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**Research Article**

# Cross-cultural Adaptation and Preliminary Psychometric Evaluation of the Persian Caregiver Well-Being Scale Among Family Caregivers of People with Schizophrenia

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## *ABSTRACT*

**Introduction:** Caregiving demands may affect the well-being of family caregivers of people with schizophrenia, including their ability to maintain daily activities and meet basic needs**.**
**Objectives:** This study aimed to translate and culturally adapt the Caregiver Well-Being Scale (CWBS) CWBS into Persian and preliminarily assess its content validity, internal consistency, and test–retest reliability among family caregivers of people with schizophrenia.
**Methods:** This methodological study was conducted at three psychiatric centers affiliated with Shiraz University of Medical Sciences, Iran. The 14-item CWBS was translated and culturally adapted through forward translation, synthesis, back translation, expert review, and cognitive pretesting. Thirty family caregivers participated in cognitive pretesting and 144 in the psychometric testing. Content validity was assessed by 15 mental health experts using the Content Validity Ratio (CVR), Item-level Content Validity Index (I-CVI), Scale-level Content Validity Index (S-CVI/UA and S-CVI/Ave), and modified kappa coefficient. Internal consistency was evaluated using Cronbach's alpha and corrected item–total correlations, and test–retest reliability over 14 days using the intraclass correlation coefficient (ICC).
**Results:** Several semantic and cultural adaptations were made while preserving the original meaning. CVR values ranged from 0.60 to 1.00, and all items met the minimum criterion. I-CVI and modified kappa coefficients were 1.00 for all items, while both S-CVI/UA and S-CVI/Ave were 1.00. Cronbach's alpha was 0.922 for ADL, 0.877 for BN, and 0.898 for the total scale. All corrected item–total correlations exceeded 0.30. ICCs were 0.794 (95% CI: 0.725–0.847) for ADL, 0.815 (95% CI: 0.751–0.863) for BN, and 0.872 (95% CI: 0.827–0.906) for the total scale.
**Conclusions:** The Persian 14-item CWBS showed satisfactory content validity, internal consistency, and test–retest reliability among family caregivers of people with schizophrenia. Further studies with larger, more diverse samples are needed to assess construct validity and factor structure.

**Keywords:** Caregivers; Schizophrenia; Psychometrics; Translating

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## 1. Introduction

Schizophrenia can markedly impair functioning and often requires long-term support from family members. With the increasing emphasis on community-based mental health care, family caregivers frequently assume responsibility for supporting people with schizophrenia in daily activities, treatment-related needs, healthcare, and social functioning. Although family involvement is essential to long-term care, these responsibilities may place considerable emotional, social, and financial pressure on caregivers (1, 2). Earlier studies have mainly examined caregiver burden, emotional distress, and caregivers' quality of life, with evidence indicating that family caregivers of people with schizophrenia often experience substantial caregiving difficulties and reduced quality of life (2, 3). Disease-related factors, including more severe symptoms, greater functional impairment, and longer illness duration, have also been associated with greater caregiver burden (4).

Caregiver outcomes are multidimensional and should not be considered interchangeable. Caregiver burden generally refers to the difficulties, demands, and perceived strain associated with the caregiving role, whereas caregiving stress emphasizes the psychological response to caregiving demands. Quality of life represents a broader construct involving perceived physical, psychological, social, and environmental functioning. These constructs provide important information about the caregiving experience but do not specifically capture whether caregivers are able to maintain their own daily functioning and basic needs while providing care (2, 5) .

In contrast, caregiver well-being provides a complementary perspective focused on caregivers' own functioning and fundamental needs. The Caregiver Well-Being Scale (CWBS) was developed to assess this aspect of caregiving. The CWBS assesses two broad domains: Activities of Daily Living (ADL) and Basic Needs (BN), reflecting caregivers' ability to maintain their own daily activities and meet fundamental human needs while fulfilling caregiving responsibilities (6, 7). Thus, caregiver well-being is conceptually distinct from, but complementary to, caregiver burden, stress, and quality-of-life measures.

The CWBS was developed using a strengths-oriented approach, emphasizing caregivers' capacities and resources, and was informed by the concept of basic human needs (6, 8). Subsequent work supported the scale's psychometric performance and resulted in shorter forms intended to facilitate rapid assessment while retaining the original focus on caregiver well-being (7, 9).

