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Development of a new instrument to assess clinical performance of residents in dermatology-venereology department

Sandra Widaty[1], Hardyanto Soebono[2], Sunarto[3] & Ova Emilia[4]

[1]Department of Dermatology and Venereology, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo Hospital, Indonesia; [2]Department of Dermatology and Venereology Faculty of Medicine, Universitas Gadjah Mada, Indonesia; [3]Pediatric Department, Faculty of Medicine, Universitas Gadjah Mada Indonesia, Indonesia; [4]Medical Education Department, Faculty of Medicine, Universitas Gadjah Mada, Indonesia

Abstract

Introduction: Performance assessment of residents should be achieved with evaluation procedures, informed by measured and current educational standards. The present study aimed to develop, test, and evaluate a psychometric instrument for evaluating clinical practice performance among Dermatology and Venereology (DV) residents.

Methods: This is a qualitative and quantitative study conducted from 2014 to 2016. A pilot instrument was developed by 10 expert examiners from five universities to rate four video-recorded clinical performance, previously evaluated as good and bad performance. The next step was the application of the instrument to evaluate the residents which was carried out by the faculty of DV at two Universities.

Results: The instrument comprised 11 components. There was a statistically significant difference ($p < 0.001$) between good and bad performance. Cronbach's alpha documented high overall reliability ($\alpha = 0.96$) and good internal consistency ($\alpha = 0.90$) for each component. The new instrument correctly evaluated 95.0% of poor performance. The implementation study showed that inter-rater reliability between evaluators range from low to high (correlation coefficient $\rho = 0.79$, $p < 0.001$).

Conclusion: The instrument is a reliable and valid instrument for assessing clinical practice performance of DV residents. More studies are required to evaluate the instrument in different situation.

Keywords: *Instrument, Clinical Assessment, Performance, Resident, Dermatology-Venereology, Workplace-Based Assessment*

Practice Highlights

- The residents' performance will reflect on their professionalism and competencies. Furthermore, clinical care provided by Dermatology and Venereology field is unique, therefore a standard instrument is needed to assess their performance.
- Dermatology - Venereology Clinical Practice Performance Examination instrument is proven to be reliable and valid in assessing residents' clinical performance

I. INTRODUCTION

Performance assessment in medical clinical practice has been a great concern for medical education programmes worldwide. (Holmboe, 2014; Khan & Ramachandran, 2012; Naidoo, Lopes, Patterson, Mead, & MacLeod, 2017). It is an accepted premise that performance may differ according to competency (Cate, 2014; Khan & Ramachandran, 2012). Performance also occurs within a domain; therefore, the assessment of performance should be separated from that of competency. Performance

assessment of medical residents should also be informed by existing medical standards and performance criteria (Li, Ding, Zhang, Liu, & Wen, 2017; Naidoo et al., 2017).

Assessment of residents during their training programme is an important issue in postgraduate medical education, which has declared formative evaluation and constructive feedback as priorities (World Federation for Medical Education, 2015). An earmark of postgraduate medical specialist training is that it occurs in the workplace; therefore, the most appropriate measurement tools are Workplace-Based Assessments (WPBA). In medical education, these assessments emphasise on result and professionalism (Boursicot et al., 2011; Joshi, Singh, & Badyal, 2017).

In response to a standardisation programme for postgraduate medical specialist training (PMST), the World Federation for Medical Education (WFME) had published guidelines which adopted by several countries including Indonesia (Indonesian College of Dermatology and Venereology, 2008; World Federation for Medical Education, 2015). Clinical care provided in the Dermatology and Venereology (DV) field is unique; a brief examination of the patient is often useful before taking a lengthy history (Garg, Levin, & Bernhard, 2012). Privacy is a top priority, especially for venereology patients, patients with communicable diseases, cosmetic dermatology and skin surgery care.

Until now, no standard instrument has been available for performance assessment of PMST in DV; therefore, a variety of assessments are in use which may cause discrepancies (Jhorar, Waldman, Bordelon, & Whitaker-Worth, 2017). A valid and reliable method of assessment is required that can be used in various facilities and related to proficiency in both content and process (Kurtz, Silverman, Benson, & Drapper, 2003). Therefore, a study was conducted to focus on the development of a residents' clinical performance assessment based on certain standards and principles such as the WPBA and WFME standards.

