional burden	-0.176 (-0.391/0.040)	0.109	-1.768 (-3.413/-0.123)	*0.035**	0.107 (-0.196/0.409)	0.486
	Hours of work per week		Days of work per week		Years of work	
	B(CI:95%)	*p*	B(CI:95%)	*p*	B(CI:95%)	*p*
RSA Total score	-0.002 (-0.103/0.099)	0.972	-0.143 (-1.842/1.557)	0.868	0.275 (-0.112/0.661)	0.162
Perception of self	-0.015 (-0.045/0.014)	0.311	0.117 (-0.384/0.618)	0.644	0.004 (-0.110/0.118)	0.946
Planned future	0.022 (-0.002/0.046)	0.069	-0.170 (-0.575/0.235)	0.407	0.110 (0.018/0.202)	*0.019**
Social competence	-0.019 (-0.047/0.010)	0.192	-0.009 (-0.489/0.470)	0.969	0.024 (-0.085/0.133)	0.666
Structured style	0.027 (0.006/0.047)	*0.011**	-0.415 (-0.763/-0.067)	*0.020**	0.048 (-0.031/0.127)	0.232
Family cohesion	0.003 (-0.031/0.037)	0.841	-0.231 (-0.803/0.342)	0.426	0.020 (-0.111/0.150)	0.766
Social resources	-0.020 (-0.049/0.009)	0.180	0.566 (0.070/1.062)	*0.026**	0.069 (-0.044/0.182)	0.228
CBI Total score	0.249 (0.052/0.446)	*0.014**	-0.220 (-3.545/3.105)	0.896	0.625 (-0.131/1.381)	0.104
Time dependence burden	0.047 (-0.017/0.111)	0.145	0.113 (-0.966/1.192)	0.836	0.266 (0.020/0.511)	*0.034**
Developmental burden	0.122 (0.065/0.178)	*<0.001**	-0.058 (-1.009/0.892)	0.903	0.223 (0.007/0.439)	*0.043**
Physical burden	0.065 (0.020/0.111)	*0.005**	-0.500 (-1.262/0.263)	0.197	0.147 (-0.026/0.320)	0.096
Social burden	0.029 (-0.018/0.077)	0.222	0.113 (-0.687/0.913)	0.779	0.094 (-0.088/0.276)	0.309
Emotional burden	-0.015 (-0.060/0.031)	0.528	0.112 (-0.660/0.884)	0.775	-0.105 (-0.280/0.071)	0.240

*Significant p-value <0.05; Italics values were significant values

for education. Education has demonstrated its role as a protective factor through different studies, including caregivers and professionals of different kinds (Gangemi et al. 2020, Merlo et al. 2020, 2021a,b, Niemeyer et al. 2019, Patel & Goodman 2007). He significant and positive correlations observed between age and burdens corroborate current trends in the literature (Lindt et al. 2020, Junkins et al. 2020, Tsai et al. 2021).

As depicted in the above-mentioned table, all variables related to work commitment were in positive and significant correlations with time dependence burden. The time dedicated to work commitments is known to impact various critical aspects of healthcare professionals' personal lives (Kayaalp et al. 2021, Wöhrmann et al. 2020). Kokorelias et al. (2020) and other researchers (e.g., Martsolf et al. 2020) have presented evidence linking time burdens to caregivers' work commitments, highlighting how reduced time flexibility, full-time obligations, and overwork significantly diminish quality of life.

The third hypothesis referred to the relationships between the resilience variables and those related to the burden. As Table 4 indicates, the first notable finding was a significant negative correlation between self-perception and developmental burden. This suggests that higher levels of self-perception are linked to reduced developmental burden, a trend supported by other studies (Merlo et al. 2020, Rasoulpoor et al. 2023), which highlight the strong influence of work activities and commitment on developmental burden.

As reported by Pedroso Chaparro and colleagues (2023), self-perception plays a fundamental role in terms of activity, satisfaction and burden. The second significant correlation revealed a positive relationship between planned future and social burden. This underscores how future planning and focus on work activities can impact the socialization processes of individuals involved in clinical settings (McIlfatrick et al. 2018).

The other significant data concerned primarily social resources, which appeared in significant and positive correlation with the total scores of the scale for burden and time dependence burden. These findings warrant further investigation and analysis to ascertain

their validity (Myles & Johnson 2023, Myles et al. 2022). Specifically, higher levels of social resources corresponded to higher burden scores.