The original scale and its shortened versions have been applied in different caregiving populations, including family caregivers of people with chronic health conditions and caregivers in other contexts (6, 7, 9-11). However, because the instrument was originally developed in English, its use among Persian-speaking family caregivers requires appropriate translation and cross-cultural adaptation to maintain linguistic and conceptual equivalence. A culturally appropriate and reliable instrument is important for assessing caregiver well-being and identifying areas where caregivers may require additional support. Accordingly, this study sought to develop a Persian version of the CWBS through translation and cultural adaptation and to preliminarily evaluate its content validity, internal consistency, and test–retest reliability among family caregivers of people with schizophrenia.

## 2. Objectives

The study was designed to translate and culturally adapt the Caregiver Well-Being Scale (CWBS) into Persian and undertake an initial psychometric assessment focusing on content validity, internal consistency, and test–retest reliability among family caregivers of people with schizophrenia.

## 3. Methods

### *3.1 Study Design*

The methodological investigation took place from June 2019 to May 2020 at the psychiatric hospitals of Moharary, Ibn-e-Sina, and Hafez, associated with Shiraz University of Medical Sciences, Iran. The investigation involved two sequential phases involving translation and cultural adaptation of the Caregiver Well-Being Scale (CWBS), followed by preliminary psychometric evaluation of its Persian version. The overall sequence of the translation, adaptation, and psychometric evaluation procedures appears in Figure1. The psychometric evaluation addressed content validity, internal reliability, and test–retest stability. The adaptation procedures followed established guidance for culturally adapting measures (12-16).

### *3.2 Participants*

Participants were family caregivers of people with schizophrenia whose DSM-5 diagnosis was documented in medical records. One main family caregiver per patient was recruited using convenience sampling, with efforts to include diversity in age, gender, and literacy level. Thirty caregivers participated in the cognitive pretesting and 144 in the psychometric testing. Sample size was determined according to commonly recommended approaches for cross-cultural adaptation and preliminary psychometric assessment, including approximately 30–40 participants for

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pretesting and approximately 10 participants per item for psychometric testing (12, 17); Thus, 144 participants were recruited for the 14-item CWBS.

Eligibility criteria were being ≥18 years old, being the primary family caregiver for a person with schizophrenia and having provided care for ≥1year, Persian literacy, willingness to participate, understanding of the study procedures, and absence of a DSM-5-diagnosed psychiatric disorder. The exclusion criterion was incomplete completion of the questionnaire.

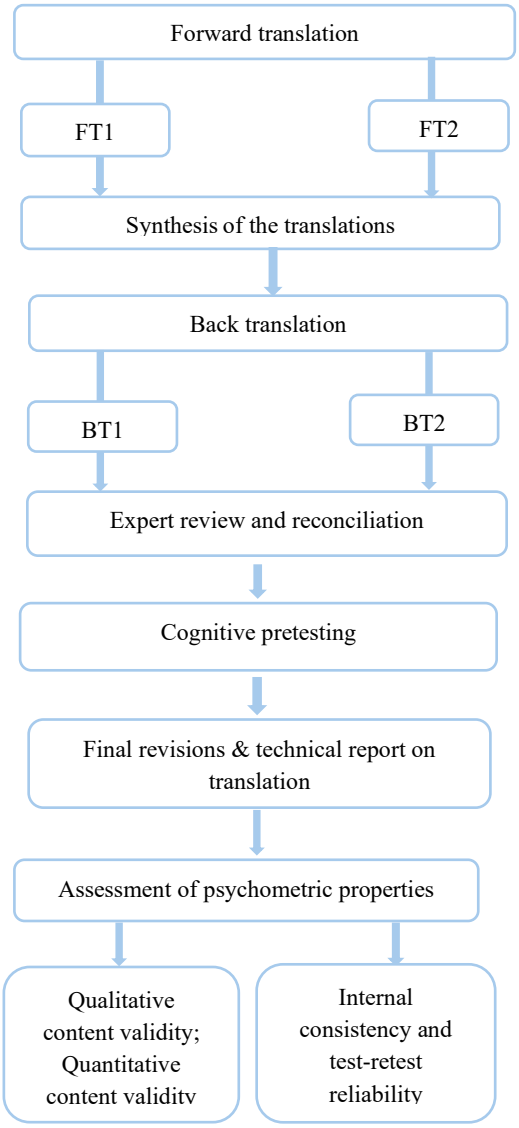



**Figure 1** :Cross-cultural adaptation and preliminary psychometric evaluation of the Persian CWBS
FT = Forward translator, BT = Back translator, CVR = Content Validity Ratio, CVI = Content Validity Index