II. METHODS

A. Instrument Development

The instrument was developed and tested using qualitative and quantitative study designs. It started with a solicitation of inputs regarding expected performance from a variety of stakeholders in DV: patients, nurses, laboratory staff, newly graduated DV specialists, DV practitioners, and faculty. A literature review was performed, which included various documents such as the educational programme standards for DV residents, and documentation on available assessment tools (Cate, 2014; Hejri et al., 2017; Norcini, 2010). The instrument was developed according to the current standards (Campbell, Lockyer, Laidlaw, & MacLeod, 2007; McKinley, Fraser, van der Vleuten, & Hastings, 2000).

The resulted 11-items instrument was subsequently evaluated by faculty groups from various universities in Indonesia. Repeated revisions were carried out. Psychometric data for the instrument were provided through independent evaluations of performance videos of the residents and also through comparison of the results of the new instrument (Dermatology - Venereology Clinical Practice Performance Examination/DVP-Ex) and the compared instrument. The design was a validation study in which psychometric data for the instrument were provided. Further step was the assessment of residents' performances when performing their clinical practice using the instrument to evaluate instrument reliability and feedback. Flowchart of the study process is shown in Appendix A.

B. Setting

The present study was conducted at the Department of Dermatology and Venereology, Dr. Cipto Mangunkusumo Hospital, a teaching hospital for Faculty of Medicine Universitas Indonesia, from 2014 to 2016. The study was conducted in four steps. When developing the instrument (Step 1), we included faculty members from five medical faculties in Indonesia that have DV Residency Programme (Universitas Indonesia, Universitas Sriwijaya (UNSRI), Universitas Padjajaran (UNPAD), Universitas Gadjah Mada, and Universitas Sam Ratulangi) through in depth interview and expert panel. The study received ethical approval from the Research Ethics Committee of the Faculty of Medicine Universitas Gadjah Mada Number KE/FK/238/EC.

The instrument that had been developed was sent to five senior faculty members from three universities (Department of Dermatology and Venereology, Universitas Indonesia, UNPAD and UNSRI) (Step 2). They were asked to give their assessment in order to have face and content validity. As a test of criterion validity, we recruited 10 faculty members of Faculty of Medicine, Universitas Indonesia, randomised them into two groups. Randomisation was performed to prevent bias against the instruments being tested. One group used DVP-Ex and the other used the current instrument. The single inclusion criterion was more than three years of teaching experience. After receiving some inputs, final correction was done and training was provided for faculty member who would use the instrument.

C. Performance Video

To obtain standardised performance of the residents, video recordings of the resident's clinical practice were made. Two residents were voluntarily recruited and a special team recorded their clinical practice performance using scenarios created by the first author. (Campbell et al., 2007; McKinley et al., 2000)

There were four videos, each of which showed the clinical practice performance of the residents when they were presented with a difficult case (dermatomyositis) and a common case (leprosy tuberculoid borderline type). Patients had to sign informed consent before included in this study. A good (first and fourth video clips) and poor (second and third clips) standard of performance were demonstrated. Activities presented in the scenarios were those associated with patient care (Campbell et al., 2007; Iobst et al., 2010). After the recording session was finished, patients were managed accordingly and provided with rewards.

D. Training on the Performance Instrument

An hour-long training was provided for the 10 faculty members (the examiners). The faculty then practiced scoring, using the recorded video clips. During the training, we received some input and made necessary corrections to the rubrics. There was no training given for the comparison instrument because the entire faculty was already accustomed to this instrument. Step 3 is the step to produce validity, reliability and accuracy of performance instrument, which was conducted through a comparative study between two instruments of assessment; i.e. performance and control instruments. It evaluated the clinical practice performance of residents in the form of video film recording their performance

E. Implementation of Resident Performance Assessment with Performance Instrument

This step was aimed to evaluate the reliability of the instrument and results of instrument implementation when it was used to assess the residents (Step 4). The sample included residents of Postgraduate Medical Specialist Training Programme in Dermatology and Venereology, Faculty of Medicine, University of Indonesia and UGM, who were at their basic level (residents who were on their 1st semester in clinical setting), intern level (semester II-V) and independent level (semester VI or higher).

