

Original scientific article/Izvirni znanstveni članek

Content validity and internal reliability of Slovene version of Medication Administration Error Survey

Vsebinska veljavnost in notranja zanesljivost slovenske različice anketnega vprašalnika o napakah pri dajanju zdravil v zdravstveni negi

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Key words: patients safety; instruments development; psychometric properties; hospitals

Ključne besede: varnost pacientov; oblikovanje instrumentov; psihometrične lastnosti; bolnišnica

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ABSTRACT

Introduction: In Slovenia there is a lack of valid and reliable instruments for measuring medication administration errors. The aim of research is to determine the content validity and internal reliability of the Slovenian version of the "Medication Administration Error Survey".

Methods: We used the translation and back translation tested the questionnaire for its content validity on the basis of an agreement of eight experts. Content validity was quantified by the content validity index and a modified Cohen kappa index. A cross-sectional design, with a convenience sample of 91 caregivers working in internal or surgical wards in two health care institutions, was used to test the internal consistency by calculating Cronbach's α and corrected item-total correlations.

Results: 64 items showed an excellent content validity index, ranging from 0.875 to 1.000, and modified kappa index over 0.740. Two items had a content validity index 0.750 and modified kappa index 0.560. The average content validity index for three main parts of the questionnaire ranged from 0.940 to 0.959. Cronbach's α for these three parts ranged from 0.832 to 0.989. The corrected item-total correlations reached a required criterion for all items, except one.

Discussion and conclusion: Instrument has an acceptable content validity and internal reliability, however, due to some methodological shortcomings results should be interpreted with caution. Further psychometric testing is needed.

IZVLEČEK:

Uvod: V slovenskem prostoru primanjkuje veljavnih in zanesljivih instrumentov merjenja napak pri dajanju zdravil, zato je namen te raziskave ugotoviti vsebinsko veljavnost in zanesljivost slovenske različice vprašalnika »Napake pri dajanju zdravil«.

Metode: Uporabili smo prevod in vzvratni prevod. Vsebinsko veljavnost smo ugotavljali na osnovi strinjanja osmih strokovnjakov. Izračunali smo indekse vsebinske veljavnosti in modificiran Cohenov kapa indeks. S presečno opazovalno raziskavo smo z vzorcem 91 zaposlenih na kirurških ali internih oddelkih, ugotavljali notranjo zanesljivost vprašalnika. Izračunali smo koeficient Cronbach α in preverili popravljene korelacije posamezne postavke z njeno lestvico.

Rezultati: Indeksi vsebinske veljavnosti posamezne postavke so za 64 trditve znašali od 0,875 do 1,000, kapa indeksi pa več kot 0,740. Dve trditvi sta bilo ocenjeni z indeksom vsebinske veljavnosti 0,750 in zmernim kapa indeksom 0,560. Indeksi vsebinske veljavnosti treh glavnih delov vprašalnika so znašali od 0,940 do 0,959. Cronbach α teh treh sklopov je znašal od 0,832 do 0,989. Popravljen korelacije posamezne postavke z njeno lestvico pri vzrokih za napake in vzrokih za ne sporočanje so z izjemo ene trditve dosegle zahtevan kriterij.

Diskusija in zaključek: Potrjujemo sprejemljivo vsebinsko veljavnost in notranjo zanesljivost vprašalnika, vendar je rezultate raziskave potrebno interpretirati s pazljivostjo. Potrebno je nadaljnje psihometrično testiranje vprašalnika.

The article includes some results from a larger study entitled *Caring for patient and safety with regard to medication administration in nursing* conducted by Dominika Vrbnjak as part of her PhD studies of Biomedical Technology at the Faculty of Medicine, University of Maribor. /Članek vključuje del rezultatov večje raziskave z naslovom *Skrb za pacienta in varnost pri dajanju zdravil v zdravstveni negi*, ki jo izvaja Dominika Vrbnjak v okviru doktorskega študija na študijski smeri Biomedicinska tehnologija na Medicinski fakulteti Univerze v Mariboru.

Received/Prejeto: 20. 7. 2015
Accepted/Sprejeto: 24. 1. 2016

Introduction

Errors in the administration of medication are the most common preventable cause of adverse events in nursing care (Svet Evrope / Council of Europe, 2006), and also present a serious problem for patient safety (Hartel, et al., 2011; Pazokian, et al., 2014) and can involve high costs (Leendertse, et al., 2011). Errors can be made in the process of prescribing, order communication, administering or monitoring the medication (Hughes & Blegen, 2008). In this respect, nursing professionals play an important role in the process, because they are "the last line of defence", while potentially being the ones to commit errors (Berdot, et al., 2013; Donaldson, et al., 2014). There are many causes of errors in the administration medication or factors that contribute to errors, which can be individual, systemic (Brady, et al., 2009) or result of active failures and latent conditions (Reason, 2000; Keers, et al., 2013). Nursing professionals should report errors in order to analyse their causes and prevent repetition (Haw, et al., 2014). It is known that more errors are made than reported (Hajibabae, et al., 2014); nurses estimate that between 37.4 % and 67.0 % are reported (Wakefield, et al., 1999a; Mayo & Duncan, 2004; Stratton, et al., 2004; Maiden, 2008; Mrayyan & Al-Atiyyat, 2011). The main reasons for failures to report are fear of the response of superiors and co-workers (Wakefield, et al., 1996; Mayo & Duncan, 2004), lack of a positive response to, or commendation of, correct administration of medication (Wakefield, et al., 1996), reprimands and a focus on the individual rather than the system as the potential cause of error (Stratton, et al., 2004; Aboshaiqah, 2013) and the process of reporting errors (Bahadori, et al., 2013). Researching the causes of errors and reporting errors is important for ensuring patient safety. There is a lack of such research in Slovenia (Bračič, 2011; Robida, 2012), and the absence of research leads to an unrealistic view of the actual situation (Bračič, 2011). One of the possible methods to research the current situation is by survey, which requires the use of valid and reliable measurement tools.

Aim and objectives

The purpose of our research is to establish the content validity of the Slovenian version of the Medication Administration Error Survey (MAE) developed by Wakefield and colleagues (1996, 2005). The research question that we set was as follows:

What is the content validity and internal reliability of the Slovenian version of the Medication Administration Error Survey?

Methods

In the first part, a translation and back translation were produced, the Slovenian version of the survey

prepared, and its content validity established based on its acceptance by experts. In the second part, the internal reliability of the survey was established by means of a convenience sample within a cross-sectional observational study.

Description of the research instrument

The Medication Administration Error Survey comprises three parts. The first part concerns the causes of medication administration error and consists of 29 items and five sub-scales: physician communication, medication packaging, prescribing medication, pharmacy processes and staffing. The responses were made on a six-point Likert-type scale, with signifying 1 = strongly disagree, 2 = moderately disagree, 3 = slightly disagree, 4 = slightly agree, 5 = moderately agree and 6 = strongly agree.

The reasons for the failure to report medication errors and obstacles to reporting them are measured by the second part of the survey, which includes 16 items and four sub-scales: disagreement over definition, reporting effort, fear and administrative response. Respondents indicate their agreement using the same 6-point scale.

In the third part of the survey, the respondents assess the estimated percentage of medication errors actually reported. It has 20 items referring to errors made in non-IV and IV therapy. Non-IV therapy includes the enteral, local and parenteral (intracutaneous, subcutaneous, intramuscular and intra-articular) administration of medication; while IV therapy includes parenterally administered medication (intravenous). Respondents are asked to estimate the extent of errors reported using a 10-point scale, with each point on the scale representing a percentage of a reported error. At the end, respondents estimate the percentage of all administration errors reported in their respective units (Wakefield, et al., 2005).

Questions about demographic data were added to the survey (sex, age, education, years of service, year at their respective unit, type of unit).

Description of the sample

In the first part of the research, a purposive sample of eight nursing experts was used. The sample size was based on the recommendations made by Lynn (1986), Polit and Beck (2006), who recommend including between six to ten experts in the process of testing content validity. Inclusion criteria were at least five years of working experience in a hospital or in academia and knowledge of the safety issues in medication administration in nursing care.

A convenience sample included 120 nursing employees of surgical or internal wards in two health institutions whose job responsibilities include

activities and actions related to the preparation and administration of medication. Of the health institutions, one is a university medical centre, while the other one is a general hospital. The sample size was based on recommendations made by Polit and Beck (2012), who recommend including a minimum of three participants for an individual item of the survey. A sample of 120 nursing employees constitutes 15.6 % of all nursing employees in selected health institutions. All nursing employees working the morning shift on the day of the survey who had expressed willingness to participate in the survey were invited to take part. Of 120 distributed questionnaires, 91 (75.8 % response rate were returned and 11,82 % of the included population). 81 (89 %) respondents were female, while 8 (8.8 %) were male. Most respondents had secondary school education ($n = 41$, 45.1 %), followed by those with a higher education degree, including BSc or diploma in nursing ($n = 40$, 44 %), and respondents with an MSc in nursing ($n = 6$, 6.6 %) and others ($n = 2$, 2.2 %). Two respondents (2.2 %) did not answer the questions about sex and education. The average age was 40.1 years (minimum = 24, maximum = 59, $s = 0.26$). The average number of years of service of respondents was 18.1 ($s = 10.8$), while the average time of working on the selected ward was 15.6 ($s = 10.6$, $n = 53$, 58.2 %) respondents worked in surgical units, while 38 (41.8 %) worked on internal medicine wards.