### *3.3 Scale*

#### 3.3.1 Caregiver Well-being Scale (CWBS)

Tebb originally developed the Caregiver Well-Being Scale (CWBS) in 1995 (6), which consists of 45 items assessing caregiver well-being in two major areas: Activities of Daily Living (ADL) and Basic Needs (BN). Tebb et al. 2013 (9) subsequently developed and evaluated a shortened 14-item version, which was used in the present study. The shortened version comprises two subscales: ADL (8 items), covering self-care, connectedness, and personal time, whereas BN (6 items) covers physical, security, and emotional needs. The BN addresses physical, emotional, and interpersonal needs, whereas the ADL describes activities undertaken to fulfill the needs. Each item receives a rating using a 5-point Likert-type scale, where higher score values reflect better caregiver well-being. For the shortened-version study, Cronbach's alpha was 0.73 for BN, 0.74 for ADL, and 0.83 for total

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CWBS (9). The developers of the CWBS conceptualized the measure as comprising two distinct dimensions: Activities of Daily Living (ADL) and Basic Needs (BN). Accordingly, these two domains were treated as separate dimensions in this study, in accordance with the scale's original conceptualization (9, 18). Although ADL and BN were analyzed separately, the total CWBS score was also calculated to provide an overall indicator of caregiver well-being. The CWBS was selected because it focuses specifically on caregivers' own daily functioning and basic needs and therefore complements measures of negative caregiving outcomes, such as caregiver burden. For the present study, the research team consulted Professor Tebb, the original CWBS developer, regarding its Persian translation and cultural adaptation.

### *3.4 Translation and cross-cultural adaptation*

The CWBS was translated into Persian and culturally adapted through five sequential stages.

Stage I: forward translation

Two Persian-speaking bilingual translators independently translated the original English CWBS: a nurse with a PhD and a professional translator without a medical background. The translators worked independently and were unaware of each other's versions, with emphasis on conceptual rather than literal meaning.

Stage II: Synthesis of the translations

Two versions in Persian were combined to form a preliminary draft, with discrepancies resolved by consensus while retaining the clarity and intended meaning of the original items.

Stage III: Back translation

Two proficient English-speaking translators independently translated the preliminary Persian version back into English. They were not provided with the English original and lacked a medical background. The back-translated versions were checked against the original to detect differences in meaning, terminology, and conceptual equivalence.

Stage IV: Expert review and reconciliation

The initial translations, the combined version, and the back-translations were examined by a reconciliation committee comprising researchers, a methodologist, a professional translator, and four translators. The committee examined each version, resolved discrepancies with consensus, and assessed idiomatic, semantic, conceptual, and experiential equivalence to prepare the pre-final Persian version.

Stage V: Cognitive pretesting

The pre-final Persian version underwent cognitive assessment involving 30 family caregivers representing different ages, genders, and literacy levels. The researcher conducted individual face-to-face interviews, with the assistance of a nursing educator experienced in psychiatric care, in a psychiatric ward; each interview lasted approximately 10 minutes. Participants read each item, explained its meaning in their own words, and commented on its clarity and relevance to their caregiving experience. They identified unclear, ambiguous, difficult, or culturally inappropriate wording and, when needed, suggested alternatives. Cognitive interviews evaluated item comprehension, clarity, and cultural relevance and helped identify potential issues in the translated version (12, 14). Feedback was documented and reviewed, and necessary modifications were made before psychometric evaluation

### *3.5 Content validity*

The Persian CWBS was examined for content validity using qualitative as well as quantitative approaches. A qualitative review was conducted before quantitative assessment applying Content Validity Ratio (CVR), Content Validity Index (CVI), and modified Cohen's kappa.

3.5.1. Qualitative content validity

Fifteen mental health experts familiar with psychometric evaluation reviewed the Persian CWBS for clarity, wording, grammar, item allocation, scaling, cultural appropriateness, and comprehensibility. Their comments were considered by the researchers and incorporated into the revised version before quantitative assessment.

