

UNIVERSITI TEKNOLOGI MARA

**TRANSLATION AND VALIDATION
OF THE UPPER EXTREMITY
FUNCTIONAL INDEX-15 (UEFI-15)
MALAY VERSION**

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ABSTRACT

Upper Extremity Functional Index (UEFI) is a valid Patient-Reported Outcome Measures (PROMs) to assess upper extremities function in musculoskeletal disorders. There were still no translations of any UEFI versions into Malay language. Thus, a cross-cultural translation of UEFI-15 is needed to provide clinicians and researchers in Malaysia access to a valid and reliable tool in our own cultural context and language. This study was divided into two phases. Phase one aimed to systematically review and appraise the clinical utility and psychometric properties of all available versions of UEFI. Phase two aimed to cross-culturally translate and validate the UEFI-15 into the Malay language. For phase one, a systematic review was conducted using the PRISMA guideline. A comprehensive search was conducted using Scopus, Web of Science, PubMed, CINAHL, MEDLINE, and AMED databases. For phase two, a cross-sectional study design was used. Ten occupational therapist or lecturer with clinical experience handling patients with upper extremity disorder participated in the content validity testing. Ten participants with musculoskeletal disorders of upper extremities participated in the face validity testing. 150 participants with musculoskeletal disorders of the upper extremities referred to the Occupational Therapy Department at Hospital Queen Elizabeth and Hospital Queen Elizabeth 2 were psychometrically tested to establish the reliability and validity properties of the Malay version of UEFI-15. The results of phase one of this study showed that UEFI was utilised in five populations: musculoskeletal disorder, breast cancer, post-operative, stroke, and burn. Unsurprisingly, UEFI was most frequently used in the musculoskeletal disorder population. All available UEFI versions were valid and reliable for the musculoskeletal disorder population. UEFI was also proven reliable and valid for the breast cancer population. The results of phase two indicated that the Cronbach's alpha coefficient for the UEFI-15 Malay version was reported as excellent (0.965). The ICC of the UEFI-15 Malay version was reported 0.982, considered excellent. Convergent validity, UEFI-15 Malay version demonstrated a strong negative correlation with MVDASH, with a Pearson correlation coefficient value of -0.872. In conclusion, UEFI is mainly used in the musculoskeletal disorder population. All available versions of UEFI were proven reliable and valid. The UEFI-15 Malay version was proven valid and reliable in the musculoskeletal disorder of the upper extremities population. This study holds implications for clinicians and researchers by providing evidence on the utilisation and psychometric properties of all available versions of UEFI. It also provides evidence of its validity and reliability.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter serves as an introductory section that provides essential context for the study. It encompasses the background, problem statement, and significance of the research, offering a comprehensive understanding of the study's purpose, relevance, and potential impact. In doing so, it addresses the pertinent issues that necessitate conducting the research and outlines the benefits that can be derived from its findings. Additionally, this chapter goes beyond mere description, as it also includes a thorough examination of the research objectives and questions. By defining these aspects, the study's direction and focus become clear, ensuring a targeted approach to the investigation. Moreover, it presents the conceptual framework, which establishes the theoretical foundation and guides the exploration of the research topic. Furthermore, the chapter defines the study's scope, outlining the specific boundaries and limitations within which the research will be conducted. This helps to ensure that the study remains manageable and focused. By delving into the delimitation of the study, it highlights any factors that might impact the generalization of the findings, enhancing the research's credibility and validity.

1.2 Background of the Study

In the rapidly evolving landscape of twenty-first-century healthcare, the central objective remains the optimization of patient outcomes while balancing the imperative of cost-effectiveness (Fortney et al., 2011). This pursuit necessitates the identification of appropriate outcome measures that can accurately assess the efficacy of interventions (Rothrock et al., 2011). While conventional benchmarks such as measuring grip strength and range of motion have proven valuable in gauging patients' physical capabilities, they tend to neglect the broader dimensions of functional abilities and the individual's capacity to engage in daily life activities (Meadows, 2011). Recognizing this limitation, a paradigm shift towards Patient-Reported Outcome Measures (PROMs) has gained momentum (Black, 2013). These instruments prioritize the evaluation of