Description of the research procedure and data analysis

After obtaining approval to use the survey by its authors, the questionnaire was translated from English into Slovenian by two independent translators (a researcher working in nursing and a translator with linguistic knowledge). After harmonising and adapting the translations, this version was translated back into English (without using the English original). This back translation was then compared to the English original, and adapted into the final version of the survey.

The survey was then tested to establish content validity, i.e. to assess how accurately the questions measure what they are supposed to (Polit & Beck, 2012). The content validity of individual items of the questionnaire and the validity were assessed by eight nurses, relevant experts, who rated the relevance of individual items based on a 4-point scale in accordance with the following system: 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant.

An item content validity index (I-CVI) and scale validity index (S-CVI) were calculated. I-CVI was calculated as the proportion of agreement on the relevance of individual items, with the following formula being used: the number of experts rating the item with 3 or 4 divided by the total number of experts. A scale validity index was calculated as the average value of all content – average scale validity

index (S-CVI/Ave). In interpretation, I-CVI > 0.780 and S-CVI > 0.900 (Polit & Beck, 2006, 2012) were considered acceptable values.

In order to reduce the possibility of chance agreement, we also calculated a correction using modified kappa statistics (κ^*), i.e. the consensus index of interrater agreement. Before calculating κ^* using the formula: $\kappa^* = \frac{IVV-P - Pc}{1 - Pc}$ we also computed the probability of chance agreement of multiple experts on the significance of the items, which is marked Pc. Formula: $Pc = (\frac{NI}{AI} \times (N-A)) \times 0,5^N$ was used, with N being the number of experts and A the number of agreements on relevance (rating 3 or 4). When interpreting results, we followed the criteria put forward by Cicchetti and Sparrow (1981), and Fleiss (1971), which defined calculated values of κ^* between 0.400 and 0.590 as moderate, between 0.600 and 0.740 as good and over 0.740 as excellent (Polit, et al., 2007).

Before conducting a cross-sectional observational survey, we had acquired permission from the National Medical Ethics Committee (KME 127/07/14) and from both health institutions. The survey was conducted in April and May 2015 in collaboration with heads of 17 units, who distributed an average of 7 questionnaires. Before the survey, respondents were informed of the purpose of the survey. Participation was voluntary and anonymous. We followed the principles of the Helsinki Declaration (2013). Completed questionnaires were returned in closed envelopes. Internal reliability/internal coherence of the survey showing if components of an instrument measure the same characteristic was established using Cronbach α . When interpreting calculated values, we followed the recommendations that Cronbach α was acceptable when its value is over 0.700 (Polit & Beck, 2004). In addition, corrected correlations of individual items with their respective scales were also analysed, with values $0.2 < r < 0.3$ (Mahieu, et al., 2013) still being considered an acceptable criterion. Corrected correlation is a correlation between the results of individual items and the sum of results of the remaining items (Devriendt, et al., 2012). Individual items were grouped into subscales the same way as in the original survey (Wakefield, et al., 2005). IBM SPSS Statistics (version 20.0 for Windows) was used for analysis.

Results

In the process of translation, back translation and producing the Slovenian version of the survey we kept all the items of the original survey.

With the exception of two statements, content validity indexes were satisfactory and assessed between 0.875 and 1.000. The modified kappa index also confirmed excellent validity, as it was over 0.740. The only two exceptions were items "Pharmacy delivers incorrect medication doses" and "Nurses do not agree with hospital's definition of a medication error", which had an unsatisfactory content validity index of 0.750, and a

moderate kappa index of 0.560. Therefore, the experts ($n = 8$) who assessed content validity re-examined them and agreed to keep them in the survey for further testing. Similar content validity and evaluation of the first and the second part of the survey are presented in Table 1 and Table 2. In the third part of the survey, where respondents estimate the percentage of reported errors, items that refer to non-IV therapy (medication administered at wrong times, incorrect quantity/dose, medication administered without being ordered by a physician (ex on Kardex) and items that refer to IV-therapy (wrong route of administration, wrong time of administration, wrong patient, incorrect quantity/dose, incorrect medication, missed medication,

medication administered without being ordered by a physician (ex on Kardex), medication administered to a patient with a known allergy and incorrect IV fluid) were assessed with ICV-I 1.000 and κ^* 1.000. Items that refer to non-IV therapy (wrong route of administration, wrong patient, wrong medication, medication administered without being ordered by a physician, medication administered to a patient with a known allergy) and the IV therapy item wrong rate of administration were assessed with ICV-I 0.875 and κ^* 0.871.

S-CVI/Ave of all three parts of the survey was 0.940 for the first part, 0.959 for the second part and 0.959 for the third part.

Table 1: *Content validity of Medication Administration Error Survey – reasons why medication errors occur*
Tabela 1: *Vsebinska veljavnost vprašalnika Napake pri dajanju zdravil – vzroki za napake*

<i>Item</i>	<i>Number of experts</i>	<i>Number of agreements</i>	<i>ICV-I</i>	<i>P_c</i>	<i>κ*</i>	<i>Evaluation</i>
1. The names of many medications are similar.	8	8	1.000	0.000	1.000	excellent
2. Different medications look alike.	8	8	1.000	0.000	1.000	excellent
3. The packaging of many medications is similar.	8	8	1.000	0.000	1.000	excellent
4. Physician's medication orders are not legible.	8	8	1.000	0.000	1.000	excellent
5. Physician's medication orders are not clear.	8	8	1.000	0.000	1.000	excellent
6. Physicians change orders frequently.	8	7	0.875	0.031	0.871	excellent
7. Abbreviations are used instead of writing the orders out completely.	8	8	1.000	0.000	1.000	excellent
8. Verbal orders are used instead of written orders.	8	8	1.000	0.000	1.000	excellent
9. Pharmacy delivers incorrect medication doses.	8	6	0.750	0.438	0.56	excellent
10. Pharmacy prepares medication incorrectly.	8	7	0.875	0.031	0.871	excellent
11. Pharmacy does not label the medication correctly.	8	7	0.875	0.031	0.871	excellent
12. Pharmacists are not available 24 hours a day.	8	8	1.000	0.000	1.000	excellent
13. Frequent substitution of drugs (i.e., cheaper generic for brand names).	8	8	1.000	0.000	1.000	excellent
14. Poor communications between nurses and physicians.	8	8	1.000	0.000	1.000	excellent
15. Many patients are on the same or similar medications.	8	8	1.000	0.000	1.000	excellent
16. Unit staff do not receive enough inservices on new medications.	8	8	1.000	0.000	1.000	excellent
17. On this unit, there is no easy way to look up information on medications.	8	8	1.000	0.000	1.000	excellent
18. Nurses on this unit have limited knowledge about medications.	8	7	0.875	0.031	0.871	excellent
19. Nurses get pulled between teams and from other units.	8	7	0.875	0.031	0.871	excellent
20. When scheduled medications are delayed, nurses do not communicate the time when the next dose is due.	8	8	1.000	0.000	1.000	excellent
21. Nurses on this unit do not adhere to the approved medication administration procedure.	8	7	0.875	0.031	0.871	excellent
22. Nurses are interrupted while administering medications to perform other duties.	8	8	1.000	0.000	1.000	excellent
23. Unit staffing levels are inadequate.	8	8	1.000	0.000	1.000	excellent
24. All medications for one team of patients cannot be passed within an accepted time frame.	8	8	1.000	0.000	1.000	excellent

Continues/Se nadaljuje

<i>Item</i>	<i>Number of experts</i>	<i>Number of agreements</i>	<i>ICV-I</i>	<i>P_c</i>	<i>κ*</i>	<i>Evaluation</i>
25. Medication orders are not transcribed to the Kardex correctly.	8	7	0.875	0.031	0.871	excellent
26. Errors are made in the Medication Kardex.	8	7	0.875	0.031	0.871	excellent
27. Equipment malfunctions or is not set correctly (e.g., IV pump).	8	7	0.875	0.031	0.871	excellent
28. Nurse is unaware of a known allergy.	8	7	0.875	0.031	0.871	excellent
29. Patients are off the ward for other care.	8	7	0.875	0.031	0.871	excellent

Legend/Legenda: I-CVI – item content validity index/IVV-P – indeks vsebinske veljavnosti za posamezne trditve; P_c – probability of chance occurrence/verjetnost naključnega strinjanja; κ – kappa designating agreement on relevance/kapa indeks soglašanja; evaluation – evaluation criteria for kappa/evalvacija – evalvacijski kriteriji za kapa.*

Table 2: *Content validity of Medication Administration Error Survey – reasons why medication errors are not reported*

Tabela 2: *Vsebinska veljavnost vprašalnika Napake pri dajanju zdravil – vzroki za nesporočanje*

<i>Item</i>	<i>Number of experts</i>	<i>Number of agreements</i>	<i>ICV-I</i>	<i>P_c</i>	<i>κ*</i>	<i>Evaluation</i>
1. Nurses do not agree with hospital's definition of a medication error.	8	6	0.750	0.438	0.560	moderate
2. Nurses do not recognise an error occurred.	8	8	1.000	0.000	1.000	excellent
3. Filling out an incident report for a medication error takes too much time.	8	7	0.875	0.031	0.871	excellent
4. Contacting the physician about the error takes too much time.	8	8	1.000	0.000	1.000	excellent
5. Medication error is not clearly defined.	8	8	1.000	0.000	1.000	excellent
6. Nurses may not think the error is important enough to be reported.	8	7	0.875	0.031	0.871	excellent
7. Nurses believe that other nurses will think they are incompetent if they make medication errors.	8	8	1.000	0.000	1.000	excellent
8. The patient or family might develop a negative attitude toward the nurse, or may sue the nurse if a medication error is reported.	8	8	1.000	0.000	1.000	excellent
9. The expectation that medications be given exactly as ordered is unrealistic.	8	7	0.875	0.031	0.871	excellent
10. Nurses are afraid the physician will reprimand them for the medication error.	8	7	0.875	0.031	0.871	excellent
11. Nurses fear adverse consequences from reporting medication errors.	8	8	1.000	0.000	1.000	excellent
12. The response by nursing administration does not match the severity of the error.	8	8	1.000	0.000	1.000	excellent
13. Nurses could be blamed if something happens to the patient as a result of the medication error.	8	8	1.000	0.000	1.000	excellent
14. No positive feedback is given for passing medications correctly.	8	8	1.000	0.000	1.000	excellent
15. Too much emphasis is placed on medication errors as a measure of the quality of nursing care provided.	8	8	1.000	0.000	1.000	excellent
16. When med errors occur, nursing administration focuses on the individual rather than looking at the systems as a potential cause of the error.	8	8	1.000	0.000	1.000	excellent

