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Translation and Adaptation of the MISSCARE Survey for Use in Arabic Countries

Traduction et adaptation du questionnaire MISSCARE pour une utilisation dans les pays arabes

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Keywords

missed nursing care; MISSCARE Survey; cultural adaptation and translation; Arabic countries

Abstract

Introduction: Although missed nursing care is a serious issue worldwide, there is a lack of empirical studies about this topic in Arabic countries, which might be due to the unavailability of a valid and reliable measurement instrument in Arab. **Objective:** Since the MISSCARE Survey is the most used instrument in international research, this study aimed to translate and adapt the MISSCARE Survey to literary Arabic. **Methods:** The translation and adaptation were performed according to Beaton et al. (2000) in 5 steps: translation, synthesis, back-translation, expert committee, and testing of the pre-final version of MISSCARE. This last step was conducted with a purposive sample of nurses working in a hospital in Qatar to evaluate the clarity, comprehensibility, and relevance of the translated instrument. **Results:** Thirty nurses participated in our study from different Arabic countries, including Tunisia (53.3%), Egypt (23.3%) and Jordan (23.3%). The instrument was considered clear, comprehensible, relevant, and culturally appropriate. All items achieved acceptable I-CVI values (≥ 0.78), indicating good content validity. No major modifications were required. **Discussion and Conclusion:** Findings show the relevance of each item of the Arabic version of MISSCARE to examine missed nursing care and its reasons. However, to permit its use in Arabic countries, additional studies are required to further test the validity and the reliability of our instrument.

Résumé

Introduction : Bien que l'omission de soins infirmiers constitue un problème majeur à l'échelle mondiale, peu d'études empiriques ont été menées sur ce sujet dans les pays arabes. Cette lacune pourrait s'expliquer par l'absence d'un instrument de mesure valide et fiable en langue arabe. **Objectif :** Étant donné que l'outil MISSCARE est le questionnaire le plus utilisé dans la recherche internationale, cette étude visait à traduire et à adapter le questionnaire MISSCARE en arabe littéraire. **Méthodes :** La traduction et l'adaptation ont été réalisées conformément à la méthode de Beaton et al. (2000), suivant 5 étapes : traduction, synthèse, rétro-traduction, comité d'experts et un test de la version pré-finale de MISSCARE. Cette étape a été menée auprès d'un échantillon raisonné d'infirmiers et d'infirmières travaillant dans un hôpital au Qatar afin d'évaluer la clarté, la compréhensibilité et la pertinence de l'instrument traduit. **Résultats :** Trente infirmiers et infirmières issus de différents pays arabes ont participé à l'étude, notamment de Tunisie (53,3 %), d'Égypte (23,3 %) et de Jordanie (23,3 %). L'instrument a été jugé clair, compréhensible, pertinent et adapté au contexte culturel. Tous les énoncés ont obtenu des valeurs I-CVI acceptables ($\geq 0,78$), ce qui indique une bonne validité de contenu. Aucune modification majeure n'a été nécessaire. **Discussion et conclusion :** Les résultats démontrent la pertinence de chaque item de la version arabe du questionnaire MISSCARE pour évaluer l'omission de soins infirmiers et ses causes. Toutefois, afin de permettre son utilisation dans les pays arabes, des études supplémentaires sont nécessaires pour en évaluer davantage la validité et la fidélité.

Mots-clés

soins infirmiers omis; questionnaire MISSCARE; traduction et adaptation culturelle; pays arabes

INTRODUCTION

Missed nursing care is defined as nursing care that is wholly or partially uncompleted or delayed (Kalisch & Williams, 2009). This concept was introduced for the first time in 2006 by Kalisch. Missed care was mainly related to the lack of staff or material resources, or insufficient communication (Kalisch et al., 2009). Missed nursing care is increasingly conceptualized as an indicator of care quality and system performance, reflecting underlying organizational constraints such as staffing adequacy, communication processes, and resource availability (Ausserhofer et al., 2014; Kalisch et al., 2009). Several international studies report that missed nursing care is associated with low patient safety and is related to numerous adverse patient outcomes, such as medication administration errors, infections, patient mortality, patient dissatisfaction and poor quality of care (Ausserhofer et al.; Ball et al., 2014, 2018; Kalisch et al., 2011; Schubert et al., 2007, 2012). Although, missed nursing care has been associated with patient outcomes in the international literature, few studies have adequately investigated this issue in Arabic countries, mainly due to the unavailability of a valid and reliable measurement instrument in Arab (Hammad et al., 2021).

One of the most used instruments in the international literature is the MISSCARE Survey (Palese et al., 2021). This instrument was originally developed by Kalish & Williams (2009) with a sample of 1,098 American staff nurses working in hospitals from different levels and locations in the United States. The psychometric properties of the MISSCARE Survey were assessed by several studies across different countries and contexts and were generally acceptable (Bragadottir et al., 2015; Kalisch et al., 2014; Kalisch et al., 2011; Siqueira et al., 2017; Sist et al., 2017; Willis et al., 2018). This tool was translated and adapted to some languages (e.g., Brazilian, Turkish, Australian and Swedish versions). Although a previous study by Alfuqaha et al. (2022) attempted to translate the MISSCARE Survey into Arabic, important methodological details regarding the translation

and cultural adaptation process were not fully reported, including back-translation procedures and systematic expert equivalence assessment. This limits the reproducibility and methodological rigor of the adaptation.

