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Original article

Assessment of Psychosocial Support Needs among Caregivers of Children with Special Needs in Tripoli, Libya

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Abstract
Family caregivers providing sustained oversight for children with developmental, cognitive, or motor impairments experience substantial psychosocial, somatic, and environmental strain. Within the healthcare ecosystem of post-conflict Libya, data on caregiver stress vulnerabilities and corresponding health infrastructure insufficiencies have historically been underrepresented. This study was conducted to map structural and emotional stressors, quantify perceived social support mechanisms, prioritise caregiver-identified support interventions, and delineate systematic obstacles preventing structural service integration. This descriptive cross-sectional investigation collected empirical datasets from *N = 147 family caregivers* operating within metropolitan Tripoli using validated self-administered multi-channel metrics. Inter-group statistical relationships across varying child etiologies were parsed via descriptive parameters and one-way Analysis of Variance (ANOVA). Pronounced psychiatric and physical morbidity risks were demonstrated: 57.1% reported persistent diagnostic anticipatory anxiety concerning their child's longitudinal autonomy, 60.0% met clinical thresholds for sleep fragmentation, and 45.6% suffered continuous systemic physical exhaustion. Informal family support models delivered robust emotional relief for 85.0% of respondents, whereas 66.6% reported a severe deficit or complete absence of government social protection initiatives. Crucial institutional remedies highlighted by caregivers included targeted behavioural therapy subsidisation (58.5%) and professional psychological coping workshops (45.6%). Structural gaps in specialised public sectors (44.2%) and general societal stigma (36.7%) represented the most critical barriers to healthcare utilisation. Univariate ANOVA confirmed that caregiver distress indices did not significantly covary based on the specific primary diagnosis of the child ($p > 0.05$). Caregivers in urban Tripoli shoulder severe, homogeneous psychosocial burdens that are acutely compounded by systemic shortfalls in public institutional health structures. Mitigating this hidden public health strain requires synchronised policy reforms, formal mental health networks, and localised economic subsidies.
Keywords. Caregivers, Special Needs, Psychosocial Support, Health Policy, Tripoli, Libya

Introduction

The paradigm of "children with special needs" describes a diverse demographic requiring specialised pedagogical, structural, and therapeutic services due to enduring somatic, intellectual, or psychological developmental variations. Globally, epidemiological estimates by the World Health Organisation suggest that over 1.3 billion individuals—representing approximately 16% of the human population—experience profound functional disability. Consequently, the reliance on informal family care networks has accelerated dramatically, shifting clinical burdens directly onto primary household structures [1]. The primary caregiver, primarily maternal figures or immediate kin, manages complex daily medical, occupational, and physiological regimens. This continuous exposure to high-dependency demands typically occurs without professional preparation or financial remuneration, precipitating a well-documented trajectory toward secondary traumatic stress, emotional depletion, social fragmentation, and chronic economic precarity [2]. While modern international healthcare models increasingly mandate family-centred interventions, public and clinical systems within Libya remain historically focused on acute pediatric pathology, leaving parental mental health unaddressed. This empirical study bridges these systemic and literature gaps by executing a robust quantitative analysis of caregiver psychosocial dynamics, structural needs, and institutional service barriers within the metropolitan Tripoli region.

Methodology

Study Design and Sample Stratification

A descriptive cross-sectional empirical survey was conducted from September 2025 through January 2026 within the urban centres of Tripoli, Libya. Employing a purposive convenience sampling mechanism, a cohort of *N = 147* active caregivers was built. Participants were systematically recruited from specialised neurodevelopmental rehabilitation facilities, non-governmental inclusive schools, and targeted regional digital support networks.

Data Collection Protocols

Primary quantitative indicators were generated via a structured, multi-component survey instrument administered in both physical print and verified digital formats. The validated questionnaire captured granular profiles across four key operational axes: (a) maternal and caregiver sociodemographic matrices; (b) standardised clinical indicators of psychosomatic stress and somatic sleep fragmentation; (c) a tri-dimensional social support matrix assessing informal domestic networks, peer groups, and public state infrastructures; and (d) structured scaling of caregiving service barriers and preferred structural interventions.

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Statistical Analysis
Analytical datasets were processed using SPSS Version 24.0. Continuous and discrete distributions were analysed using frequencies, percentages, arithmetic means, and standard deviations ($\mu \pm SD$). To observe variations in psychosocial stress levels across distinct pediatric diagnoses (e.g., Down syndrome, autism spectrum disorder, cerebral palsy), an independent one-way Analysis of Variance (ANOVA) was executed. Statistical significance for all primary inferential operations was set at a threshold of $p < 0.05$.