Legend/Legenda: I-CVI – item content validity index/IVV-P – indeks vsebinske veljavnosti za posamezne trditve; P_c – probability of chance occurrence/verjetnost naključnega strinjanja; κ – kappa designating agreement on relevance/kapa indeks soglašanja; evaluation – evaluation criteria for kappa/evalvacija – evalvacijski kriteriji za kapa.*

Cronbach α for the first part of the survey, "Medication Administration Error Survey - reasons why medication errors occur", was 0.832, while it was 0.880 for the second part of the survey, "Medication Administration Error Survey – reasons why medication errors are not reported", and 0.989 for the third part of the survey, "Medication Administration Error Survey – percentage of errors reported". With regard to reasons for errors and reasons for failure to report, corrected correlation of individual items with the scale met the $0.2 < r < 0.3$ criterion, with the exception of items "Pharmacists are not available 24 hours a day", which is shown in Tables 3 and 4.

Cronbach α for the "Medication Administration Error Survey - reasons why medication errors occur" survey was 0.725 for the communication with physicians subscale, 0.861 for medication packaging

subscale, 0.765 transcription-related subscale, 0.795 for pharmacy processes subscale and 0.582 for staffing subscale, which is shown in Table 5.

Subscales "Medication Administration Error Survey – reasons why medication errors are not reported" reached Cronbach α values of 0.694 for disagreement with the error subscale, 0.588 for the reporting effort subscale, 0.834 for the fear subscale and 0.708 for the administrative response, which is shown in Table 6.

When reviewing corrected correlations of individual items and the scale in both questionnaires, only item "Nurses get pulled between teams and from other units" reached lower value than recommended, totalling 0.183 for staffing in reasons why errors occur, as shown in Table 5. All remaining items met the $0.2 < r < 0.3$ criterion.

Table 3: *Corrected item-total correlation coefficients of Medication Administration Error Survey – reasons why medication errors occur*

Tabela 3: *Popravljenе korelacije posamezne postavke Napake pri dajanju zdravil – vzroki za napake*

<i>Item</i>	<i>Corrected item-total correlation</i>	<i>Cronbach α if item is deleted</i>
1. The names of many medications are similar.	0.297	0.829
2. Different medications look alike.	0.356	0.827
3. The packaging of many medications is similar.	0.303	0.829
4. Physician's medication orders are not legible.	0.345	0.828
5. Physician's medication orders are not clear.	0.504	0.823
6. Physicians change orders frequently.	0.366	0.827
7. Abbreviations are used instead of writing the orders out completely.	0.320	0.829
8. Verbal orders are used instead of written orders.	0.432	0.824
9. Pharmacy delivers incorrect medication doses.	0.334	0.828
10. Pharmacy prepares incorrect medication orders.	0.208	0.831
11. Pharmacy does not label the medication correctly.	0.294	0.829
12. Pharmacists are not available 24 hours a day.	0.031	0.842
13. Frequent substitution of drugs (i.e., cheaper generic for brand names).	0.302	0.829
14. Poor communications between nurses and physicians.	0.455	0.824
15. Many patients are on the same or similar medications.	0.454	0.824
16. Unit staff do not receive enough inservices on new medications.	0.383	0.826
17. On this unit, there is no easy way to look up information on medications.	0.553	0.820
18. Nurses on this unit have limited knowledge about medications.	0.377	0.826
19. Nurses get pulled between teams and from other units.	0.422	0.825
20. When scheduled medications are delayed, nurses do not communicate the time when the next dose is due.	0.226	0.831
21. Nurses on this unit do not adhere to the approved medication administration procedure.	0.214	0.832

Continues/Se nadaljuje

<i>Item</i>	<i>Corrected item-total correlation</i>	<i>Cronbach α if item is deleted</i>
22. Nurses are interrupted while administering medications to perform other duties.	0.354	0.827
23. Unit staffing levels are inadequate.	0.293	0.830
24. All medications for one team of patients cannot be passed within an accepted time frame.	0.277	0.830
25. Medication orders are not transcribed to the Kardex correctly.	0.547	0.820
26. Errors are made in the Medication Kardex.	0.297	0.820
27. Equipment malfunctions or is not set correctly (e.g., IV pump).	0.356	0.827
28. Nurse is unaware of a known allergy.	0.303	0.828
29. Patients are off the ward for other care.	0.345	0.827

Table 4: *Corrected item-total correlation coefficients of Medication Administration Error Survey – reasons why medication errors are not reported*

Tabela 4: *Popravljenе korelacije posamezne postavke Napake pri dajanju zdravil – vzroki na nesporočanje*

<i>Item</i>	<i>Corrected item-total correlation</i>	<i>Cronbach α if item is deleted</i>
1. Nurses do not agree with hospital's definition of a medication error.	0.432	0.876
2. Nurses do not recognize an error occurred.	0.431	0.877
3. Filling out an incident report for a medication error takes too much time.	0.303	0.882
4. Contacting the physician about the error takes too much time.	0.431	0.877
5. Medication error is not clearly defined.	0.722	0.866
6. Nurses may not think the error is important enough to be reported.	0.398	0.878
7. Nurses believe that other nurses will think they are incompetent if they make medication errors.	0.554	0.872
8. The patient or family might develop a negative attitude toward the nurse, or may sue the nurse if a medication error is reported.	0.707	0.864
9. The expectation that medications be given exactly as ordered is unrealistic.	0.582	0.870
10. Nurses are afraid the physician will reprimand them for the medication error.	0.689	0.865
11. Nurses fear adverse consequences from reporting medication errors.	0.733	0.863
12. The response by nursing administration does not match the severity of the error.	0.535	0.872
13. Nurses could be blamed if something happens to the patient as a result of the medication error.	0.479	0.875
14. No positive feedback is given for passing medications correctly.	0.465	0.877
15. Too much emphasis is placed on med errors as a measure of the quality of nursing care provided.	0.456	0.876
16. When med errors occur, nursing administration focuses on the individual rather than looking at the systems as a potential cause of the error.	0.519	0.873

Table 5: *Internal reliability of subscales in Medication Administration Error Survey – reasons why medication errors occur*Tabela 5: *Notranja zanesljivost podleščvic vprašalnika Napake pri dajanju zdravil – vzroki za napake*

<i>Subscale/item</i>	<i>Cronbach α</i>	<i>Corrected item-total correlation</i>	<i>Cronbach α if item is deleted</i>
Physician communication	0.725		
Physician's medication orders are not legible.		0.406	0.704
Physician's medication orders are not clear.		0.568	0.659
Physicians change orders frequently.		0.504	0.680
Abbreviations are used instead of writing the orders out completely.		0.407	0.709
Verbal orders are used instead of written orders.		0.477	0.682
Poor communications between nurses and physicians.		0.445	0.691
Medication packaging	0.861		
The names of many medications are similar.		0.675	0.860
Different medications look alike.		0.797	0.747
The packaging of many medications is similar.		0.745	0.798
Transcription-related	0.765		
Medication orders are not transcribed to the Kardex correctly.		0.620	-
Errors are made in the Medication Kardex.		0.620	-
Pharmacy processes	0.795		
Pharmacy delivers incorrect medication doses.		0.560	0.816
Pharmacy prepares medication incorrectly.		0.724	0.643
Pharmacy does not label the medication correctly.		0.649	0.708
Staffing	0.582		
Nurses get pulled from teams and other units.		0.183	0.662
Nurses are interrupted while administering medications to perform other duties.		0.428	0.464
Unit staffing levels are inadequate.		0.477	0.412
All medications for one team of patients cannot be passed within an accepted time frame.		0.407	0.480

Table 6: *Internal reliability of subscales in Medication Administration Error Survey – reasons why medication errors are not reported*Tabela 6: *Notranja zanesljivost podleščvic vprašalnika Napake pri dajanju zdravil – vzroki za nesporočanje*

<i>Subscale/item</i>	<i>Cronbach α</i>	<i>Corrected item-total correlation</i>	<i>Cronbach α if item is deleted</i>
Disagreement with error	0.694		
Nurses do not agree with hospital's definition of a medication error.		0,357	0.680
Nurses do not recognise an error occurred.		0.473	0.646
Medication error is not clearly defined.		0.588	0.580
Nurses may not think the error is important enough to be reported.		0.414	0.659
The expectation that medications be given exactly as ordered is unrealistic.		0.482	0.645
Communication effort	0.588		
Filling out an incident report for a medication error takes too much time.		0.445	-
Contacting the physician about the error takes too much time.		0.445	-
Fear	0.834		

Continues/Se nadaljuje

<i>Subscale/item</i>	<i>Cronbach α</i>	<i>Corrected item-total correlation</i>	<i>Cronbach α if item is deleted</i>
Nurses believe that other nurses will think they are incompetent if they make medication errors.		0.506	0.835
The patient or family might develop a negative attitude toward the nurse, or may sue the nurse if a medication error is reported.		0.702	0.781
Nurses are afraid the physician will reprimand them for the medication error.		0.758	0.766
Nurses fear adverse consequences from reporting medication error.		0.803	0.753
Nurses could be blamed if something happens to the patient as a result of the medication error.		0.433	0.855
Administrative response	0.708		
The response by nursing administration does not match the severity of the error.		0.340	0.728
No positive feedback is given for passing medications correctly.		0.498	0.648
Too much emphasis is placed on medication errors as a measure of the quality of nursing care provided.		0.564	0.602
When medication errors occur, nursing administration focuses on the individual rather than looking at the systems as a potential cause of the error.		0.595	0.585

Discussion

The purpose of the study was to develop the Slovenian version of the survey and establish its content validity and internal reliability.