In Arabic countries, people use three different types of Arabic languages (Khalaila, 2013): Classical Arabic, Modern Standard Arabic (literary Arabic), and a variety of regional colloquial Arabic dialects (Khalaila). The Classical Arabic is the language of religion and the Quran. The Modern Standard Arabic is a literary Arabic used for writing and education. The Arabic dialect is the language of everyday conversations, and people speak different types of dialects across countries and even from one city to another within a given country (Khalaila). Given the lack of evidence about missed nursing care in Arabic countries, and the lack of a valid tool to study this topic, it is very important to adapt and translate the MISSCARE Survey into literary Arabic (Modern Arabic) to assure the applicability of this tool in different Arabic countries, using a common linguistic base.

OBJECTIVE

This study aimed to translate and adapt the MISSCARE Survey into Modern Standard Arabic to support future psychometric validation studies.

METHODS

STUDY DESIGN

The translation and cultural adaptation of the MISSCARE Survey in Modern Arabic language was conducted according to the method proposed by Beaton et al. (2000). Specifically, five successive steps were followed: 1) initial translations from English to Arabic by two independent translators; 2) synthesis of the two independent Arabic translations; 3) back-translation from Arabic to English by two additional independent translators; 4) revision, verification and validation of the questionnaire by a committee of experts; 5) testing the pre-final version with a purposive sample of participants from the target population.

INSTRUMENT

The MISSCARE Survey, originally developed by Kalisch and Williams (2009), is a widely used instrument designed to measure missed nursing care and its underlying reasons. The development process included a comprehensive literature review, qualitative interviews with nursing staff, and an expert panel review to ensure content validity.

The instrument consists of 41 items divided into two parts. Part A includes 25 items assessing missed nursing care activities, measured using a 5-point Likert scale ranging from 1 (never missed) to 5 (always missed). Part B includes 16 items evaluating reasons for missed nursing care, using a 4-point Likert scale ranging from “not a reason” to “significant reason.” In the original study, the instrument demonstrated strong psychometric properties. Internal consistency reliability was high, with a Cronbach’s alpha of 0.93 for Part A and 0.85 for Part B. Construct validity was supported through exploratory factor analysis of Part B, which identified three factors—communication, labor resources, and material resources—explaining approximately 60% of the total variance. These findings indicate that the MISSCARE Survey is a reliable and valid instrument for assessing missed nursing care in hospital settings (Kalisch and Williams, 2009).

PROCEDURES FOR CROSS-CULTURAL TRANSLATION AND ADAPTATION

1) Initial Translation

Two bilingual translators (RB, BG), whose mother tongue is Arabic language, independently performed the translation of the MISSCARE Survey instrument from the original language (English) to the target language (Modern Arabic). The two translators have different but complementary profiles. RB is a RN PhD in nursing, with prior research experience using the concept of missed nursing care. The second translator, BG, is a RN working in a hospital in Doha-Qatar with no experience with the concept of missed nursing care aside from his daily work experience as a nurse. Each translator wrote a translation report individually (T1 and T2). Challenging phrases to translate or uncertainties, as well as the rationale

for selecting a given translation, were noted in each report.

2) Synthesis of the Translations

Using the original instrument, the two translated versions and the individual observations noted by each translator in their report (T1 and T2), the translators (RB, BG) synthesized the results of the translations and produced a common translation (T-12). Consensus was reached by discussions between the translators.

3) Back-Translation

Two different translators, totally blind to the original questionnaire, translated the T-12 version of the questionnaire back into the original language (English). To avoid information bias, these translators were without a nursing background (Beaton et al., 2000). Thus, two English teachers produced the back-translations (BT1 and BT2).

4) Revision, Verification and Validation of the Questionnaire by a Committee of Experts

To develop a pre-final version of the questionnaire, all translations, including T1, T2, T-12, and the back-translations (BT1, BT2), were revised by the committee, which was composed of seven experts: one Arab teacher, two RN with experience greater than 15 years, and the four translators (two forward and two backward translators). This committee was established to achieve the cultural equivalence between the original version of the questionnaire and the target version. Cultural adaptation was ensured through this expert committee process, which aimed to adapt not only the language but also the meaning of items to the clinical and cultural context of Arabic-speaking countries.

The expert committee assessed four areas: 1) Semantic equivalence: (e.g., Do the words have the same meaning in the original questionnaire and the target version? Are there different meanings to the same item? Are there vocabulary or grammatical difficulties in the translation versions?); 2) Idiomatic equivalence (i.e., difficulties in using colloquialisms or idioms); 3) Experiential equivalence: identifying equivalent items for capturing an experience of

daily life in American culture that may not exist or be applicable in Arabic culture, and 4) Conceptual equivalence: the committee examined the translation and back-translation versions of the instrument to ensure that each item is conceptually equivalent across languages (Beaton et al., 2000). For each item, experts were asked to rate the semantic equivalence, idiomatic equivalence, experiential equivalence and conceptual equivalence using 4-point Likert-type scales on which a score of 1 represented “not equivalent”, and a score of 4 indicated “highly equivalent”. The item was in good agreement with the expert committee when the percentage of committee agreements was $\geq 86\%$ (only one expert in disagreement). Items that did not reach the acceptable value were subjected to revision and readjustment. These items were reassessed in a second round.