Sample size: n = 3 - 4/level/Faculty of Medicine = 20. The evaluators were five lecturers/ Faculty of Medicine = 10, and each lecturer evaluated six residents.

F. Data Collection

One week after the training, the instrument was evaluated. Faculty members assessed the performance of the residents in the four video recordings at the same time. Three days later, the groups underwent a rotation to reassess the video with whichever of the two instruments they had not already used. The examiners were asked to provide feedback and information on the ease of completing the instrument and the clarity of its instructions. For the implementation of resident assessment performance with the instrument, one resident was being evaluated by three lecturers simultaneously. The lecturers were grouped randomly; therefore, every lecturer could evaluate six residents out of ten residents from each group that would be assessed.

G. Data Analysis

The analyses aimed to evaluate validity, reliability, and precision of the instrument for discriminating the performance of the residents as poor, good, or excellent.

H. Validity and Reliability

A reliability test was performed, i.e. internal consistency in the form of responses against items in each field (Cronbach alpha coefficient). Face and content validity were assessed by addressing the relevant performance standards and criteria, and by optimizing clarity of instruction, specific criteria, acceptable format, gradation of responses, correct and comprehensive answers (including all assessed variables). The cut-off score of the instrument was determined using ROC (receiver operating curve) principles, which was then used to evaluate sensitivity, specificity, positive and negative predictive value. The accuracy of the instrument was determined to evaluate the precision of the instrument in distinguishing between good and poor performance.

I. Statistical Analysis

The statistical analysis was performed using SPSS 11.5 software. Total assessment scores of each examiner were analysed using analysis of variance (ANOVA). Internal consistency was determined using Cronbach's α and Spearman analysis was performed to acquire p value for the validity. The accuracy was determined by comparing failed or passed score results and comparing it with the video. To obtain the intergroup difference, McNemar's test and Kappa analysis were carried out. Qualitative analysis was also performed, especially to evaluate feedbacks by performing several analytical steps.

III. RESULTS

A performance instrument was developed with 11 competency components, for which evaluation responses were given in the form of rubric scale (Appendix B). All 10 faculty members completed an assessment of each of the four videos. Eight examiners had more than 3 years of teaching experiences, and five examiners were DV consultants.

A. Validity

For validity, face, content, and construct validity remain solid points of reference for validity evaluation (Colliver, Conlee, & Verhulst, 2012; Johnson & Christensen, 2008). Face content was evaluated by five experts from three universities. The evaluation was implemented to improve the instrument. The scale of the rubrics described the capacity of residents to perform activities according to the Standard Competency of DV specialist and the domain of performance for physicians has made the instrument evaluated as the instrument with good validity on its face, content and construction.

The results of the assessments made on performance videos with the DVP-Ex showed that examiners agreed that the performances of the first and fourth videos (the "good" videos) were good performance (>60); conversely, the second and third videos (the "bad" ones) were evaluated as poor performance by 10 and 9 out of 10 faculty members, respectively (Table 1).

Video	Mean (Score)	N	Standard Deviation	Median	Minimum	Maximum	Score >60	Score <60
1	87.45	10	12.59	89.44	56.00	100.00	90%	10%
2	33.54	10	15.77	35.92	4.17	51.85	100%	0
3	25.31	10	16.84	25.00	3.70	64.00	90%	10%
4	81.96	10	9.06	84.25	66.67	96.29	100%	0

Note: Chi Square, Kruskal–Wallis $p < 0.001$

Table 1. Assessment scores for each of the four videos (n = 10)

Faculty members also gave feedback suggesting that the instrument would be useful for assessing residents' performance. They also commented that the instrument was more objective than the one currently in use, that it was challenging in that they had to read the instrument carefully in order to use it properly, and that the response options allowed several aspects of the residents' performance to be assessed.