3.5.2. Content Validity Ratio (CVR)

Item necessity was assessed according to Lawshe's method. The 15 experts independently categorized each item as "essential," "helpful but not indispensable," or "not essential." The CVR was obtained from: CVR= (ne - N/2)/(N/2), where N denotes the total expert panel and ne refers to experts who rated an item as essential. Following Lawshe's critical values, a CVR ≥0.49 was considered acceptable for 15 experts at the 0.05 significance level (19, 20). Items meeting this criterion were retained.

3.5.3. Content Validity Index (CVI)

Fifteen experts judged the relevance of each item with four response options spanning 1 (not relevant) through 4 (highly relevant). The I-CVI represented the proportion of experts who judged each item as 3 or 4, with an I-CVI ≥0.78 considered acceptable (20) . The S-CVI/UA represented the proportion of items that all experts rated as 3 or 4, whereas the S-CVI/Ave was

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calculated based on the mean I-CVI across all items. Values above 0.80 were considered acceptable, and those above 0.90 were considered excellent (15, 21). To assess agreement beyond chance, the modified Cohen's kappa coefficient was calculated for each item. Kappa values ≥0.75 indicated excellent agreement, 0.60–0.74 good agreement, and <0.60 weak agreement (14, 20).

### *3.6 Reliability*

The 3.6.1. Internal consistency

Internal consistency was assessed with Cronbach's alpha and corrected item–total correlations across ADL and BN domains and the total scale. Values of ≥0.70 for Cronbach's alpha and corrected item–total correlations of ≥0.30 were considered acceptable. Cronbach's alpha after item deletion was further examined to assess the effect of each item on internal consistency (16).

3.6.2. Test–retest reliability

Test–retest reliability was assessed among 144 participants who completed the CWBS on two occasions separated by 14 days. Participants had no access to their scores from the first administration before completing the second assessment. Reliability was examined employing the intraclass correlation coefficient (ICC), applying a two-way mixed-effects, single-measure consistency model [ICC (3,1)]. ICC estimates were reported with 95% confidence intervals (CIs), and coefficients ≥0.70 were considered acceptable (14, 16). No formal criterion was used to assess participants' stability during the 14-day interval between the two administrations.

### *3.7. Statistical analysis*

Statistical processing was carried out in SPSS (SPSS Inc., IL, USA). Normality was evaluated with the Kolmogorov-Smirnov test. Numerical variables were presented as mean ± standard deviation, while categorical measures were summarized as counts and percentages. All statistical tests were conducted as two-tailed tests, with statistical significance defined as $p < 0.05$.

### *3.8. Ethical considerations*

The Ethics Committee of Shiraz University of Medical Sciences approved the study under ethical code IR.SUMS.REC.1398.574. Permission to translate and use the CWBS was obtained from the scale developer. Before participation, individuals received information on the research objectives and procedures and gave their consent in writing. Taking part in the study was optional, and individuals were advised that they could refuse participation. The research complied with institutional and national ethical requirements, as well as the Declaration of Helsinki, including later amendments

## 4. Results

### *4.1. Participant characteristics*

A total of 144 caregivers of individuals with schizophrenia were included in the psychometric evaluation of the Persian CWBS. Table 1 provides an overview of participants' demographic and caregiving characteristics.

### *4.2. Translation and cross-cultural adaptation*

A pre-final Persian version of the CWBS was obtained following its translation and cross-cultural adaptation.

Stage I: Forward translation

During the adaptation process, one translator rendered the term "church" in the item referring to "church and/or community events" as "religious places," whereas the other used "mosque." Following discussion and reconciliation, "religious places" was selected as the culturally appropriate equivalent for the Iranian context.

Stage II: Synthesis

The two initial translations were reviewed and merged into one Persian version, with discrepancies resolved to maintain conceptual equivalence.

Stage III: Back translation

Comparison of the back-translations against the original version revealed no considerable distinctions in meaning, and the versions were considered equivalent.

Stage IV: Expert review and reconciliation

The translated and back-translated versions were evaluated by the research team and expert panel. Differences were resolved through consensus, resulting in the pre-final Persian version.

Stage V: Cognitive pretesting

Cognitive interviews were conducted with 30 family caregivers varying in age, gender, and literacy level. Participant feedback led to clarification of two ADL items. For item 3, "attending to medical needs" was modified to "attending to medical needs (preventive and curative)," while for item 8, "making plans for your financial future," was modified to "making plans for your financial future (having a job and/or income)."

The resulting version was subsequently assessed for qualitative and quantitative content validity.