5) Testing the Pre-final Version

The pre-final version was administered to a sample of RNs working in a hospital in Doha-Qatar. Data collection was conducted between November and December 2024. Beaton et al. (2000) recommended a sample of between 30 and 40 participants from the target setting. A purposive sample of 50 nurses from different units were invited to participate in this study. The questionnaire and the consent form were sent to each participant’s email address.

Overall, the participants were asked to complete the questionnaire and to assess its relevance. In the first section of the questionnaire (Supplementary File 1), the participants were invited to annotate comments and suggestions about the general appreciation of the Arabic version of the MISSCARE Survey instrument. Also, the responders were asked to answer open-ended and closed-ended questions about the general appreciation of the instrument (e.g., questionnaire completion duration; understanding of the questionnaire; item relevance).

To describe study participants’ characteristics, demographic variables were collected (e.g., sex, nationality, years of experience, education level, unit, and work shift).

CONTENT VALIDITY ASSESSMENT

After the pre-test step, the content validity assessment was conducted, allowing experts to integrate feedback from the target population into their assessment.

The content validity was assessed using the Item Content Validity Index (I-CVI). Each expert rated each item as either “relevant” or “not relevant”. The I-CVI was calculated as the proportion of experts rating the item as relevant divided by the total number of experts ($n = 7$). An $I-CVI \geq 0.78$ was considered acceptable.

ETHICAL CONSIDERATIONS

The authorization for the cultural adaptation process of the MISSCARE Survey was obtained from the original authors (Kalisch and Williams, 2009). The research was approved by the research ethics committee of the *Université de Sherbrooke*. The participants signed the Informed Consent Form.

DATA ANALYSIS

Analysis was performed using SPSS 30 (IBM, 2024). Descriptive analysis (i.e., frequencies and percentages) was conducted to describe the sociodemographic and professional characteristics of participants (nurses). In parallel, responses to the closed-ended items were analyzed descriptively using frequencies and percentages to complement the interpretation of the findings. Qualitative data collected during the pre-test phase were analyzed using an inductive content analysis approach as recommended by Elo and Kyngäs (2008) to evaluate participants’ general appreciation of the Arabic version of the MISSCARE Survey and to assess the relevance (i.e., the extent to which items adequately reflect the construct in the target context), clarity (i.e., the lack of ambiguity in item wording), and cultural appropriateness of the translated items (i.e., the suitability of items within the sociocultural context of the target population). Nurses were invited to provide written comments on the comprehensibility of the items, the response options, and the overall format of the questionnaire.

First, during the preparation phase, all responses to the open-ended questions were repeatedly read to achieve immersion in the data. In the organizing phase, open coding was performed, and meaning units relevant to the evaluation of the translated instrument were identified and labeled. Codes with similar content were grouped into subcategories, including clarity and comprehensibility of the items, relevance of the content, and overall acceptability of the instrument, which were then abstracted into broader categories. In the reporting phase, these categories were described to reflect participants' perceptions of the translated instrument.

The results of the content analysis were used to refine the Arabic version of the MISSCARE Survey prior to its finalization.

RESULTS

1) Results of the Validation of the Questionnaire by the Expert Committee

Several difficulties were encountered during the translation process, particularly in identifying equivalent expressions for terms such as "weakened patients", "patient acuity", "patient volume", and "sending unit" (Supplementary Table 1). The assessment of the cultural equivalence between the original questionnaire and Subscale A-items and Subscale B-items of the Arabic version of the MISSCARE Survey was respectively presented in Table 1 and Table 2. These challenges were addressed through discussion within the expert committee, which sought to identify culturally appropriate and clinically meaningful equivalents in Modern Standard Arabic. In some cases, simplified or more descriptive terms were used to enhance clarity and comprehension while preserving the original meaning.

To ensure the cultural equivalence between the English and the Arabic version, the questionnaire was assessed by the expert committee in two rounds. In the first round, five (20%) and four (18.2%) items relating to Subscale A and B, respectively, obtained agreement percentages < 86%. These items mainly concerned organizational and time-sensitive clinical activities,

such as patient education, reassessment procedures, response times, and inter-shift communication. These items required linguistic refinement due to contextual and cultural differences in nursing practice across Arabic-speaking settings. Based on expert feedback, these items were revised to improve clarity and cultural appropriateness. After revision of these items, according to experts' suggestions, all Subscale A and B items had a good agreement (agreement percentage $\geq 86\%$) in the second round (Table 1, Table 2).

As shown in Table 1 and 2, all items demonstrated acceptable content validity (I-CVI ≥ 0.78), with most items showing high agreement (0.86–1.00). For Subscale A, most items showed excellent content validity, with I-CVI values ranging from 0.86 to 1. A large proportion of items (e.g., items related to patient positioning, hygiene care, medication administration, and documentation) reached perfect agreement (I-CVI = 1.00). According to Subscale B, most items showed excellent content validity, with I-CVI values ranging from 0.86 to 1.00. Several items, particularly those related to communication issues (e.g., "tension or communication breakdowns within the nursing team" and "lack of backup support from team members"), as well as material and labor resource constraints (e.g., "medications not available" and "inadequate number of staff"), achieved perfect agreement (I-CVI = 1), indicating strong consensus regarding their relevance in the Arabic context.