B. Validity and Reliability

Validity of the instrument was measure using Spearman analyses showed significant result for all of the competency component ($p > 0.001$). Reliability measure of the correlation between each item score and the total score on all relevant items (Cohen, Manion, & Morrison, 2008). Our analysis revealed good overall reliability, with Cronbach $\alpha = 0.96$. All components of competency achieved internal reliability scores >0.95. The correlation between each item score on the competency components and the overall score was excellent (range: 0.64–0.99).

No	Competency Component	Corrected Item-Total Correlation	Alpha if item Deleted (Cronbach α 0.96)
1	C1	0.76	0.96
2	C2	0.81	0.96
3	C3	0.79	0.96
4	C4	0.76	0.96
5	C5	0.84	0.96
6	C6	0.82	0.96
7	C7	0.88	0.96
8	C8	0.99	0.95
9	C9	0.64	0.96
10	C10	0.90	0.95
11	C11	0.89	0.96

Note: C1 = history-taking, C2 = effective communication, C3 = physical examination, C4 = workup, C5 = diagnosis/ differential diagnosis, C6 = DV management, C7 = information and/ education, C8 = data documentation on medical record, C9 = multidisciplinary consultation, C10 = self-development/ transfer of knowledge, C11 = introspective, ethical, and professional attitude

Table 2. Analysis of internal consistency for each competency component

Results from instrument	Video type		Amount
	Good	Poor	
Passed	19	1	20
Failed	1	19	20
Total	**20**	**20**	**40**

Note: McNemar's test: p = 0.50, Kappa Analysis κ = 0.90, p < 0.001; accuracy = 95%
Table 3. Comparison of the results from the DVP-Ex instrument and video type (n=40)

It can be concluded that the instrument was able to accurately assess the clinical practice performance demonstrated in the videos (Table 3). The control instrument can accurately identify 80% of the insufficient performance, which makes it a valuable tool for assessment during the clinical years (Table 4). From both data, it can be concluded that DVP-Ex was better than the control instrument in assessing the video with superior accuracy (95% vs 80%, respectively) and better interrater reliability (0.90 vs 0.60, respectively).

Results from instrument	Video type		Total
	Good	Poor	
Passed	18	6	24
Failed	2	14	16
Total	**20**	**20**	**40**

Note: McNemar's test: p = 0.289, Kappa analysis κ = 0.60, p <0.001, accuracy: 80%
Table 4. Comparison of the results from the control instrument and video type (n=40)

C. Implementation of the Instrument

By using the cut-off score of 60, a reliability test was performed among instrument evaluators gradually, i.e. between the evaluator I and II (PI-II), evaluator I and III (PI-III) and evaluator II and III (PII-III). We found the following results: (Table 5).

		Evaluator I	Evaluator II	Evaluator III
Evaluator I	Coefficient of correlation	1.000	0.59(**)	0.49
	P value	.	0.01	0.07
	N	20	20	14
Evaluator II	Coefficient of correlation	0.59(**)	1.00	0.79(**)
	P value	0.006	.	0.001
	N	20	20	14
Evaluator III	Coefficient of correlation	0.49	0.79(**)	1.00
	P value	0.07	0.001	.
	N	14	14	20

Note: **significant correlation
Table 5. Analysis of reliability on performance instrument with Spearman's Rho correlation

D. Feedback on Assessment with the Performance Instrument

Most feedback was about skill and the process of the clinical practice being performed. In contrast to results of another study suggesting that most feedback addresses communication (Pelgrim, Kramer, Mokkink, & van der Vleuten, 2012), only 5% of examiners' remarks mentioned a need to improve communication skill. Additionally, 20% of examiner comments mentioned the importance of attitude, especially as a part of effective communication.

IV. DISCUSSION

The present study was conducted to develop a WPBA instrument to assess clinical practice performance, and to obtain psychometric data on the instrument. The DVP-Ex can easily be used by faculty members, Early psychometric evaluation has demonstrated promising levels of validity and reliability of the instrument.