Ethical Considerations
Research protocols were constructed in accordance with institutional ethical standards. Informed consent was obtained implicitly via voluntary questionnaire participation, following detailed disclosures regarding data confidentiality, non-compensatory inclusion, and absolute organisational anonymity.

Results
Sociodemographic and Diagnostic Landscape
An examination of the sample baseline demonstrated a strong gender asymmetry: maternal figures comprised 70.1% of the cohort, with primary parental structures accounting for 76.9% of total respondents. Age distributions revealed that the most prominent caregiver cohort was under 25 years old (39.5%), followed by those aged 35–45 years (25.9%). Educational achievement trended high, with 40.1% possessing accredited university degrees. From a pediatric standpoint, Down syndrome was the most prevalent primary clinical presentation (24.5%), followed by Autism Spectrum Disorder (15.7%).

Quantifying Psychosomatic Stress Metrics
The sample exhibited elevated, critical levels of psychological and somatic vulnerability. Persistent anticipatory existential anxiety regarding the long-term socioeconomic and autonomy horizons of the child was documented in 57.1% of caregivers. Somatic disruption was widespread, with 60.0% meeting institutional thresholds for clinical sleep disturbances and 45.6% presenting with regular, unremitting physical exhaustion. Furthermore, 46.3% experienced diminished psychological comfort Severe secondary psychiatric markers were also present, with 33.3% reporting frequent intrusive thoughts of mortality Conversely, socio-cultural indicators of internal stigma were low: 76.2% reported never experiencing internalised shame, and 44.9% maintained active social integration networks.

Evaluation of the Tri-Dimensional Social Support Grid
Analyses of supportive networks highlighted a stark divide between informal and formal systems.

Intra-Family Support
Highly active; 85.0% of respondents classified emotional backing from immediate family as excellent or highly adequate, while 64.0% characterised practical domestic assistance similarly.

Peer and Friend Networks
Moderately stable; 56.5% of caregivers indicated a stable, average-to-good informal peer safety net.

Government and Institutional Infrastructures
Highly deficient; 66.6% of the sampled cohort definitively categorised formal state support as weak, structurally fragmented, or completely absent, with a corresponding poor descriptive score ($\mu = 2.28 \pm 1.24$).

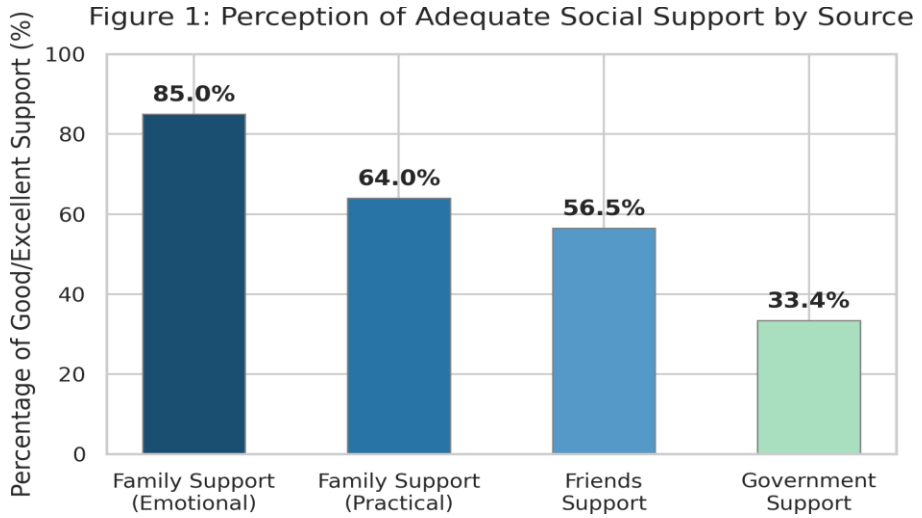

Figure 1. Comparative distribution of perceived social support efficacy across informal and formal infrastructure channels

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Intervention Preferences and Structural Healthcare Barriers

When assessing resource allocation preferences, caregivers prioritised concrete structural adjustments. Formal economic subsidies for specialised medical and rehabilitation therapies were identified as an urgent priority by 58.5% of respondents, while 45.6% requested evidence-based psychological coping workshops. In terms of community programming, clinical individual counselling was preferred by 31.3%, followed by structured parent peer support networks (23.1%). Systematic barriers preventing care utilisation were primarily structural: 44.2% identified the total lack of specialised regional centres as the primary obstacle, while 36.7% cited weak community awareness and pervasive cultural misunderstandings.