In the first part, a back translation was also used when translating the original, which contributed to the high quality of the translation and better semantic equivalence, which is important for the survey's validity (Polit & Beck, 2012).

In accordance with other studies (Wakefield, et al., 1996; Wakefield, et al., 1998; Wakefield, et al., 1999b; Wakefield, et al., 2005), this study confirms the content validity and the internal reliability of the Slovenian version of the survey. However, due to some limitations of the study, they should be interpreted carefully.

We assessed content validity, which is not often used here, yet recommended for psychometric testing of the survey and cultural adaptations (Polit & Beck, 2012). Content validity indexes were satisfactory for all three parts of the survey. Similar was true for content validity assessment of individual items. Two items that did not meet the required criteria, yet were not eliminated, and reached acceptable values when testing internal reliability.

While internal reliability of all three parts of the survey was acceptable, as Cronbach α coefficients were over 0.700, internal reliability of the third part of the survey should be interpreted with care. Cronbach α value was almost 1.000, which, according to Streiner (2003), means that these items are redundant. While Cronbach α coefficient values between 0.700 and

0.900 are considered more reliable, this part of the original survey and other studies was not tested for internal reliability. The part assesses the perception of reporting individual errors in non-IV and IV therapy (Wakefield, et al., 2005).

Corrected correlation of individual items in the first and second parts met the required criterion of $0.2 < r < 0.3$, with the exception of the item "Pharmacists are not available 24 hours a day". By omitting this item, the internal reliability of the survey that refers to the reasons for errors would improve to 0.842.

With the exception of the staffing subscale in the reasons for errors, and reporting effort and disagreement with error in the reasons why errors are not reported, the internal reliability of individual subscales was acceptable and over the limit value of 0.7 (Polit & Beck, 2004).

In the staffing subscale, the item-correlation was 0.813 for "Nurses get pulled between teams and from other units", which was less than the recommended criterion of $0.2 < r < 0.3$ (Mahieu, et al., 2013). By omitting this item, internal reliability improved and the new Cronbach α was 0.662. Despite the value being lower than the recommended 0.7, we preserved the items in the subscale, because the new internal reliability coefficient value was the same as in the original, where it was 0.620 (Wakefield, et al., 2005). A somewhat higher Cronbach α , 0.74, for the subscale was determined by Shanty (2011).

Disagreement with error subscale reached Cronbach α of 0.694, which was just under the recommended value. In the original, it was 0.760 (Wakefield, et al., 2005). Compared to other studies, where values

ranged between 0.76 and 0.83, our Cronbach α was lower (Chiang & Pepper, 2006; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013). While subscale reporting efforts also includes only two items, which can account for the lower value, further testing on a bigger sample is needed. Compared to other studies where values hovered between 0.76 do 0.86 (Chiang & Pepper, 2006; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013), our Cronbach α was also lower for this subscale. However, our study established a comparable or higher Cronbach α for subscale fear and administrative response, which ranged between 0.77 and 0.92, from 0.69 to 0.83, respectively, in other studies (Chiang & Pepper, 2006; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013).

While due to several limitations, the survey should be further tested, it is definitely a useful survey that has been used in different studies (Blegen, et al., 2004; Chiang & Pepper, 2006; Maiden, 2008; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013).

Limitations

Our study has several limitations, which should be taken into account in the interpretation. Due to a small convenience sample, generalisation of results is less reliable. The survey was tested on surgical and internal medicine wards, which should also be taken into account, so further testing on other environments and populations should be performed. In addition, it was impossible to test the validity of the construct, so further testing should be performed using a bigger sample. This is already being carried out.

Conclusion

Ensuring safety is fundamental in patient health care. Identifying reasons for medication administration errors and obstacles for reporting errors is the first step for establishing the actual situation. In Slovenia, there is a lack of such studies, which should change. Safety can be improved by selecting and using correct research methodology. The pilot study sought to establish validity and reliability of the Slovenian translation of the standardised survey.

Slovenian translation/Prevod v slovenščino

Uvod

Napake pri ravnanju z zdravili so najpogostejši preprečljivi vzroki neželenih dogodkov v zdravstveni negi (Svet Evrope, 2006), predstavljajo pa resen problem varnosti pacientov (Hartel, et al., 2011; Pazokian, et al., 2014) in velik strošek za zdravstvo (Leendertse, et al., 2011). Nastanejo lahko v procesu

predpisovanja, prepisovanja, pripravljanja, dajanja ali spremljanja zdravil (Hughes & Blegen, 2008). Pomembno vlogo v tem procesu imajo zaposleni v zdravstveni negi, saj predstavljajo »zadnjo linijo obrambe«, hkrati pa so potencialni storilci napak (Berdot, et al., 2013; Donaldson, et al., 2014). Vzroki za napake pri dajanju zdravil oz. faktorji, ki prispevajo k napakam, so številni, lahko so individualne ali sistemske narave (Brady, et al., 2009) oz. so posledica kombinacij aktivnih in latentnih pomanjkljivosti (Reason, 2000; Keers, et al., 2013). Zaposleni v zdravstveni negi bi morali poročati o napakah zaradi izvedbe analize vzrokov za njihov nastanek, s čimer bi lahko preprečili ponavljanje napak (Haw, et al., 2014). Znano je, da se naredi več napak, kot se jih sporoči (Hajibabae, et al., 2014). Medicinske sestre ocenjujejo, da se napake pri dajanju zdravil sporočajo med 37,4 % in 67,0 % (Wakefield, et al., 1999a; Mayo & Duncan, 2004; Stratton, et al., 2004; Maiden, 2008; Mrayyan & Al-Atiyyat, 2011). Glavni razlogi za nesporočanje napak so strah pred odzivi nadrejenih in sodelavcev (Wakefield, et al., 1996; Mayo & Duncan, 2004), pomanjkanje pozitivnih odzivov ali pohval za pravilno dajanje zdravil (Wakefield, et al., 1996), obtoževanje in osredotočanje na posameznika, namesto na sistem kot potencialen vzrok za napako (Stratton, et al., 2004; Aboshaiqah, 2013) ter proces sporočanja napak (Bahadori, et al., 2013). Raziskovanje vzrokov za napake in sporočanje napak je pomembno pri zagotavljanju varnosti pacientov. Pri nas primanjkuje takšnih raziskav (Bračič, 2011; Robida, 2012), odsotnost raziskav pa pomeni vzdrževanje varljive predstave o dejanskem stanju (Bračič, 2011). Eden izmed možnih načinov raziskovanja trenutnega stanja je uporaba anketnih vprašalnikov, za kar pa potrebujemo veljavne in zanesljive instrumente merjenja.

Namen in cilji

Namen naše raziskave je ugotoviti vsebinsko veljavnost in zanesljivost slovenske različice vprašalnika »Medication Administration Error survey« (MAE), ki so ga razvili Wakefield in sodelavci (1996, 2005) in ki smo ga poimenovali »Napake pri dajanju zdravil«. Raziskovalno vprašanje, ki smo si ga pri tem zastavili se glasi:

Kolikšna je vsebinska veljavnost in notranja zanesljivost vprašalnika »Napake pri dajanju zdravil«?

Metode

V prvem delu sta bila izvedena prevod, vzratni prevod in oblikovanje slovenske različice vprašalnika ter ugotavljanje vsebinske veljavnosti na osnovi strinjanja strokovnjakov. V drugem delu smo, v okviru presečno opazovalne raziskave z uporabo priložnostnega vzorca, ugotavljali notranjo zanesljivost vprašalnika.

Opis instrumenta

Vprašalnik »Napake pri dajanju zdravil« je sestavljen iz treh delov. Prvi del vprašalnika se nanaša na vzroke za napake pri dajanju zdravil. Sestavljen je iz 29 postavk in petih podlestvíc: komunikacija z zdravnikom, embalaža zdravil, predpisovanje zdravil, farmacevtski procesi in kadrovska zasedba. Anketirani se do postavk opredeli na 6-stopenjski lestvici, kjer je: 1 = močno se ne strinjam, 2 = se ne strinjam, 3 = delno se ne strinjam, 4 = delno se strinjam, 5 = se strinjam in 6 = močno se strinjam.

Razloge za nesporočanje oz. ovire ob sporočanju napak pri dajanju zdravil merimo z drugim delom vprašalnika, ki vsebuje 16 trditev in štiri podlestvíc: nestrinjanje z napako, napor sporočanja o napaki, strah in administrativni odziv. Do trditev se anketirani opredeli z enako 6-stopenjsko lestvico.