We found that examiners experienced some difficulties in completing the instrument, therefore, repeated trainings are necessary. Further workup or laboratory examination (C4), multidisciplinary consultation (C9) and knowledge transfer and self-development (C10) were not always scored because they were not observable in every clinical encounter. However, those components (C4, C9, and C10) are important and are not assessed at all by other WPBA instruments (Norcini & Burch, 2007; Norcini, 2010).

The validity evaluation through face and content validity was performed by the experts, who agreed in their approval of the content and construction of the instrument and its relevance to the competencies and

performance of physicians. Moreover, the consistency of the examiners in evaluating the performance videos has provided further evidence that the instrument is appropriate for DV residents. Analysis of internal consistency provided ample evidence of the instrument's reliability. Additionally, the DVP-Ex's 95% success rate in categorising poor performance as failing offers yet another converging piece of evidence of the instrument's validity for identifying residents who are struggling.

On the step of implementation, not all of inter-evaluator reliability values were good, which might be cause by the unfamiliarity of the evaluators with the performance instrument; therefore, a more intensive training on how to use the instrument may improve inter-evaluator reliability value. The advantage of utilisation of instrument for evaluators in association with instrument reliability has been discussed in various studies (Boursicot et al., 2011). A special strategy is required to produce a successful assessment process (Kurtz et al., 2003). Full participation in the assessment process and training, including providing the feedbacks are needed (Norcini & Burch, 2007).

The promising results for this instrument's ability to differentiate poor and good performance could be the basis for further studies to assess the formative functions of the instrument through repeated assessment of the same resident by several examiners. In addition, further studies are needed to justify whether this instrument can also be used as a summative tool. Limitations of the study are that some of the experts were from the same university as the residents which could impose bias on the assessment and no training for the level of questioning. Also, a lot of training and standardisation of the assessors should be addressed if this instrument is to be used in a larger population.

V. CONCLUSION

DVP-Ex is a reliable and valid instrument for assessing DV residents' clinical performance. With intensive training for the evaluator, this instrument can correctly classify a poor clinical practice performance as a failed performance according to applicable standards. Therefore, it can improve the DV education programme.

Notes on Contributors

Sandra Widaty is a dermato-venereologist consultant and a fellow of Asia Academy of Dermatology and Venereology. She is a Faculty member in Dermatology and Venereology Post Graduate Training and Medical Education Department of Faculty of Medicine Universitas Indonesia. She is the main investigator in this study.

Hardyanto Soebono is a professor and faculty member in Dermatology and Venereology and Medical Education Department of Faculty of Medicine Universitas Gadjah Mada. He conducts lots of publication in both fields. He contributed to the conceptual development and data analysis, including approving this final manuscript.

Sunarto is a faculty member and teach residents in Pediatrics Department. He conducts lots of research and publication in the field of medical education. He contributed to conceptual development and editing, including approving this final manuscript.

Ova Emilia got her PhD degree in Medical Education. She teaches doctoral degree in Medical Education. Currently, she is the dean of Faculty of Medicine Universitas Gadjah Mada. She contributed to the conceptual development, data analysis and editing, including approving this final manuscript.

Ethical Approval

Research Ethics Committee of the Faculty of Medicine University Gadjah Mada Number KE/FK/238/EC.

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Declaration of Interest

All authors declared no conflict of interest.