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**Table 1:** Characteristics of family caregivers of people with schizophrenia (n = 144)

| Characteristic | Mean (SD) |
|---|---|
| Age (years) | 52 (12.4) |
| Duration of caregiving (years) | 10 (1.40) |
| **Characteristic** | **n (%)** |
| Gender | |
| Male | 35 (24.3) |
| Female | 109 (75.7) |
| Marital status | |
| Married | 111 (77.1) |
| Single | 18 (12.5) |
| Separated | 7 (4.9) |
| Widowed | 8 (5.6) |
| Education level | |
| Less than a Diploma | 75 (52.1) |
| Diploma | 45 (31.3) |
| Academic degree | 24 (16.6) |
| Occupation | |
| Employed | 56 (38.9) |
| Unemployed | 88 (61.1) |
| Relationship with patient | |
| Mother | 58 (40.3) |
| Father | 16 (11.1) |
| Spouse | 16 (11.1) |
| Sibling | 37 (25.7) |
| Child/ Children | 17 (11.8) |

### *4.3. Content validity*

4.3.1. Qualitative content validity

The qualitative content validity for the Persian CWBS was reviewed by 15 mental health experts experienced in psychometric evaluation. The experts evaluated the items regarding clarity, wording, grammar, item allocation, scaling, and cultural appropriateness. Following their feedback, three items were clarified. In the ADL domain, item 7 was revised from "treating or rewarding yourself," to "treating or rewarding yourself (engaging in favorite activities, relaxation, exercise, hobbies, and laughter, etc.)." For the BN domain, item 5 was revised from "feeling good about yourself," to "feeling good about yourself (feeling worthy, having a sense of purpose in life)." For item 4, "having a safe place to live in" was adopted in place of "having adequate shelter" following disagreement among experts and consultation with the scale developer. These modifications were incorporated before the quantitative content validity assessment.

4.3.2. Quantitative content validity

CVR and CVI were used to assess quantitative content validity based on ratings provided by 15 experts.

4.3.2.1. Content Validity Ratio (CVR)

Item necessity was assessed using Lawshe's method. CVR values ranged from 0.60 to 1.00 and were above the 0.49 threshold required for a panel of 15 experts. Individual CVR values are shown in Table 2. All 14 items were retained based on the statistical findings, conceptual relevance, and evidence of content validity

4.3.2.2. Content Validity Index (CVI)

All 14 items had an I-CVI of 1.00, reflecting complete consensus among experts on the relevance of the items. The S-CVI/UA and S-CVI/Ave values were 1.00. Modified kappa coefficients were 1.00 across all items, indicating excellent agreement beyond chance.

### *4.4. Reliability*

4.4.1. Internal consistency

For the CWBS, alpha values reached 0.922 for ADL and 0.877 for BN, with the total scale yielding an alpha of 0.898, indicating satisfactory internal consistency. The mean total CWBS score was 3.219 (SD = 0.70). Across all items, corrected item–total correlation values were above 0.30. The item-deletion analysis likewise provided no indication that any item should be removed. Accordingly, all 14 items were retained. Table 3 provides the detailed findings.

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**Table 2:** Content Validity Ratio (CVR) of the 14-item Persian CWBS

| CWBS | Items | CVR |
|---|---|---|
| ADL | Buying food | 0.6 |
| | Taking care of personal daily activities (eating, personal hygiene, and doing laundry) | 1 |
| | Attending to medical needs (preventive and curative) | 0.6 |
| | Keeping up with home maintenance activities (yard work, household cleaning, minor repairs, etc.) | 1 |
| | Participating in events at religious places and/or in the community | 0.73 |
| | Taking time to have fun with friends and/or family | 1 |
| | Treating or rewarding yourself (engaging in favorite activities, relaxation, exercise, hobbies, and laughter, etc.) | 1 |
| | Making plans for your financial future (having a job and/or income) | 0.73 |
| BN | Eating a well-balanced diet | 1 |
| | Getting enough sleep | 1 |
| | Receiving appropriate health care | 0.88 |
| | Having adequate shelter (having a safe place to live in) | 0.73 |
| | Feeling good about yourself (feeling worthy, having a sense of purpose in life) | 0.88 |
| | Feeling secure about your financial future | 1 |

Note: CWBS, Caregiver Well-Being Scale; ADL, Activities of Daily Living; BN, Basic Needs. For a panel of 15 experts, the CVR threshold was set at 0.49 according to Lawshe's critical values.