V tretjem delu vprašalnika anketirani oceni odstotek napak pri dajanju zdravil, ki se po njegovem mnenju sporočajo. Vsebuje 20 postavk, ki se nanašajo na napake pri neintravenski in intravenski terapiji. V neintravensko terapijo prištevamo enteralno, lokalno in paranteralno (intrakutano, subkutano, intramuskularno in intraartikularno) dana zdravila; med intravensko terapijo pa parenteralno dana zdravila v žilo (intravensko). Anketirani oceni odstotek sporočenih napak na 10-stopenjski lestvici, pri čemer vsaka izmed stopenj predstavlja določen odstotek posamezne sporočene napake. Na koncu anketirani oceni odstotek vseh napak pri dajanju zdravil, ki se po njegovem mnenju dejansko sporoči na njegovem oddelku (Wakefield et al., 2005).

Anketnemu vprašalniku smo dodali demografska vprašanja (spol, starost, izobrazba, delovna doba, število delovnih let na izbranem oddelku, oddelek).

Opis vzorca

V prvem delu raziskave smo uporabili namenski vzorec osmih strokovnjakov v zdravstveni negi. Velikost vzorca je temeljila na priporočilih Lynn (1986), Polit in Beck (2006), ki priporočajo vključitev šest do deset strokovnjakov v proces preverjanja vsebinske veljavnosti. Kriterija za vključitev sta bila najmanj pet let delovnih izkušenj v praksi ali izobraževanju in poznavanje tematike varnosti pri dajanju zdravil v zdravstveni negi.

V drugem delu smo uporabili priložnostni vzorec 120 zaposlenih v zdravstveni negi, ki v okviru svojih poklicnih kompetenc izvajajo aktivnosti in intervencije na področju priprave in dajanja zdravil in ki so bili zaposleni na kirurških ali internih oddelkih v dveh zdravstvenih institucijah. Ena je bila univerzitetni klinični center, druga pa splošna bolnišnica. Velikost vzorca je bila določena na osnovi priporočil Polit in Beck (2012), ki priporočata vključitev minimalno treh udeležencev na posamezno postavko v vprašalniku.

Vzorec 120 zaposlenih v zdravstveni negi predstavlja 15,6 % vseh zaposlenih v zdravstveni negi v izbranih zdravstvenih institucijah. V raziskavo so bili povabljeni zaposleni v zdravstveni negi, ki so na dan izvedbe raziskave delali v dopoldanski izmeni in so bili pripravljene sodelovati v raziskavi. Izmed 120 razdeljenih vprašalnikov smo jih dobili izpolnjenih 91 (75,8 % stopnja odzivnosti in 11,82 % vzorca vključene populacije). 81 (89 %) udeležencev je bilo ženskega spola, 8 (8,8 %) udeležencev je bilo moškega spola. Glede na izobrazbo je bilo največ anketirancev s srednješolsko izobrazbo ($n = 41$, 45,1 %), sledili so anketiranci z visokošolsko izobrazbo kot so diplomirana medicinska sestra/diplomirani zdravstvenik, višja medicinska sestra/višji medicinski tehnik ($n = 40$, 44 %) in magistrice oz. magistri zdravstvene nege ($n = 6$, 6,6 %), drugo ($n = 2$, 2,2 %). Dva izmed (2,2 %) anketirancev nista podala odgovora na vprašanje glede spola in izobrazbe. Povprečna starost je znašala 40,1 let (minimum = 24, maksimum = 59, $s = 0,26$). Povprečna delovna doba udeležencev je znašala 18,1 let ($s = 10,8$), povprečno število delovnih let na izbranem oddelku pa 15,6 ($s = 10,6$). 53 (58,2 %) udeležencev je bilo zaposlenih na kirurških oddelkih in 38 (41,8 %) na internih oddelkih.

Opis poteka raziskave in obdelave podatkov

Po pridobitvi soglasja za uporabo vprašalnika s strani avtorjev je bil ta preveden iz angleščine v slovenščino s strani dveh neodvisnih prevajalcev (raziskovalec s področja zdravstvene nege in prevajalec z jezikoslovnim znanjem). Po uskladitvi in prilagoditvi prevodov je dobljeno besedilo potem tretji neodvisni prevajalec z jezikoslovno izobrazbo prevedel nazaj v angleščino (brez angleškega izvornika), kar imenujemo vzratni prevod. Sledila je primerjava z angleškim izvornikom in uskladitev ter dokončno oblikovanje vprašalnika.

Potem smo vprašalnik testirali z vidika ugotavljanja vsebinske veljavnosti. Pri vsebinski veljavnosti strokovnjaki ocenjujejo stopnjo, do katere vprašanja merijo, kar naj bi merila (Polit & Beck, 2012). Veljavnost vsebine posameznih trditev v vprašalniku in veljavnost celotnega vprašalnika je ocenjevalo osem medicinskih sester, strokovnjakinj. Relevantnost posamezne trditve so ocenjevale s 4-stopenjsko lestvico po naslednjem sistemu: 1 = ni relevantno, 2 = delno relevantno, 3 = dokaj relevantno, 4 = izjemno relevantno.

Nato smo izračunali indeks vsebinske veljavnosti za posamezne postavke (IVV-P), kar v angleščini imenujemo »item content validity index, I-CVI« in indeks vsebinske veljavnosti celotnega vprašalnika (IVV-V), kar v angleščini imenujemo »scale validity index, S-CVI«. IVV-P smo izračunali kot proporcijo strinjanja glede relevantnosti posamezne trditve, pri tem pa smo za izračun uporabili sledečo formulo: število ekspertov, ki je trditev ocenilo s 3 ali 4, deljeno s številom vseh ekspertov. Indeks vsebinske veljavnosti

celotnega vprašalnika smo izračunali kot povprečno vrednost vseh indeksov vsebinske veljavnosti za posamezne trditve (IVV-V/Pov), kar v angleščini imenujemo »average scale validity index, S-CVI/Ave«. Pri interpretaciji smo kot sprejemljive vrednosti vsebinske veljavnosti posameznih trditev upoštevali izračunane vrednosti $IVV-P > 0,780$, pri celotnem vprašalniku pa izračunane vrednosti $IVV-V/Pov > 0,900$ (Polit & Beck, 2006, 2012).

Da bi zmanjšali možnost naključnega strinjanja, smo izračunali tudi korekcijo s pomočjo modificirane kapa statistike (κ^*), tj. indeksa soglašanja med strokovnjaki, da je trditev pomembna. Pred izračunom κ^* s pomočjo formule: $\kappa^* = \frac{IVV-P - P_c}{1 - P_c}$ smo izračunali tudi naključno verjetnost strinjanja strokovnjakov glede pomembnosti trditev, označeno s P_c . Za izračun smo uporabili formulo: $P_c = \frac{N!}{A! \times (N-A)!} \times 0,5^N$, kjer je N število strokovnjakov in A število strinjanj glede relevantnosti (ocena 3 ali 4). Pri interpretaciji rezultatov smo upoštevali kriterije Cicchetti in Sparrow (1981) in Fleiss (1971), kjer je izračunana vrednost κ^* od 0,400 do 0,590 ovrednotena kot zmerna, od 0,600 do 0,740 kot dobra in nad 0,740 kot odlična (Polit, et al., 2007).

Pred izvedbo presečno opazovalne raziskave smo pridobili soglasje s strani Komisije Republike Slovenije za medicinsko etiko (KME 127/07/14) in soglasje obeh zdravstvenih ustanov. Raziskava je bila izvedena v aprilu in maju 2015. Anketiranje je bilo izvedeno v sodelovanju s strokovnimi vodji 17 oddelkov. Le-ti so razdelili v povprečju 7 vprašalnikov na posamezen oddelek. Anketiranci so bili pred izvedbo raziskave seznanjeni z namenom raziskave, sodelovanje je bilo prostovoljno in anonimno. Pri tem smo upoštevali načela Helsinške deklaracije (2013). Izpolnjen vprašalnik so anketiranci vrnili v zaprto kuverto. Notranjo zanesljivost oz. notranjo skladnost vprašalnika, ki nam pove, ali sestavni deli instrumenta merijo isto lastnost, smo ugotavljali z uporabo koeficienta Cronbach α . Pri interpretaciji izračunanih vrednosti smo upoštevali priporočila, da je Cronbach α sprejemljiv, ko je njegova vrednost nad 0,700 (Polit & Beck, 2004). Analizirali smo tudi popravljene korelacije posamezne postavke z njeno lestvico, pri tem pa smo kot še sprejemljiv kriterij upoštevali vrednosti $0,2 < r < 0,3$ (Mahieu, et al., 2013). Popravljen korelacija je korelacija med rezultatom posamezne postavke in vsoto rezultatov na ostalih postavkah lestvice (Devriendt, et al., 2012). Posamezne

postavke smo razvrstili v podlestvice na enak način kot v izvornem vprašalniku (Wakefield, et al., 2005). Za analizo smo uporabili IBM SPSS Statistics (verzija 20.0 za Windows).

Rezultati

V procesu prevajanja, vzratnega prevajanja in oblikovanja slovenske različice vprašalnika smo ohranili vse trditve izvirnega vprašalnika.