2) Test of Pre-final Version

SOCIODEMOGRAPHIC AND PROFESSIONAL CHARACTERISTICS OF THE PARTICIPANTS

Overall, 30 nurses returned the questionnaire (60% rate of participation), and the completion rate of these questionnaires was 97% (i.e., 3% of missing data). Most of them were men (76.7%) from different Arabic countries, including Tunisia (53.3%), Egypt (23.3%) and Jordan (23.3%) (Table 3). Sixty-six-point 6 percent (n=20) had a bachelor's degree with experience greater than 10 years. More than half of the participants (56.7%) worked on medical and surgical units. Fifty percent (n=15) worked 8-hour shifts, whereas only 3.3% (n=1) rotated between shifts.

Table 1*Cultural Adaptation Equivalence of the Arabic Version of the MISSCARE Survey- Subscale A -items*

| Items | SE | IE | EE | CE | Total | I-CVI |
|---|------|------|------|------|-------|-------|
| 1- Patient's ambulation/mobilisation 3 times per day as requested | 0.86 | 1 | 1 | 0.86 | 0.93 | 1 |
| 2- Turning the patient every 2 hours | 1 | 1 | 1 | 1 | 1 | 1 |
| 3- Feeding the patient when the meal is still hot | 1 | 0.86 | 0.86 | 0.86 | 0.90 | 1 |
| 4- Serving meals to patients who eat by themselves | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| 5- Giving medications 30 minutes before or after their due time | 0.86 | 0.86 | 1 | 0.86 | 0.90 | 1 |
| 6- To evaluate vital signals in conformity with the prescription (timetable) | 1 | 1 | 1 | 1 | 1 | 1 |
| 7- To check the intakes and discharges | 1* | 1* | 1* | 1 | 1 | 1 |
| 8- Full documentation of all necessary data | 0.86 | 0.86 | 1 | 1 | 0.93 | 1 |
| 9- Patient's health teaching about illnesses, tests and diagnostics | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| 10- Emotional support or care for the patient or his family | 1 | 1 | 1 | 1 | 1 | 1 |
| 11- Patient's bathing/skin care | 1 | 1 | 1 | 1 | 1 | 1 |
| 12- Mouth care | 1 | 1 | 1 | 1 | 1 | 1 |
| 13- Hand washing | 1 | 1 | 1 | 1 | 1 | 1 |
| 14- To prepare the patient's discharge | 0.86 | 1 | 1 | 1 | 1 | 1 |
| 15- To check the patient's glucose at his bedside in conformity with the prescription (timetable) | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 1 |
| 16- Assessment of patient's state every shift | 0.86 | 1 | 1 | 1 | 0.97 | 1 |
| 17- Individual/personalized reassessment according to every patient's condition | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 1 |
| 18- Care and assessment of the iv/central line according to hospital guidelines | 1 | 1 | 1 | 1 | 1 | 1 |

| Items | SE | IE | EE | CE | Total | I-CVI |
|--|-------|-------|-------|------|-------|-------|
| 19- Answering the call bell 5 minutes after its ringing | 0.86* | 0.86* | 0.86* | 0.86 | 0.86 | 0.86 |
| 20- Requests on prn medications fulfilled in 15 minutes | 0.86* | 0.86* | 0.86* | 1 | 0.90 | 0.86 |
| 21- Assessment of medications' effectiveness | 1 | 1 | 1 | 1 | 1 | 1 |
| 22- To attend interdisciplinary conferences | 1 | 1 | 1 | 1 | 1 | 1 |
| 23- Helping patients with their toilets 15 minutes after demands | 1* | 1* | 1* | 1 | 1 | 1 |
| 24- Skin care/wound care | 1 | 1 | 1 | 1 | 1 | 1 |
| 25- Adequate control of confused and weakened patients | 0.86* | 0.86* | 0.86* | 0.86 | 0.86 | 0.86 |

Notes. *Committee agreement percentage < 0.86 in the first round; SE: semantic equivalence; IE: idiomatic equivalence; EE: experimental equivalence; CE: cultural equivalence. I-CVI: Item Content Validity Index; calculated as the proportion of experts rating the item as relevant (n = 7).

Table 2*Cultural Adaptation Equivalence of the Arabic Version of the MISSCARE Survey- Subscale B -items*

| Item | SE | IE | EE | CE | Total | I-CVI |
|--|-------|-------|-------|------|-------|-------|
| Communication | | | | | | |
| 1- Tension or communication breakdowns within the nursing team | 1 | 1 | 1 | 1 | 1 | 1 |
| 2- Lack of back up support from team members | 1 | 1 | 1 | 1 | 1 | 1 |
| 3- Nursing assistant did not communicate that care was not done | 0.86 | 0.86 | 0.86 | 1 | 0.90 | 1 |
| 4- Care giver is off unit or unavailable | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| 5- Tension or communication breakdowns with the medical staff | 1 | 1 | 1 | 1 | 1 | 1 |
| 6- Tension or communication breakdowns with other support departments | 1 | 1 | 1 | 1 | 1 | 1 |
| 7- Other departments did not provide the care needed | 1 | 1 | 1 | 1 | 1 | 1 |
| 8- Inadequate hand-off from previous shift or sending unit | 0.86* | 0.86* | 0.86 | 0.86 | 0.86 | 0.86 |
| 9- Unbalanced patient assignments | 1 | 0.86 | 1 | 1 | 0.97 | 1 |
| Material resources | | | | | | |
| 1- Medications were not available when needed | 1 | 1 | 1 | 1 | 1 | 1 |
| 2- Supplies/equipment not available when needed | 1 | 1 | 1 | 1 | 1 | 1 |
| 3- Supplies/equipment not functioning properly | 0.86* | 0.86* | 0.86* | 0.86 | 0.86 | 0.86 |
| Labor resources | | | | | | |
| 1- Inadequate number of staff | 1 | 1 | 1 | 1 | 1 | 1 |
| 2- Urgent patient situations (e.g., a patient's condition worsening) | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 1 |
| 3- Unexpected rise in patient volume and/or acuity on the unit | 0.86* | 0.86* | 0.86* | 1 | 0.90 | 1 |
| 4- Inadequate number of assistive and/or clerical personnel (e.g., nursing assistants, techs and unit secretaries) | 0.86* | 0.86* | 1* | 1 | 0.93 | 1 |