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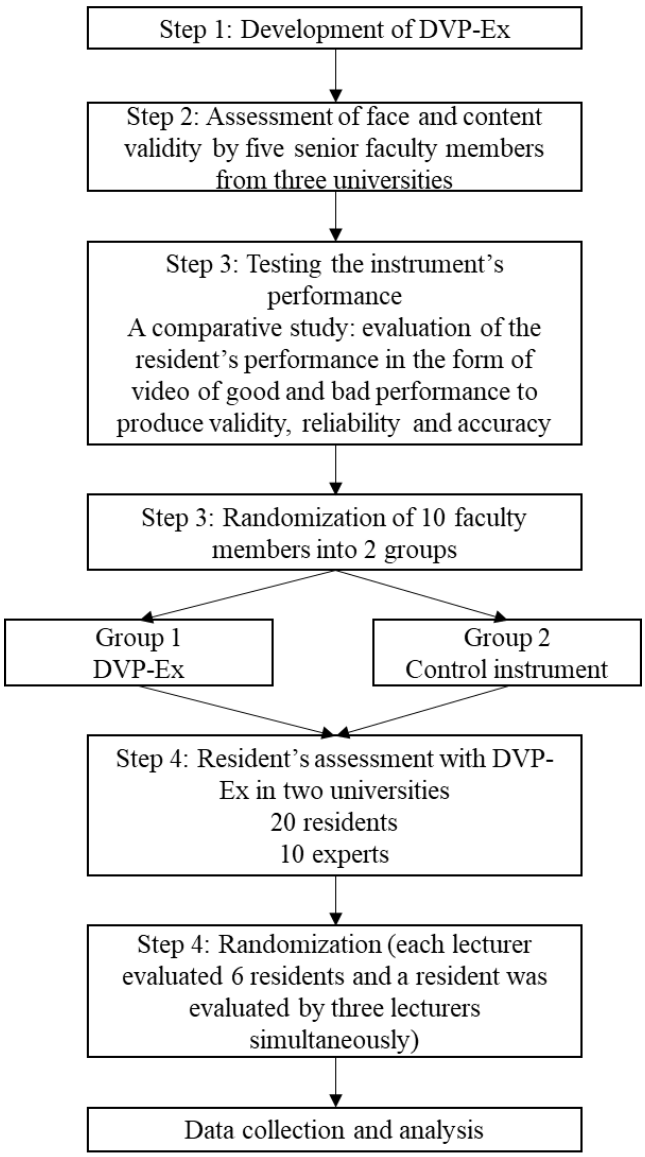
*Sandra Widaty
Jl. Diponegoro 71,
Central Jakarta,
Jakarta, Indonesia, 10430
Tel: +622131935383
Email: sandra.widaty@gmail.com

Appendix A: Flowchart of the study process



Dermatology and Venereology Clinical Practice Performance Examination Instrument
(Dermatology - Venereology Clinical Practice Performance Examination / DVP-Ex)

Definition:

a. DVP-Ex form is used to evaluate Residents during clinical practice, formative or summative

b. This instrument evaluates activity process and results (Knowledge, skills, and attitude)

c. In each meeting, the activities within components of competence may be evaluated partly or completely, but they always consist of 2 (two) components, which are **effective communication** and **self-awareness, ethical, and professional behavior** components. Feedback is noted in detail and directly delivered.

d. Explanation is signed by the examiner and examinee.

e. Passing grade = 70

Operational Definition:

Components of Competence Performance:

1. History:

   The ability to obtain history of problems/ illness (data regarding possible etiology-pathogenesis and differential diagnosis, allergy and medication history, risk factors, history of past illness, social history, family history) and other relevant data.

2. Effective communication

   The ability to display methods of communication, attentiveness and empathy.

3. Physical examination

   The ability to behave respectfully and sensitively while performing accurate, relevant, and specialized physical examination for dermatology and venereology disorders. To explain procedures in the patient's language. To demonstrate the use of medical devices correctly and to display examinations in logical order, as required while prioritizing the patient's privacy and dignity.

4. Supporting examination

   Demonstrating the ability to choose/determine/perform test/collecting sample and interpret relevant supporting examination results.

5. Diagnosis and differential diagnosis

   The ability to determine a formulation of differential diagnoses and diagnosis based on clinical reasoning derived from anamnesis data, physical examination, with or without supporting examination and other relevant data.

6. Treatment

   Demonstrating the ability to choose, determine, and plan follow-up treatment using treatment principles and based on evidence-based guidelines, and the ability to deliver complete information including the possibility of side effects, risks, and limitations of treatment results.

   Treatment with Dermatology - Venereology Interventional Procedure
   Displaying the ability to choose/make use of tools and facilities of treatment/perform DV interventional procedures, and deliver complete information including the possibility of side effects, risks, and limitations of treatment results.