4.4.2. Test–retest reliability

All 144 participants completed the CWBS on two occasions separated by 14 days, without access to their initial scores. Test–retest reliability was examined using ICC (3,1), using a two-way mixed-effects model under a consistency definition and single-measure analysis. ICC estimates were reported with 95% CIs, and values ≥0.70 were considered acceptable. For ADL, BN, and the total CWBS, ICC estimates were 0.794 (95% CI: 0.725–0.847), 0.815 (95% CI: 0.751–0.863), and 0.872 (95% CI: 0.827–0.906), respectively. All ICC estimates exceeded 0.70, indicating satisfactory temporal stability over the 14-day interval.

## 5. Discussion

The investigation proceeded in two consecutive phases, beginning with translation and cross-cultural adaptation of the 14-item CWBS and followed by an initial psychometric assessment of its Persian version. The adapted version yielded satisfactory evidence for content validity, internal consistency, and reliability over time among family caregivers of people with schizophrenia. The translation process emphasized conceptual and cultural equivalence rather than literal translation. Several items required clarification or cultural adaptation, particularly those related to medical needs, financial planning, personal well-being, and religious or community activities. These modifications improved comprehensibility while preserving the original constructs and meaning, although substantial cultural adaptations may limit direct comparison with the original version. These findings underscore the value of cognitive pretesting and expert review when adapting caregiver-reported instruments across cultures.

The mean scores for ADL and BN were 3.27 ± 0.90 and 3.14 ± 0.85, respectively, and were lower than those reported in the original study (9). However, this difference warrants cautious interpretation because it may reflect variations in caregiver and care-recipient characteristics, disease context, socioeconomic circumstances, and cultural setting rather than differences in caregiver well-being alone.

The psychometric findings were broadly consistent with previous evaluations of the CWBS. The original CWBS was developed as a strengths-based measure of caregiver well-being, and the shortened 14-item version was later developed as a practical tool for identifying caregiver strengths and support needs (9). The present investigation adds to this work by providing preliminary evidence for the use of the 14-item CWBS among Persian-speaking family caregivers of people with schizophrenia.

Content validity was further supported by favorable quantitative indices and qualitative feedback from experts and caregivers. The modifications made to several items improved their comprehensibility and cultural appropriateness while preserving their conceptual meaning.

Internal consistency was satisfactory and generally comparable with previous versions. The Persian CWBS demonstrated good internal consistency across both domains, with alpha coefficients of 0.92 for ADL and 0.87 for BN, compared with 0.74 and 0.73, respectively, in the English short version (9). The total Persian CWBS also showed satisfactory internal

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consistency (α = 0.89). Differences in reliability estimates across studies should be interpreted cautiously, as they may reflect variations in sample characteristics and measurement tools. Psychometric studies of other caregiver-focused instruments have also highlighted the importance of evaluating measurement properties in the target population (22, 23).

**Table 3:** Internal consistency and item-level statistics of the Persian Caregiver Well-Being Scale (CWBS)

| CWBS | Mean | SD | Internal consistency reliability | | |
|---|---|---|---|---|---|
| | | | α | α if item deleted | Corrected item-total correlation |
| **ADL** | 3.27 | 0.90 | 0.922 | | |
| Buying food | 3.59 | 1.16 | | 0.909 | 0.765 |
| Taking care of personal daily activities (eating, personal hygiene, and doing laundry) | 3.52 | 1.10 | | 0.906 | 0.801 |
| Attending to medical needs (preventive and curative) | 3.43 | 1.06 | | 0.910 | 0.758 |
| Keeping up with home maintenance activities (yard work, household cleaning, minor repairs, etc.) | 3.48 | 1.06 | | 0.908 | 0.780 |
| Participating in events at religious places and/or in the community | 2.90 | 1.15 | | 0.921 | 0.623 |
| Taking time to have fun with friends and/or family | 3.03 | 1.15 | | 0.913 | 0.718 |
| Treating or rewarding yourself (engaging in favorite activities, relaxation, exercise, hobbies, and laughter, etc.) | 3.06 | 1.16 | | 0.913 | 0.718 |
| Making plans for your financial future (having a job and/or income) | 3.15 | 1.09 | | 0.911 | 0.745 |
| **BN** | 3.14 | 0.85 | 0.877 | | |
| Eating a well-balanced diet | 3.08 | 1.06 | | 0.849 | 0.718 |
| Getting enough sleep | 2.88 | 0.90 | | 0.856 | 0.693 |
| Receiving appropriate health care | 3.00 | 1.01 | | 0.845 | 0.746 |
| Having adequate shelter (having a safe place to live in) | 3.63 | 1.21 | | 0.856 | 0.684 |
| Feeling good about yourself (feeling worthy, having a sense of purpose in life) | 3.28 | 1.10 | | 0.868 | 0.609 |
| Feeling secure about your financial future | 2.97 | 1.15 | | 0.858 | 0.667 |
| Total CWBS | 3.219 | 0.70 | 0.898 | | |