Notes. *Committee agreement percentage < 0.86 in the first round; SE: semantic equivalence; IE: idiomatic equivalence; EE: experimental equivalence; CE: cultural equivalence.

Table 3

Characteristics of Participants (=30)

| Variables | | Frequency n (%) |
|---------------------|----------------------------------|-----------------|
| Sex | Men | 23 (76.7%) |
| | Women | 7 (23.3%) |
| Nationality | Tunisian | 16 (53.3%) |
| | Egyptian | 7 (23.3%) |
| | Jordanian | 7 (23.3%) |
| Years of experience | Greater than 2 years to 5 years | 6 (20%) |
| | Greater than 5 years to 10 years | 4 (13.3%) |
| | Greater than 10 years | 20 (66.7%) |
| Education level | Diploma degree | 8 (26.6%) |
| | Bachelor's degree | 20 (66.6%) |
| | Postgraduate | 2 (6.7%) |
| Unit | Medical & surgical | 17 (56.7%) |
| | Emergency & intensive care | 13 (43.3%) |
| Shift type* | 8 h-shift | 15 (50%) |
| | 10h-shift | 11 (36.7%) |
| | 12h-shift | 3 (10%) |
| | Rotating shift | 1 (3.3%) |
| | More than 12 hours | 13 (43.3%) |

Note. *For the shift type variable, percentages do not sum to 100% because participants could report multiple shift types.

Table 4*General Appreciation for the Arabic Version of the MISSCARE Survey*

| Questionnaire completion | Frequency n (%) |
|-----------------------------------|-----------------|
| In 8-10 | 5 (16.7%) |
| In 10 min | 24 (80%) |
| More than 10 min | 1 (3.3%) |
| Easy and clear | 29 (96.7%) |
| Difficult to complete and unclear | 1 (3.3%) |
| Relevant questionnaire | 26 (86.7%) |
| Not relevant questionnaire | 4 (13.3%) |

LINGUISTIC PROFILE

All participants were educated in Arabic-speaking contexts and were familiar with Modern Standard Arabic as the formal language used in education and professional settings, supporting their ability to understand the translated instrument.

GENERAL APPRECIATION FOR THE ARABIC VERSION OF THE MISSCARE SURVEY

Four main categories were derived inductively from the data through the abstraction process: 1) clarity and comprehensibility, 2) relevance to clinical practice, 3) appropriateness of wording, and 4) overall acceptability of the instrument. These categories reflect how participants spontaneously expressed their evaluation of the instrument, particularly in terms of clarity, relevance, and cultural appropriateness.

1) Clarity and Comprehensibility

Most participants reported that the questionnaire was clear and easy to understand, which is consistent with the descriptive results showing that (96.7%) of respondents indicated clarity in Table 4. Participants highlighted that the wording was straightforward and consistent with their professional language, facilitating comprehension without the need for additional explanation.

No major ambiguities were identified, suggesting that the translation achieved a high level of semantic equivalence.

2) Relevance to Clinical Practice

Participants emphasized that the items reflected their daily nursing activities and clinical realities. This aligns with the finding that 86.7% of respondents considered the instrument highly relevant (Table 4).

The strong alignment between questionnaire items and real-world nursing tasks supports the experiential and conceptual adequacy of the translated instrument.

3) Appropriateness of Wording

The analysis showed that the terminology used in the Arabic version was generally perceived as appropriate and culturally acceptable. Although minor preferences in wording were occasionally noted, these did not affect the overall understanding of the items and did not require substantial modifications.

This suggests that the translation successfully balanced standardization in Modern Standard Arabic with practical usability in clinical contexts.

4) Overall Acceptability

Overall, participants expressed a high level of satisfaction with the instrument. The majority (80% (24)) completed the questionnaire within 10

minutes, indicating good feasibility and usability (Table 4).

Importantly, no participants suggested major modifications, reinforcing the acceptability and adequacy of the translated version.

DISCUSSION

The cultural adaptation process of the Arabic version of the MISSCARE Survey was conducted according to Beaton's et al. (2000) method. This study presented the cultural adaptation process of the MISSCARE Survey. Further studies will be performed to evaluate the psychometric properties of this instrument to permit its use in Arabic countries.