Indeksi vsebinske veljavnosti posameznih trditev so bili, z izjemo dveh trditev, zadovoljivi in ocenjeni med 0,875 in 1,000. Tudi modificirani kapa indeks trditev je pokazal odlično veljavnost, saj je znašal več kot 0,740. Izjema sta bili trditvi »Lekarna dostavi nepravilne odmerke zdravil« in »Medicinske sestre se ne strinjajo z bolnišnično opredelitvijo napake v povezavi z zdravili«, ki sta imeli nezadovoljiv indeks vsebinske veljavnosti, ki je znašal 0,750, in zmerni kapa indeks, ki je znašal 0,560. Trditvi so strokovnjaki ($n = 8$), ki so ocenjevali vsebinsko veljavnost, zato ponovno pregledali in na podlagi strinjanja strokovnjakov sta trditvi ostali v vprašalniku za nadaljnje testiranje. Podrobna vsebinska veljavnost in evalvacija prvega in drugega dela vprašalnika sta predstavljeni v Tabeli 1 in Tabeli 2. V tretjem delu vprašalnika, kjer anketiranec poda oceno odstotka sporočenih napak pri dajanju zdravil, so postavke, ki se nanašajo na neintravensko terapijo (napačen čas dajanja zdravil, napačna količina/odmerek, izpuščeno zdravilo, zdravilo je dano, ko ni več pisnega naročila (ex na temperaturnem listu) in postavke, ki se nanašajo na intravensko terapijo (napačna pot dajanja zdravil, napačen čas dajanja zdravil, napačen pacient, napačna količina/odmerek, napačno zdravilo, izpuščeno zdravilo, zdravilo je dano, vendar ni bilo naročeno s strani zdravnika, zdravilo je dano, ko ni bilo več pisnega naročila (ex na temperaturnem listu), zdravilo je dano pacientu z znano alergijo in napačna i.v. tekočina) ocenjene z IVV-P 1,000 in κ^* 1,000. Postavke neintravenske terapije napačna pot dajanja zdravil, napačen pacient, napačno zdravilo, zdravilo je dano, vendar ni bilo naročeno s strani zdravnika, zdravilo je dano pacientu z znano alergijo in postavka intravenske terapije napačna hitrost dajanja zdravil so bile ocenjene z IVV-P 0,875 in κ^* 0,871.

IVV-V/Pov vseh treh delov vprašalnika je znašal za prvi del 0,940, za drugi del 0,959 in za tretji del 0,959.

Tabela 1: Vsebinska veljavnost vprašalnika Napake pri dajanju zdravil – vzroki za napake
 Table 1: Content validity of Medication Administration Error Survey – reasons why medication errors occur

Trditve	Število ekspertov	Število strinjanj	IVV-P	P_c	κ^*	Evalvacija
1. Imena mnogih zdravil so si med seboj podobna.	8	8	1,000	0,000	1,000	odlična
2. Različna zdravila so si na pogled med seboj podobna.	8	8	1,000	0,000	1,000	odlična
3. Embalaža mnogih zdravil si je med seboj podobna.	8	8	1,000	0,000	1,000	odlična
4. Zdravnikova naročila niso čitljiva.	8	8	1,000	0,000	1,000	odlična
5. Zdravnikova naročila niso jasna.	8	8	1,000	0,000	1,000	odlična
6. Zdravniki pogosto spreminjajo naročila.	8	7	0,875	0,031	0,871	odlična
7. Pri naročanju zdravniki uporabljajo kratice, namesto da bi naročilo izpisali v celoti.	8	8	1,000	0,000	1,000	odlična
8. Zdravila se namesto pisno, naročajo ustno.	8	8	1,000	0,000	1,000	odlična
9. Lekarna dostavi nepravilne odmerke zdravil.	8	6	0,750	0,438	0,56	zmerna
10. V lekarni nepravilno pripravijo zdravilo.	8	7	0,875	0,031	0,871	odlična
11. V lekarni nepravilno označijo zdravilo.	8	7	0,875	0,031	0,871	odlična
12. Farmacevti niso dosegljivi 24 ur na dan.	8	8	1,000	0,000	1,000	odlična
13. Pogosto prihaja do nadomestitve zdravil (npr. za cenejša generična zdravila).	8	8	1,000	0,000	1,000	odlična
14. Med medicinskimi sestrami in zdravnikom je slaba komunikacija.	8	8	1,000	0,000	1,000	odlična
15. Mnogi pacienti prejemajo enaka ali podobna zdravila.	8	8	1,000	0,000	1,000	odlična
16. Zaposleni na oddelku ne dobijo dovolj strokovnega usposabljanja o novih zdravilih.	8	8	1,000	0,000	1,000	odlična
17. Na oddelku ni lahko dostopati do informacij o zdravilih.	8	8	1,000	0,000	1,000	odlična
18. Medicinske sestre na tem oddelku imajo pomanjkljivo znanje o zdravilih.	8	7	0,875	0,031	0,871	odlična
19. Medicinske sestre se menjujejo znotraj timov in oddelkov.	8	7	0,875	0,031	0,871	odlična
20. Ko pacient ne dobi zdravila pravočasno, medicinske sestre ne poročajo, kdaj mora slediti naslednji odmerek.	8	8	1,000	0,000	1,000	odlična
21. Medicinske sestre na tem oddelku ne upoštevajo sprejetih standardov dajanja zdravil.	8	7	0,875	0,031	0,871	odlična
22. Medicinske sestre so pri aplikaciji zdravil prekinjene, ker morajo opraviti druge naloge.	8	8	1,000	0,000	1,000	odlična
23. Kadrovska zasedba na tem oddelku ni ustrezna.	8	8	1,000	0,000	1,000	odlična
24. Vseh zdravil na oddelku ni mogoče dati pravi čas.	8	8	1,000	0,000	1,000	odlična
25. Naročena zdravila niso pravilno prepisana/ napisana na temperaturni/terapevtski list.	8	7	0,875	0,031	0,871	odlična
26. Do napak prihaja pri označevanju terapije na temperaturnem/terapevtskem listu.	8	7	0,875	0,031	0,871	odlična
27. Do napak prihaja zaradi okvare opreme ali nepravilne nastavitve pripomočkov (npr. infuzijskih črpalk).	8	7	0,875	0,031	0,871	odlična
28. Do napak prihaja, ker medicinske sestre ne poznajo pacientove anamneze glede znanih alergij.	8	7	0,875	0,031	0,871	odlična
29. Pacienti niso na oddelku, ko bi morali prejeti zdravilo, ker so na različnih preiskavah.	8	7	0,875	0,031	0,871	odlična

Legenda/Legend: IVV-P – indeks vsebinske veljavnosti za posamezne trditve/I-CVI – item content validity index; P_c – verjetnost naključnega strinjanja/probability of chance occurrence; κ^* – kapa indeks soglašanja/kappa designating agreement on relevance; evalvacija – evalvacijski kriteriji za kapa/evaluation criteria for kappa.

Tabela 2: Vsebinska veljavnost vprašalnika Napake pri dajanju zdravil – vzroki za nesporočanje

Table 2: Content validity of Medication Administration Error Survey – reasons why medication errors are not reported

Trditve	Število ekspertov	Število strinjanj	IVV-P	P_c	κ^*	Evalvacija
1. Medicinske sestre se ne strinjajo z bolnišnično opredelitvijo napake v povezavi z zdravili.	8	6	0,750	0,438	0,560	zmerna
2. Medicinske sestre ne prepoznajo, da je prišlo do napake.	8	8	1,000	0,000	1,000	odlična
3. Izpolnjevanje poročila o incidentu vzame preveč časa.	8	7	0,875	0,031	0,871	odlična
4. Kontaktiranje zdravnika o napaki vzame preveč časa.	8	8	1,000	0,000	1,000	odlična
5. Napaka v povezavi z zdravili ni jasno definirana.	8	8	1,000	0,000	1,000	odlična
6. Medicinske sestre menijo, da napaka ni dovolj pomembna, da bi bilo o njej potrebno poročati.	8	7	0,875	0,031	0,871	odlična
7. Medicinske sestre menijo, da jih bodo ostale medicinske sestre smatrale za nesposobne, če naredijo napako pri dajanju zdravil.	8	8	1,000	0,000	1,000	odlična
8. Pacient ali njegova družina lahko negativno odreagirajo na napako ali tožijo medicinsko sestro, če bo le-ta narejeno napako sporočila.	8	8	1,000	0,000	1,000	odlična
9. Pričakovanja, da so zdravila dana tako, kot so naročena, so nerealna.	8	7	0,875	0,031	0,871	odlična
10. Medicinske sestre je strah, da jih bo zdravnik okaral za storjeno napako.	8	7	0,875	0,031	0,871	odlična
11. Medicinske sestre je strah posledic poročanja napak.	8	8	1,000	0,000	1,000	odlična
12. Odziv nadrejenih medicinskih sester ni ustrezen glede na resnost storjene napake.	8	8	1,000	0,000	1,000	odlična
13. Medicinske sestre se lahko krivi, če se kaj zgodi pacientu zaradi napake pri dajanju zdravil.	8	8	1,000	0,000	1,000	odlična
14. Ni pozitivnega odziva za pravilno dajanje zdravil.	8	8	1,000	0,000	1,000	odlična
15. Preveč poudarka je na napakah pri dajanju zdravil kot pokazatelju kakovosti v zdravstveni negi.	8	8	1,000	0,000	1,000	odlična
16. Ko pride do napake, se preveč osredotoča na posameznika, namesto da bi poiskali vzroke za napake v sistemu kot potencialnega povzročitelja napake.	8	8	1,000	0,000	1,000	odlična

Legenda/Legend: IVV-P – indeks vsebinske veljavnosti za posamezne trditve/I-CVI – item content validity index; P_c – verjetnost naključnega strinjanja/probability of chance occurrence; κ^* – kapa indeks soglašanja/kappa designating agreement on relevance; evalvacija – evalvacijski kriteriji za kapa/evaluation criteria for kappa.