Note: CWBS, Caregiver Well-Being Scale; ADL, Activities of Daily Living; BN, Basic Needs; SD, standard deviation; α, Cronbach's alpha coefficient; "Cronbach's α if item deleted" indicates the scale reliability after removal of the respective item. Corrected item–total correlations reflect how closely each item relates to the overall score of its corresponding subscale, with the item itself excluded from the total score.

All 14 items were retained, with corrected item–total correlations above 0.30, supporting their contribution to their respective domains and the original short-form structure.

Test–retest reliability showed satisfactory temporal stability, with an ICC of 0.872 (95% CI: 0.827–0.906) for the total scale. The 14-day interval was selected to balance potential memory effects against the possibility of genuine changes in caregiver well-being.

An important conceptual consideration is that the CWBS assesses caregiver well-being as a construct distinct from caregiver burden, caregiving stress, and quality of life. Whereas these measures primarily address negative outcomes or broader functioning, the CWBS focuses on caregivers' ability to maintain daily activities and fulfill basic needs while providing care. Therefore, it should be considered complementary to, rather than a replacement for, measures assessing burden, psychological distress, or quality of life.

This distinction is particularly relevant to schizophrenia caregiving, where research has often emphasized burden and psychological distress. The ADL and BN domains provide additional information about caregivers' own functioning and needs and may therefore complement existing measures to provide a more comprehensive assessment of the caregiving experience.

### *5.1 Limitation*

Several limitations should be noted. First, convenience sampling at psychiatric centers operating under Shiraz University of Medical Sciences may restrict how broadly the findings can be applied to

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family caregivers in other parts of Iran. Future studies should recruit larger samples from a wider range of geographic settings. Second, the study provided evidence supporting content validity, internal consistency, and temporal reliability but did not assess other important measurement properties, including construct validity, factor structure, convergent and discriminant validity, responsiveness to change, and measurement error (e.g., SEM and MDC). Finally, participants' stability during the 14-day interval between the two test–retest administrations was not assessed using a formal criterion.

### *5.2 Conclusion*

The Persian 14-item CWBS demonstrated satisfactory content validity together with internal consistency and test–retest reliability in family caregivers of individuals with schizophrenia. It may serve as a useful measure of caregiver well-being in research and practice. Broader psychometric evaluation will require studies drawing on larger and more heterogeneous samples, particularly to examine construct validity and factor structure.

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## Statements

***AI Use:*** The authors confirm that generative AI tools were not used in preparing this article.

***Authors' Contribution:*** SB, LZ, and MR shaped the research concept and design. Material preparation, data collection, and analysis were done by SB, LZ, MR, FS, EM, ZH, and RG. SB, LZ, and RG wrote this manuscript. The authors collectively examined and endorsed the manuscript in its final form.

***Conflict of Interests*:** The authors identified no financial, professional, or personal interests with a potential influence on this work.

***Data Availability:*** Access to the study data can be arranged through the corresponding author upon reasonable request, either during the submission process or following publication. Public release of the dataset is restricted by the ethical requirements governing the study.

***Ethical Approval:*** The Ethics Committee of Shiraz University of Medical Sciences approved this research under ethical code IR.SUMS.REC.1398.574. Permission to translate and use the CWBS was obtained from the scale developer. Before participation, individuals received information on the research objectives and procedures and gave their consent in writing. Taking part in the study was optional, and individuals were advised that they could refuse participation. The research complied with institutional and national ethical requirements, as well as the Declaration of Helsinki, including later amendments.

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***Informed Consent:*** Prior to enrollment, all participants gave written informed consent and were advised that they could withdraw from the study at any point without repercussions

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