Overall, our results show a good cultural equivalence between the original questionnaire and the Arabic version. Thus, all items had a good committee agreement percentage of $\geq 86\%$ after adjustment of some items. These findings were further supported by the I-CVI results, which showed high levels of agreement among experts (ranging from 0.86 to 1), confirming the relevance and appropriateness of the translated items. However, there were some difficulties in translation and cultural adaptation to find some equivalent words in Arabic. For instance, there were difficulties in finding equivalent expressions for "weakened patients", "sending unit", "patient volume", and "acuity on the unit" in Arabic culture. Also, it was not easy to find the term that captured the similar meaning of "missed nursing care" in the Arabic context. Similarly, these findings were reported in the translation of the MISSCARE Survey into Icelandic (Bragadottir et al., 2015), and Swedish (Nymark et al., 2020), which highlighted the important role of the expert committee in the adaptation and translation processes to ensure cultural adaptation equivalence.

Our study demonstrates that 97% of participants completed the questionnaire without missing data. Although only 3% of data were missing, it could be interesting, in future research work, to ask our expert committee to further examine the items with missing data (the last step of the cultural adaptation and translation process, according to Beaton (2000)) to see if any

improvements to their Arabic translation could be made. Alternatively, reasons for missingness could be explored through qualitative work (e.g., "This item is not applicable to my nursing unit").

The test of pre-final version also provided important insights into the clarity, comprehensibility, and acceptability of the instrument. Participants reported that the questionnaire was easy to understand, relevant to their clinical practice, and straightforward to complete. Most participants completed the questionnaire in approximately 10 minutes, reflecting its clarity and ease of use. No modifications were suggested by the participants. These findings are consistent with the original development study of the MISSCARE Survey by Kalisch and Williams (2009), which reported good clarity and acceptability among nurses, as well as with the Jordanian validation study (Alfuqaha et al., 2022), where participants similarly reported that the instrument was clear, relevant, and easy to complete.

Overall, these results support the face validity, clarity, and cultural appropriateness of the Arabic version of the MISSCARE Survey in the target context.

Similar to the original English version, most of the participants had a bachelor's degree with experience of greater than 10 years, which demonstrates the similarity in the educational background of nursing staff in the two countries. Most of the participants (56.7%) worked on medical and surgical units. Similar findings were reported in the Jordanian version (Alfuqaha et al., 2022). In fact, 74.6% of respondents worked on medical and surgical units (Alfuqaha et al.). Most of the participants were men (76.7%), which is atypical in the nursing profession. These results might be due to our convenience sampling strategy (i.e., most of the questionnaires were sent to men).

STRENGTHS AND LIMITATIONS

The use of Modern Standard Arabic represents an important strength of this study, as it allows the instrument to be applicable across different Arabic-speaking countries. In addition, the translation and cultural adaptation of the MISSCARE Survey were conducted using rigorous methods, and participants were recruited from

different Arabic countries (e.g., Tunisian, Jordanian, and Egyptian), supporting its potential relevance across diverse Arabic contexts.

However, several limitations should be acknowledged. The use of purposive sampling, the absence of comprehensive psychometric testing, and the relatively small pre-test sample size ($n = 30$), conducted in a single hospital in Qatar, may limit the generalizability of the findings. Furthermore, although participants were from different nationalities, the study does not fully capture the diversity of dialects and clinical contexts across the Arab world. The predominance of male participants (76.7%) may also introduce a selection bias and influence the perception of missed nursing care, as this distribution does not reflect the global nursing workforce. Therefore, the findings should be interpreted with caution.

Our study provides the translation and adaptation of the MISSCARE Survey in Arabic culture, but further studies are needed to comprehensively evaluate the psychometric properties of the instrument and confirm its validity and applicability across diverse Arabic-speaking populations.

CONCLUSION

This current study provides a description of the translation and adaptation process of the

Arabic version of the MISSCARE Survey according to Beaton's method (2000). Results suggest that our tool has a good cultural adaptation and translation equivalence with the original instrument. Also, findings demonstrate the relevance of each item of our tool to examine missed nursing care and its reasons.

However, to better investigate the topic of missed nursing care in Arabic countries with a robust tool, additional studies are required to test the validity and the reliability of our instrument in multicenter studies with larger samples.

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Supplementary File 1

استبيان حول الرعاية الصحية المتغافل عنها

يعد هذا الاستبيان جزء من مشروع بحث ما بعد الدكتورا الذي يهدف الى تحديد العلاقة بين الانواع المختلفة من الساعات الاضافية ونتائجها على الممرض (ة) والمريض. في إطار هذا البحث سنهتم بالعلاقة بين الساعات الاضافية والرعاية المتغافل عنها (يعني الرعاية الصحية الاساسية والضرورية التي لا يستطيع الممرض (ة) انجازها بسبب نقص الوقت او الموارد البشرية او المادية). لدراسة الرعاية المتغافل عنها سنستخدم النسخة العربية من الاستبيان الإنجليزي. (MISSCARE لكليش وويليام (2009)) الذي ترجمه إلى اللغة العربية فريق البحث.