7. Information and Education

   The ability to perform verbal and/ written education, including information on disease prevention, limitation of results (therapy/ medical procedure), follow-up plan, referral system, and health promotion.

8. Medical record documentation

   The ability to perform accurate, relevant, and timely medical record documentation using Subjective (history of illness in the patient's language), Objective (physical and laboratory examination results), Assessment (diagnosis and differential diagnosis), and Plan (follow-up and treatment) principles.

9. Multidisciplinary Consultation

   Demonstrating the ability of multidisciplinary cooperation while performing consultation (medical referral/ procedure/ counseling/ comprehensive care) according to competency.

10. Self-development and/or transfer of knowledge

    Displaying self-development and transfer of knowledge/technology according to the principles of evidence-based medicine (EBM).

11. Self-awareness, Ethics, and Professionalism

    The ability to demonstrate clinical practice activities corresponding to the good clinical practice and professional guidelines.

Notes:

Constructive feedback: feedback regarding the process, goals, criteria, and expected standard through high-quality information in order to be a reflection for those examined and improve their work or learning process.

The best score for components of competence numbers 4, 5, and 8 for cases with low/ moderate degree of difficulty (ordinary case) is 2 (two), while for difficult cases is 3 (three).

Methods for final grading:

Highest denominator for difficult case = 33
Highest denominator for ordinary case = 30

Dermatology and Venereology Clinical Practice Performance Examination Instrument
(Dermatology - Venereology Clinical Practice Performance Examination / DVP-Ex)

Student :
Evaluator :
Evaluation No.: _____ Disease: _____ Level of Difficulty: Low/Moderate/High Location/Room: outpatient/inpatient/others

No.	Observation		Competency	Performance				Maximum Score		Score
				0	1	2	3	Ordinary Cases*	Difficult Cases	
1.		Yes	Anamnesis of dermatology and/ venereology disorders or emergency cases completely-relevantly (including hair/ nail/ mucosa), holistically, lege artis, punctually, and accurately (comprehensively)	Performing minimal dermatology and/ venereology disorders or emergency cases history taking (anamnesis) .	Performing partial history taking for dermatology and venereology disorders or emergency case.	Demonstrating most of the history taking for dermatology and/ venereology disorders or emergency cases.	Demonstrating comprehensive history taking ability for dermatology and/ venereology disorders or emergency cases, target-achieved.	3	3	
		No								
2.		Yes	Effective communication (correct language, active listening, open-closed questions, provide conclusion, good interaction) and empathy.	Not demonstrating principles of effective communication, unequal, doctor-centered	Demonstrating some part of the principles of effective communication.	Demonstrating most of the principles of effective communication, patient-centered, lacking in empathy	Demonstrating principles of effective communication, patient-centered, good empathy	3	3	
		No								
3.		Yes	Physical examination of disorders/ pathognomonic lesion/ emergency cases of dermatology and venereology and their clinical relevance.	Demonstrating dermatology and/ venereology examination minimally/ not recognizing pathognomonic disorders / emergency cases.	Demonstrating physical examination of dermatology and/ venereology disorders/ emergency cases partly (incomplete).	Demonstrating relevant physical examination of dermatology and/ venereology disorders/ emergency cases - complete but not holistic.	Demonstrating physical examination of dermatology and/ venereology disorders/ emergency cases comprehensively	3	3	
		No								
4.		**Yes** **No**	**Supporting examination (choosing/ performing test/ collecting relevant samples)/ interpreting the result and its clinical correlation**	**When required, not displaying the need to perform/ interpret the result of supporting examination.**	**Performing supporting examination/ interpretation of result, but inappropriate**	***Performing supporting examination/ interpretation of result punctually, accurately, and appropriately (ordinary case)**	**Performing supporting examination/ interpretation of result punctually, accurately, and appropriately (difficult case)**	**2**	**3**	

*Maximum score for ordinary case

Dermatology and Venereology Clinical Practice Performance Examination Instrument
(Dermatology - Venereology Clinical Practice Performance Examination / DVP-Ex)