Figure 2: Support Preferences and Institutional Barriers Faced by Caregivers

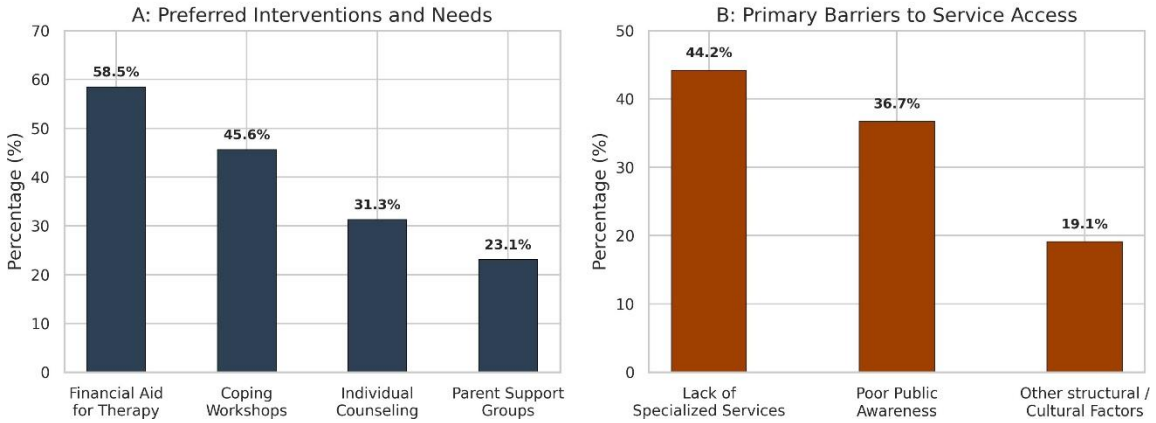

Figure 2. Empirical analysis of caregiver needs (A) Categorised strategic intervention preferences and (B) Operational barriers preventing structural service access

Inferential Variance Analysis (ANOVA)

To assess whether the variation in pediatric clinical presentations impacted caregiver stress levels, a univariate cross-diagnostic comparison was conducted. The one-way ANOVA demonstrated no statistically significant differences in aggregate caregiver psychological stress indexes when stratified across differing child diagnoses (*all $p > 0.05$*). This structural homogeneity indicates that the psychosocial burden is driven by universal systemic challenges rather than individual pediatric pathologies.

Discussion

The empirical findings demonstrate that caregivers in metropolitan Tripoli navigate severe, chronic psychosomatic stress, reflecting international data from similarly resource-constrained environments [1, 2]. The high prevalence of sleep fragmentation (60.0%) and intrusive ideations highlights the immediate need to integrate parental mental healthcare into broader pediatric public health programs.

A key structural finding is the clear divergence between micro-level informal support and macro-level formal institutional support. While regional cultural frameworks preserve family support (85.0%), the acute deficit in institutional governance (66.6% weak/absent) aligns with patterns documented across other developing Arab health networks [3, 4]. This structural gap leaves families reliant on volatile informal systems that are unsustainable over multi-decade care horizons.

Furthermore, the strong preference for financial support (58.5%) and professional coping workshops over general counselling shows that caregivers are responding to real, immediate economic and functional stressors. Because these challenges are institutional rather than cultural [5, 6], and because stress levels remain consistent across all diagnostic categories, clinical and policy interventions must focus on systemic health infrastructure reforms rather than narrow, diagnosis-specific programs.

Conclusion and Policy Recommendations

This study clarifies a substantial public health gap in Tripoli, Libya, where severe caregiver distress is exacerbated by a lack of institutional health infrastructure. To address these systemic vulnerabilities, the following policy shifts are recommended:

Institutionalise Parental Mental Health Care

Integrate routine mental health screenings, localised psychological counselling, and evidence-based stress reduction workshops directly into existing paediatric rehabilitation frameworks.

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Expand Public Specialised Health Infrastructure
Fund and build specialised municipal neurodevelopmental centres to improve service access and reduce geographic disparities.

Deploy Targeted Economic Subsidies
Create direct financial aid programs to offset the costs of long-term medical, speech, and occupational therapies for low-income families.

Launch Strategic Public Awareness Initiatives
Execute nationwide media and community campaigns to reduce societal stigma and foster inclusive educational environments.

Foster Multi-Sectoral Alliances
Build formal partnerships between public health authorities, civil society groups, and private entities to establish sustainable respite care networks.

Enact Progressive Labour Protections
Implement flexible working arrangements and paid caregiving leave policies within public and private sectors, supporting working mothers who provide the majority of care.

Establish Digital Health Infrastructure
Launch accessible, localised digital platforms to deliver remote tele-counselling, peer-to-peer connection, and centralised resource directories.

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