- ❖ يهدف هذا الاستبيان الى تحديد الرعاية المتغافل عنها واسباب حدوثها.
- ❖ مشاركتك ستساهم في تقييم النسخة العربية من الاستبيان ((MISSCARE لإجراء التعديلات الضرورية.
- ❖ يتكون هذا الاستبيان من الاقسام التالية:
- ✓ قسم أ البيانات الاجتماعية والديمغرافية.
- ✓ قسم ب الرعاية الصحية المتغافل عنها.
- ✓ قسم ج اسباب التغافل عن الرعاية الصحية.
- ✓ قسم د التقييم العام للاستبيان.
- ❖ بعد تعميم الاستبيان انت مدعو لإبداء ملاحظاتك واقتراحاتك لتعديل هذه النسخة.
- ❖ الاسئلة التي ستساعدك على الاجابة:
- كم من الوقت استغرقته لتعمير هذا الاستبيان؟ (واضح - غير واضح - سهل - صعب ...)?
- هل الاسئلة المطروحة في القسم ا من الاستبيان مهمة بحيث تمكننا من دراسة الرعاية المتغافل عنها؟
- هل الاسئلة المطروحة في القسم ب من الاستبيان مهمة بحيث تمكننا من معرفة أسباب الرعاية المتغافل عنها؟
- هل يعكس هذا الاستبيان واقع الرعاية الصحية في القسم الذي تشتغل فيه؟

قسم أ- البيانات الاجتماعية و الديمغرافية :

- 1- اسم الوحدة التي تعمل بها
- 2- اقضي معظم وقت عملي في هذه الوحدة
لا
نعم
- 3- المستوى التعليمي
- تعليم ابتدائي
- تعليم ثانوي
- تعليم عالي (درجة البكالوريوس)
- تعليم عالي
- 4- ماهي رتبته الحالية
- ممرض مرخص
- ممرض مسجل
- ممرض عام
- ممرض عام مرخص
- 5- الجنس
ذكور
انثى
- 6- العمر
- اقل من 25 سنة
- من 25 الى 34 سنة
- من 35 الى 44 سنة
- من 45 الى 54 سنة

- من 55 الى 64 سنة
- فوق 65 عام
- 7- المسمى الوظيفي
- ممرض مسجل
- متربص مرخص
- مساعد ممرض
- رئيس تمريض
- أخرى ...
- 8- عدد ساعات العمل المعتادة في الأسبوع
- أقل من 30 ساعة في الأسبوع
- 30 ساعة أو اكثر
- 9- طبيعة ساعات العمل
- دوام صباحي: 8 ساعات / 12 ساعة
- دوام مسائي: 8 ساعات / 12 ساعة
- دوام ليلي: 8 ساعات / 12 ساعة
- دوام تناوب: صباحي / مسائي / ليلي
- 10- مدة الخبرة في دورك الوظيفي
- أقل من 6 أشهر
- من 6 اشهر الى سنتين
- اكثر من سنتين الى 5 سنوات
- اكثر من 5 سنوات الى 10 سنوات
- اكثر من 10 سنوات
- 11- مدة الخبرة في وحدة الرعاية الصحية الحالية
- أقل من 6 اشهر
- من 6 اشهر الى سنتين
- اكثر من سنتين الى 5 سنوات
- اكثر من 5 سنوات الى 10 سنوات
- اكثر من 10 سنوات
- 12- في أي حصة تعمل غالبا ؟
- حصة 8 ساعات
- حصة 10 ساعات
- حصة 12 ساعة
- حصة تناوب 8 او 12 ساعة
- أخرى
- 13- عدد ساعات العمل الإضافية التي قمت بها خلال الثلاث اشهر الأخيرة
- لا توجد
- من 1 الى 12 ساعة
- اكثر من 12 ساعة
- 14- في الثلاث اشهر الماضية كم عدد الأيام او الحصص التي تغيبت فيها عن العمل بسبب المرض او الإصابة او الراحة الإضافية (باستثناء أيام الاجازات المعتادة)
- لا توجد
- يوم او حصة
- 2 / 3 أيام او حصص
- 4 / 6 أيام او حصص
- على مدار 6 أيام او حصص

15- هل تفكر في الاستغناء عن وظيفتك الحالية

- في 6 الأشهر القادمة

- في العام المقبل

- لا افكر في المغادرة

16- بنسبة كم تعتقد ان موظفي الوحدة كاف

% 0

% 25

%50

%75

%100

17- في الحصة الحالية او الأخيرة التي عملت فيها كم عدد المرضى الذين قمت برعايتهم؟

أ- كم عدد المرضى الذين تم قبولهم في المستشفى (بما في ذلك التحويلات الى الوحدة)

ب- كم عدد المرضى الذين غادروا المستشفى (بما في ذلك التحويلات خارج الوحدة)

18- الرضى عن الوضعية الحالية (يرجى تحديد إجابة واحدة لكل سؤال)

| راض جدا | راض | محايد | غير راض | غير راض تماما | |
|---------|-----|-------|---------|---------------|---|
| | | | | | مامدى رضاك عن وظيفتك الحالية ؟ |
| | | | | | بغض النظر عن وظيفتك الحالية مامدى رضاك عن كونك ممرض (ة) مساعد (ة) ممرض(ة) |
| | | | | | مامدى رضاك عن مستوى العمل الجماعي في الوحدة التي تنتمي اليها ؟ |

قسم ب- الرعاية الصحية المتغافل عنها :