Cronbach α prvega dela vprašalnika »Napake pri dajanju zdravil – vzroki za napake« je znašal 0,832, za drugi del vprašalnika »Napake pri dajanju zdravil – vzroki za nesporočanje« 0,880 in za tretji del vprašalnika »Napake pri dajanju zdravil – ocena sporočanja« 0,989. Popravljen korelacije posamezne postavke z lestvico pri vzrokih za napake in vzrokih za nesporočanje so z izjemo trditve »Farmacevti niso dosegljivi 24 ur na dan« dosegli kriterij $0,2 < r < 0,3$, kar je razvidno iz Tabele 3 in 4.

Cronbach α vprašalnika »Napake pri dajanju zdravil – vzroki za napake« so dosegli vrednosti 0,725 za podlestvico komunikacija z zdravniki, 0,861 za podlestvico embalaža zdravil, 0,765 za podlestvico predpisovanje zdravil, 0,795 za podlestvico farma-

cevtski procesi in 0,582 za podlestvico kadrovska zasedba, kar je razvidno iz Tabele 5.

Podlestvice vprašalnika »Napake pri dajanju zdravil – vzroki za nesporočanje« so dosegle vrednosti Cronbach α 0,694 za podlestvico nestrinjanje z napako, 0,588 za podlestvico napor sporočanja, 0,834 za podlestvico strah in 0,708 za podlestvico administrativni odziv, kar je razvidno iz Tabele 6.

Pri pregledu popravljen korelacije posamezne postavke z njeno lestvico v obeh vprašalnikih je le trditve »Medicinske sestre se menjujejo znotraj timov in oddelkov« dosegla nižjo vrednost od priporočene, ki je znašala 0,183 za kadrovska zasedbo pri vzrokih za napake, kar je razvidno iz Tabele 5. Vse ostale trditve so dosegle kriterij $0,2 < r < 0,3$.

Tabela 3: *Popravljenе korelacije posamezne postavke Napake pri dajanju zdravil – vzroki za napake*Table 3: *Corrected item-total correlation coefficients of Medication Administration Error Survey – reasons why medication errors occur*

<i>Trditvev</i>	<i>Popravljenа korelacija posamezne postavke</i>	<i>Cronbach α, če je postavka izbrisana</i>
1. Imena mnogih zdravil so si med seboj podobna.	0,297	0,829
2. Različna zdravila so si na pogled med seboj podobna.	0,356	0,827
3. Embalaža mnogih zdravil si je med seboj podobna.	0,303	0,829
4. Zdravnikova naročila niso čitljiva.	0,345	0,828
5. Zdravnikova naročila niso jasna.	0,504	0,823
6. Zdravniki pogosto spreminjajo naročila.	0,366	0,827
7. Pri naročanju zdravniki uporabljajo kratice, namesto da bi naročilo izpisali v celoti.	0,320	0,829
8. Zdravila se namesto pisno, naročajo ustno.	0,432	0,824
9. Lekarna dostavi nepravilne odmerke zdravil.	0,334	0,828
10. V lekarni nepravilno pripravijo zdravilo.	0,208	0,831
11. V lekarni nepravilno označijo zdravilo.	0,294	0,829
12. Farmacevti niso dosegljivi 24 ur na dan.	0,031	0,842
13. Pogosto prihaja do nadomestitve zdravil (npr. za cenejša generična zdravila).	0,302	0,829
14. Med medicinskimi sestrami in zdravnikom je slaba komunikacija.	0,455	0,824
15. Mnogi pacienti prejemaajo enaka ali podobna zdravila.	0,454	0,824
16. Zaposleni na oddelku ne dobijo dovolj strokovnega usposabljanja o novih zdravilih.	0,383	0,826
17. Na oddelku ni lahko dostopati do informacij o zdravilih.	0,553	0,820
18. Medicinske sestre na tem oddelku imajo pomanjkljivo znanje o zdravilih.	0,377	0,826
19. Medicinske sestre se menjujejo znotraj timov in oddelkov.	0,422	0,825
20. Ko pacient ne dobi zdravila pravočasno, medicinske sestre ne poročajo, kdaj mora slediti naslednji odmerek.	0,226	0,831
21. Medicinske sestre na tem oddelku ne upoštevajo sprejetih standardov dajanja zdravil.	0,214	0,832
22. Medicinske sestre so pri aplikaciji zdravil prekinjene, ker morajo opraviti druge naloge.	0,354	0,827
23. Kadrovska zasedba na tem oddelku ni ustrezna.	0,293	0,830
24. Vseh zdravil na oddelku ni mogoče dati pravi čas.	0,277	0,830
25. Naročena zdravila niso pravilno prepisana/napisana na temperaturni/terapevtski list.	0,547	0,820
26. Do napak prihaja pri označevanju terapije na temperaturnem/terapevtskem listu.	0,297	0,820
27. Do napak prihaja zaradi okvare opreme ali nepravilne nastavitve pripomočkov (npr. infuzijskih črpalk).	0,356	0,827
28. Do napak prihaja, ker medicinske sestre ne poznajo pacientove anamneze glede znanih alergij.	0,303	0,828
29. Pacienti niso na oddelku, ko bi morali prejeti zdravilo, ker so na različnih preiskavah.	0,345	0,827

Tabela 4: *Popravljenе korelacije posamezne postavke Napake pri dajanju zdravil – vzroki za nesporočanje*Table 4: *Corrected item-total correlation coefficients of Medication Administration Error Survey – reasons why medication errors are not reported*

<i>Trditev</i>	<i>Popravljenа korelacija posamezne postavke</i>	<i>Cronbach α, če je postavka izbrisana</i>
1. Medicinske sestre se ne strinjajo z bolnišnično opredelitvijo napake v povezavi z zdravili.	0,432	0,876
2. Medicinske sestre ne prepoznajo, da je prišlo do napake.	0,431	0,877
3. Izpolnjevanje poročila o incidentu vzame preveč časa.	0,303	0,882
4. Kontaktiranje zdravnika o napaki vzame preveč časa.	0,431	0,877
5. Napaka v povezavi z zdravili ni jasno definirana.	0,722	0,866
6. Medicinske sestre menijo, da napaka ni dovolj pomembna, da bi bilo o njej potrebno poročati.	0,398	0,878
7. Medicinske sestre menijo, da jih bodo ostale medicinske sestre smatrale za nesposobne, če naredijo napako pri dajanju zdravil.	0,554	0,872
8. Pacient ali njegova družina lahko negativno odreagirajo na napako ali tožijo medicinsko sestro, če bo le-ta narejeno napako sporočila.	0,707	0,864
9. Pričakovanja, da so zdravila dana tako, kot so naročena, so nerealna.	0,582	0,870
10. Medicinske sestre je strah, da jih bo zdravnik okaral za storjeno napako.	0,689	0,865
11. Medicinske sestre je strah posledic poročanja napak.	0,733	0,863
12. Odziv nadrejenih medicinskih sester ni ustrezen glede na resnost storjene napake.	0,535	0,872
13. Medicinske sestre se lahko krivi, če se kaj zgodi pacientu zaradi napake pri dajanju zdravil.	0,479	0,875
14. Ni pozitivnega odziva za pravilno dajanje zdravil.	0,465	0,877
15. Preveč poudarka je na napakah pri dajanju zdravil kot pokazatelju kakovosti v zdravstveni negi.	0,456	0,876
16. Ko pride do napake, se preveč osredotoča na posameznika, namesto da bi poiskali vzroke za napake v sistemu kot potencialnega povzročitelja napake.	0,519	0,873

Tabela 5: *Notranja zanesljivost podleščvic vprašalnika Napake pri dajanju zdravil – vzroki za napake*Table 5: *Internal reliability of subscales in Medication Administration Error Survey – reasons why medication errors occur*

<i>Podleščvica/trditev</i>	<i>Cronbach α</i>	<i>Popravljenа korelacija posamezne postavke</i>	<i>Cronbach α, če je postavka izbrisana</i>
Komunikacija z zdravniki	0,725		
Zdravnikova naročila niso čitljiva.		0,406	0,704
Zdravnikova naročila niso jasna.		0,568	0,659
Zdravniki pogosto spreminjajo naročila.		0,504	0,680
Pri naročanju zdravniki uporabljajo kratice namesto, da bi naročilo izpisali v celoti.		0,407	0,709
Zdravila se namesto pisno, naročajo ustno.		0,477	0,682
Med medicinskimi sestrami in zdravnikom je slaba komunikacija.		0,445	0,691
Embalaža zdravil	0,861		
Imena mnogih zdravil so si med seboj podobna.		0,675	0,860
Različna zdravila so si na pogled med seboj podobna.		0,797	0,747
Embalaža mnogih zdravil si je med seboj podobna.		0,745	0,798
Predpisovanje zdravil	0,765		
Naročena zdravila niso pravilno prepisana/napisana na temperaturni/terapevtski list.		0,620	-

Se nadaljuje/Continues

<i>Podlestvica/trditev</i>	<i>Cronbach α</i>	<i>Popravljen korelacija posamezne postavke</i>	<i>Cronbach α, če je postavka izbrisana</i>
Do napak prihaja pri označevanju terapije na temperaturnem/terapevtskem listu.		0,620	-
Farmacevtski procesi	0,795		
Lekarna dostavi nepravilne odmerke zdravil.		0,560	0,816
V lekarni nepravilno pripravijo zdravilo.		0,724	0,643
V lekarni nepravilno označijo zdravilo.		0,649	0,708
Kadrovska zasedba	0,582		
Medicinske sestre se menjujejo znotraj timov in oddelkov.		0,183	0,662
Medicinske sestre so pri aplikaciji zdravil prekinjene, ker morajo opraviti druge naloge.		0,428	0,464
Kadrovska zasedba na tem oddelku ni ustrezna.		0,477	0,412
Vseh zdravila na oddelku ni možno dati pravi čas.		0,407	0,480