The last hypothesis referred to dependencies occurring among a set of predictors related to sociodemographic and work variables and all variables referred to resilience and burden. Several significant and interesting data merged. Starting from age, three significant and positive dependencies emerged. Increasing age predicted higher levels of social competence but also increasing time dependence and developmental burdens.

These findings are consistent with both historical and current literature, underscoring the significant role of aging in the healthcare assistance field (Alshammari et al. 2021, Barros et al. 2019, Chiao et al. 2015, Hsu et al. 2014, Tsai et al. 2021). Gender also showed notable effects, influencing both total burden scores and emotional burden, with significant impacts noted among male subjects.

Despite clear evidence emerged through these analyses, previous research reported contrasting data. According to Xiong et al. (2020), despite several studies reported a greater propensity to experience and suffer from burdens for female participants (e.g., Young et al. 1989, Duangjina et al. 2023), other studies were not comparing groups appropriately. This highlights the need for more attention to factors influencing caregivers' health status (Baronet 1989, Cascella Carbò & García-Orellán 2020). In this case, wider samples should provide for differential analyses in order to contribute to this contrast.

Education was found to predict higher levels of time dependence burden, indicating that individuals with higher professional profiles may experience more burden from their work activities. According to Papadakos and colleagues (2022), education programs are essential in the caregiving field as caregivers often encounter various clinical realities that require professional knowledge.

The number of hours and days worked per week, along with years of work, exhibited several predictive effects on the variables related to burden and resilience. In all cases, these significant associations were positive, indicating an influence on both bolstering resilience and potentially experiencing burdens. As suggested by recent comprehensive reviews, time spent working represents both an opportunity to enhance resilience and a risk factor for burdens (Adashek & Subbiah 2020, Kunkle et al. 2021, Thana et al. 2021).

These variables must be carefully considered to mitigate potential adverse effects stemming from work activities and to design interventions based on emerging data. Specifically, leveraging resilience as a structuring variable presents opportunities to enhance caregivers' personal well-being, thereby improving job satisfaction and addressing potential causes of psychopathology and negative physical outcomes.

Limitations and future research

Nevertheless, this study has its limitations. The instruments used relied on self-reported data from caregivers, suggesting the need for complementing these measures with additional psychological assessment tools for a more comprehensive understanding. Moreover, future studies should aim to increase the sample size and employ robust sampling methods to enable rigorous statistical inference.

CONCLUSION

This study has uncovered significant insights into the healthcare activities of caregivers. This group, often metaphorically referred to as "the invisible patient," requires attention to prevent potential negative clinical outcomes. The diverse range of tasks and clinical conditions they encounter poses risks to their well-being. However, characteristics like resilience play a crucial role in how they cope with adversity and formulate responses to challenging situations. Examining the relationships between burdens, resilience, and specific variables pertinent to caregivers' work is a foundational step toward developing effective interventions. Education and other socio-demographic factors of caregivers are crucial considerations for prevention strategies. This study revealed meaningful connections among these variables, highlighting the need for further research to deepen our understanding of these phenomena.

Ethics:

This research was conducted with respect for the rights of the participants, according to the World Medical Association Declaration of Helsinki and its amendments. The study was reviewed and approved by Ethical committee of the Department of Cognitive Sciences, Psychology, Educational and Cultural Studies (COSPECS), University of Messina, Italy Ethical committee number: COSPECS_11_2020. The data was analysed anonymously. Each participant was properly informed about the research aim and study, and after comprehension signed the informed written consent.

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Conflict of interest: *None to declare.*

Contribution of individual authors:

Angela Alibrandi, Liam Alexander MacKenzie Myles, Rebecca Juli & Emanuele Maria Merlo listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

Angela Alibrandi & Emanuele Maria Merlo made significant contribution to design the research study, revise it critically, provided the interpretation of data, a substantial contribution to draft the manuscript, and gave the final approval.

Emanuele Maria Merlo provided substantial contribution in drafting the parts of the manuscript.

Angela Alibrandi performed the statistical analysis and provided significant contribution to draft of the manuscript.

Liam Alexander MacKenzie Myles & Rebecca Juli made a significant contribution to the writing and review of this research paper.

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