يواجه الممرضون و الممرضات في اغلب الأحيان امعالا متعددة و طلبات كثيرة تستنزف اوقاتهم مما يتطلب منهم إعادة تحديد الأولويات و عدم انجاز كل ما يحتاجه مرضاهم على حسب علمك مامدى تكرار التغافل عن الخدمات الصحية التالية من قبل طاقم التمريض في الوحدة التي تنتمي اليها (بما في ذلك انت) ؟ ضع العلامة (X) في الخانة المناسبة

| متغافل عنها دائما | كثيرا | في بعض الأحيان | نادرا | لا يتم التغافل عنها ابدا | |
|-------------------|-------|----------------|-------|--------------------------|---|
| | | | | | المساعدة على المشي / الحركة / 3 مرارة في اليوم او حسب الطلب |
| | | | | | تقليب المريض كل ساعتين |
| | | | | | اطعام المريض عندما يكون الطعام لايزال دافئا |

| | | | | | |
|--|--|--|--|--|---|
| | | | | | تقديم وجبات الطعام للمريض الذي يتناول طعامه بنفسه |
| | | | | | الادوية التي تعطى في غضون 30 دقيقة قبل او بعد الوقت المحدد لها |
| | | | | | المؤشرات الحيوية التي تم تقييمها حسب الطلب |
| | | | | | مراقبة كمية السوائل التي تدخل للجسم و تخرج منه |
| | | | | | التوثيق الكامل لجميع البيانات الضرورية |
| | | | | | التتقيف الصحي للمريض (المرض - الفحوصات - و الدراسات التشخيصية) |
| | | | | | الدعم العاطفي للمريض او الاسرة |
| | | | | | استكمال المريض / العناية بالبشرة |
| | | | | | غسل اليدين |
| | | | | | إتمام اجرائات خروج المريض |
| | | | | | مراقبة نسبة السكري في الدم (الجليكوز) حسب الطلب |
| | | | | | تقييمات المرضى التي يتم اجراؤها في كل حصة |
| | | | | | إعادة التقييمات بدقة وفق لحالة المريض |
| | | | | | رعاية موقع الخط المركزي / الوريدي و تقييمه وفقا لسياسة المستشفى |
| | | | | | الاستجابة لنداء المريض (ضوء النداء) في غضون 5 دقائق |
| | | | | | الاستجابة لطلبات الادوية المسجلة عند الحاجة الملحة في غضون 15 دقيقة |
| | | | | | تقييم مدى فاعلية الادوية |
| | | | | | حضور مؤتمرات الرعاية الصحية |
| | | | | | مساعدة المريض في استخدام الحمام عند الحاجة في غضون 5 دقائق |
| | | | | | العناية بالبشرة / الجروح |
| | | | | | المتابعة اللازمة للمريض ذوي الاختلال الفهمي و النقص في الاستعاب |

قسم ج - أسباب التغافل عن الرعاية الصحية :

بعد التفكير في الرعاية الصحية المتغافل عنها في وحدتك من قبل جميع افراد طاقم التمريض (كما اشرت اليه في الجزء الأول) ماهي الأسباب التي أدت الى ذلك ؟
ضع العلامة (x) في خانة واحدة لكل عنصر

| ليس سببا مهما لاغفال الرعاية | سبب ذو أهمية بسيطة | سبب ذو أهمية متوسطة | سبب ذو أهمية بالغة | |
|------------------------------|--------------------|---------------------|--------------------|--|
| | | | | الطاقم التمريضي غير كاف |
| | | | | حالات استعجالية مثل تدهور مفاجئ لحالة المريض |

| | | | | |
|--|--|--|--|--|
| | | | | زيادة غير متوقعة في عدد المرضى / او حدة المرض في الوحدة |
| | | | | عدد غير كاف من الموظفين المساعدين او الإداريين (مساعد ممرض – فني ...) |
| | | | | عدم التوازن في المهام |
| | | | | عدم توفر الادوية اللازمة عند الحاجة |
| | | | | تسليم تقرير غير كاف من الدوام السابق او من الوحدة الصحية السابقة |
| | | | | عدم تقديم الأقسام الأخرى الرعاية اللازمة للمريض (مثلا قسم العلاج الطبيعي) |
| | | | | اللوازم / المعدات غير متوفرة عند الحاجة اليها |
| | | | | اللوازم / المعدات لا تعمل عند الحاجة اليها |
| | | | | عدم وجود دعم احتياطي من أعضاء الفريق |
| | | | | التوتر او انقطاع التواصل و التنسيق مع الأقسام المساعدة |
| | | | | توتر او انقطاع التواصل داخل فريق التمريض |
| | | | | التوتر او انقطاع التواصل مع الطاقم الطبي |
| | | | | مساعد التمريض لم يتم بالابلاغ عند عدم تقديم الرعاية الصحية اللازمة |
| | | | | غياب مقدم الرعاية عن القسم |
| | | | | كثافة دخول و خروج المرضى من القسم |
| | | | | الإرهاق العاطفي او الجسدي |
| | | | | الإشراف الغير كاف على مساعدي التمريض |
| | | | | تعدد المهام و تقطع العمل |
| | | | | نقص الإشارات / التذكير |
| | | | | الدعم غير الكافي من رئيس الفريق |

قسم د- التقييم العام للاستبيان:

1. كم من الوقت استغرقته لتعمير الاستبيان؟
8 - 10 دقائق
10 دقائق
أكثر من 10 دقائق
2. هل الاستبيان سهل التعمير أم لا؟
3. هل الأسئلة المطروحة في الاستبيان مهمة أم لا؟

Supplementary Table 1

List of Problematic Words in Translation and Adaptation Process of the Arabic Version of the MISSCARE Survey

| Problematic words |
|-------------------------|
| - "MISSCARE" |
| - "Missed nursing care" |
| - "weakened patients" |
| - "sending unit" |
| - "patient volume" |
| - "acuity on the unit" |