Tabela 6: Notranja zanesljivost podlestvic vprašalnika Napake pri dajanju zdravil – vzroki za nesporočanje

Table 6: Internal reliability of subscales in Medication Administration Error Survey – reasons why medication errors are not reported

<i>Podlestvica/trditev</i>	<i>Cronbach α</i>	<i>Popravljen korelacija posamezne postavke</i>	<i>Cronbach α, če je postavka izbrisana</i>
Nestrinjanje z napako	0,694		
Medicinske sestre se ne strinjajo z bolnišnično opredelitvijo napake povezane z zdravili.		0,357	0,680
Medicinske sestre ne prepoznajo, da je prišlo do napake.		0,473	0,646
Napaka v povezavi z zdravili ni jasno definirana.		0,588	0,580
Medicinske sestre menijo, da napaka ni dovolj pomembna, da bi bilo o njej potrebno poročati.		0,414	0,659
Pričakovanja, da so zdravila dana tako, kot so naročena, so nerealna.		0,482	0,645
Napor sporočanja	0,588		
Izpolnjevanje poročila o incidentu vzame preveč časa.		0,445	-
Kontaktiranje zdravnika o napaki vzame preveč časa.		0,445	-
Strah	0,834		
Medicinske sestre menijo, da jih bodo ostale medicinske sestre smatrale za nesposobne, če naredijo napako pri dajanju zdravil.		0,506	0,835
Pacient ali njegova družina lahko negativno odreagirajo na napako ali tožijo medicinsko sestro, če bo le-ta narejeno napako sporočila.		0,702	0,781
Medicinske sestre je strah, da jih bo zdravnik okaral za storjeno napako.		0,758	0,766
Medicinske sestre je strah posledic poročanja napak.		0,803	0,753
Medicinske sestre se lahko krivi, če se kaj zgodi pacientu zaradi napake pri dajanju zdravil.		0,433	0,855
Administrativni odziv	0,708		
Odziv nadrejenih medicinskih sester ni ustrezen glede na resnost storjene napake.		0,340	0,728
Ni pozitivnega odziva za pravilno dajanje zdravil.		0,498	0,648
Preveč poudarka je na napakah pri dajanju zdravil kot pokazatelju kakovosti v zdravstveni negi.		0,564	0,602
Ko pride do napake, se preveč osredotoča na posameznika, namesto da bi poiskali vzroke za napake v sistemu kot potencialnega povzročitelja napake.		0,595	0,585

Diskusija

Namen raziskave je bil oblikovanje slovenske različice vprašalnika ter ugotovitev njegove vsebinske veljavnosti in notranje zanesljivosti.

V prvem delu smo pri prevajanju vprašalnika uporabili tudi vzratni prevod, kar je prispevalo k visoki kakovosti prevoda in k boljši semantični ekvivalenci, ki je pomembna za veljavnost vprašalnika (Polit & Beck, 2012).

Skladno z ostalimi raziskavami (Wakefield, et al., 1996; Wakefield, et al., 1998; Wakefield, et al., 1999b; Wakefield, et al., 2005) ta raziskava potrjuje vsebinsko veljavnost vprašalnika in notranjo zanesljivost slovenske oblike vprašalnika, vendar ju je zaradi določenih omejitev raziskave potrebno interpretirati s pazljivostjo.

Uporabili smo oceno vsebinske veljavnosti, ki pri nas ni tako pogosto uporabljena, vendar se jo v okviru psihometričnega testiranja vprašalnika in v okviru kulturne adaptacije priporoča (Polit & Beck, 2012). Indeksi vsebinske veljavnosti celotnega vprašalnika so pri vseh treh delih vprašalnika bili ocenjeni kot zadovoljivi. Podobno je bilo z oceno vsebinske veljavnosti posameznih postavk. Dve postavki, ki nista dosegli zahtevanih kriterijev in ki smo ju ohranili za nadaljnje testiranje, sta v okviru preverjanja notranje zanesljivosti dosegli sprejemljive vrednosti.

Notranja zanesljivost vseh treh delov vprašalnika je bila sprejemljiva, saj so bili koeficienti Cronbach α ocenjeni z več kot 0,700, vendar je notranjo zanesljivost tretjega dela vprašalnika potrebno interpretirati s pazljivostjo. Vrednost Cronbach α je znašala skoraj 1,000, kar lahko, kot ugotavlja Streiner (2003), pomeni, da so trditve odveč. Kot bolj zanesljive se smatrajo vrednosti koeficienta Cronbach α med 0,700 in 0,900, vendar ta del vprašalnika v izvorniku in tudi vseh ostalih raziskavah ni šel čez ugotavljanje notranje zanesljivosti. Z njim se ocenjuje percepcija sporočanja posamezne specifične napake pri neintravenski in intravenski terapiji (Wakefield, et al., 2005).

Pri pregledu popravljene korelacije posamezne postavke z njeno lestvico prvega in drugega dela vprašalnika so z izjemo trditve »Farmacevti niso dosegljivi 24 ur na dan« dosegle zahtevan kriterij $0,2 < r < 0,3$. Z izbrisom trditve se je notranja zanesljivost vprašalnika, ki se nanaša na vzroke za napake, izboljšala na 0,842.

Notranja zanesljivost posameznih podlestvic je bila z izjemo podlestvic za kadrovske zasedbe pri vzrokih, napor sporočanja ter nestrinjanje z napako pri vzrokih za nesporočanje sprejemljiva in ocenjena nad mejno vrednostjo 0,7 (Polit & Beck, 2004).

Pri podlestvici kadrovske zasedbe je korelacija postavke »Medicinske sestre se menjujejo znotraj timov in oddelkov« od postavk s skupnim dosežkom brez te postavke dosegla 0,183, kar je znašalo manj

od priporočenega kriterija $0,2 < r < 0,3$ (Mahieu, et al., 2013). Z odstranitvijo te trditve, smo notranjo zanesljivost izboljšali in ponovno izračunan Cronbach α je znašal 0,662. Kljub temu, da je bila ta vrednost nižja od priporočene, ki znaša vsaj 0,7, smo trditve v podlestvici vseeno ohranili, saj je bila nova vrednost koeficienta notranje zanesljivosti enaka vrednosti v izvorniku, ki je znašala 0,620 (Wakefield, et al., 2005). Nekoliko višji Cronbach α , 0,74, je za to podlestvico ugotovila Shanty (2011).

Podlestvica nestrinjanje z napako, ki je dosegla Cronbach α 0,694, pa je dosegla le malo nižjo vrednost od priporočene. V izvorniku le-ta znaša 0,760 (Wakefield, et al., 2005). V primerjavi z drugimi raziskavami je bil naš Cronbach α nižji, saj so vrednosti v drugih raziskavah znašale od 0,76 do 0,83 (Chiang & Pepper, 2006; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013). Podlestvica napor sporočanja prav tako vsebuje le dve trditvi, kar je lahko vzrok za nižjo vrednost, kljub temu pa je potrebno nadaljnje testiranje na večjem vzorcu. Tudi za to podlestvico je naš Cronbach α nižji v primerjavi z ostalimi raziskavami, v katerih so vrednosti znašale od 0,76 do 0,86 (Chiang & Pepper, 2006; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013). Smo pa v naši raziskavi ugotovili primerljiv oziroma tudi višji Cronbach α za podlestvici strah in administrativni odziv, ki je v drugih raziskavah za prvo podlestvico znašal od 0,77 do 0,92, za drugo pa od 0,69 do 0,83 (Chiang & Pepper, 2006; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013).

Zaradi nekaterih omejitev je potrebno nadaljnje testiranje vprašalnika, vsekakor pa gre za uporaben vprašalnik, ki je bil uporabljen v različnih raziskavah (Blegen, et al., 2004; Chiang & Pepper, 2006; Maiden, 2008; Covell & Ritchie, 2009; Shanty, 2011; Aboshaiqah, 2013).

Omejitve

Naša raziskava ima nekatere omejitve, ki jih je potrebno pri interpretaciji upoštevati. Zaradi majhnega priložnostnega vzorca rezultatov je posploševanje manj zanesljivo. Vprašalnik smo testirali samo na kirurških in internih oddelkih, kar je prav tako treba upoštevati, zato je potrebno nadaljnje testiranje v drugih okoljih in na drugi populaciji. Prav tako ni bilo mogoče preveriti veljavnosti konstrukta, zato je potrebno nadaljnje testiranje vprašalnika z uporabo večjega vzorca. Izvedba le-tega je že v teku.

Zaključek

Zagotavljanje varnosti je temeljnega pomena v obravnavi pacientov. Identificiranje vzrokov za napake pri dajanju zdravil in ovir za sporočanje napak v zdravstvu je začetek ugotavljanja dejanskega stanja. V Sloveniji takšnih raziskav primanjkuje, kar

je v prihodnosti potrebno spremeniti. Spremembe v zagotavljanju varnosti bo mogoče doseči z izborom in uporabo pravilne raziskovalne metodologije in metod. Pilotska raziskava je zato bila namenjena ugotavljanju veljavnosti in zanesljivosti slovenskega prevoda stan-dardiziranega vprašalnika.

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Cite as/Citirajte kot:

Vrbnjak, D., Pahor, D., Štiglic, G. & Pajnkihar, M., 2016. Content validity and internal reliability of Slovene version of Medication Administration Error Survey. *Obzornik zdravstvene nege*, 50(1), pp. 20–40. <http://dx.doi.org/10.14528/snr.2016.50.1.69>