No.	Observation		Competency	Performance				Maximum Score		Score
				0	1	2	3	Ordinary Cases*	Difficult Cases	
5.		**Yes**	**Diagnosis and Differential diagnosis (based on anamnesis and clinical data, with or without supporting examination)**	**Incorrect interpretation/ formulation of data and determination of diagnosis and/ differential diagnosis.**	**Correct data interpretation, but incorrect determination of diagnosis and/ differential diagnosis.**	***Demonstrating the formulation of diagnosis and/ differential diagnosis accurately and punctually (ordinary case)**	**Demonstrating the formulation of diagnosis and/ differential diagnosis accurately and punctually (difficult/ emergency case)**	**2**	**3**	
		No								
6.		Yes	Medical Treatment and/ dermato-venereology (DV) Procedure	Medical treatment and DV procedure administered inappropriate to diagnosis.	Partly appropriate medical treatment and/ DV procedure; dosage and method/ choice of treatment are inappropriate.	Appropriate medical treatment and/ DV procedure, not utilising the treatment of choice.	Appropriate medical treatment and/ DV procedure, based on evidence-based guidelines and patient's condition.	3	3	
		No								
7.		Yes	Information and Education (verbal and written)	Providing minimal information and/ education of disease (including supporting examination, medication, and prognosis)	Providing information and/ education of disease accurately	Providing information and education of disease and prevention (of health problems which may arise) as required	Providing information and education of disease, prevention, limitation of results (therapy/medical treatment), referral system. Target achieved.	3	3	
		No								
8.		**Yes**	**Documentation of medical record (anamnesis, physical examination, supporting examination, treatment)**	**Displaying documentation of medical record data not in a lege artis manner, data on dermatology/ venereology lesion is especially incomplete.**	**Documentation of medical record data in a lege artis manner, partially complete**	***Documentation of medical record data in a lege artis manner, complete, accurate, and punctually (ordinary case)**	**Documentation of medical record data in a lege artis manner, complete, accurate, and punctually (difficult case)**	**2**	**3**	
		No								
9.		Yes	Multidisciplinary Consultation (medical referral/ procedure/ counselling/ joint care, according to competence)	Performing consultation based on the patient's request	Performing consultation but insufficiently / not fulfilling the patient's need and clinical condition	Demonstrating consultative ability according to clinical condition and comprehensive care for the patient's safety	Demonstrating consultative ability according to clinical condition and comprehensive care for the patient's safety and provide solution	3	3	
		No								

*Maximum score for ordinary case

Dermatology and Venereology Clinical Practice Performance Examination Instrument
(Dermatology - Venereology Clinical Practice Performance Examination / DVP-Ex)

No.	Observation		Competency	Performance				Maximum Score		Score
				0	1	2	3	Ordinary Cases*	Difficult Cases	
10.		Yes	Transfer of knowledge (towards students – paramedic – colleagues) and/Self Development	Not providing learning opportunity during clinical practice/ not displaying self-development	Providing learning opportunity during clinical practice and up-to-date clinical information	Demonstrating an ability to teach (supervise) and/ up-to-date clinical practice ability	Demonstrating an ability to teach (supervise), provide effective feedback, and/ up-to-date clinical practice based on EBM	3	3	
		No								
11.		Yes	Self-awareness, ethical, and professional behaviour (honest, trustworthy, acting with integrity) during clinical practice	Performing clinical practice and activities outside / beyond their authority	Performing clinical practice below the determined competence	Performing clinical practice in accordance with the determined competence	Demonstrating clinical practice ability in accordance with competence, prioritizing the patient's interest and safety	3	3	
		No								
Total	a							b	c	d

Observation: Yes = 1, No = 0

Scoring	Grade = $\frac{Total\ Score\ (d)}{\Sigma observed\ competence\ (a)\ x\ \Sigma maximum\ score\ of\ observed\ performance\ (b\ or\ c,\ \ depending\ on\ case\ type)}\ x\ 100$ =
Overall Performance	poor/acceptable/good[+]
Feedback	

[+]delete as appropriate

Date of Evaluation: _____

Examiner

( )

Examinee

( )

*Passing Grade = 70