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INSTAND

Report on Online Training
Group 902
Urine Sediment

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Edited by:
INSTAND
Society for Promoting
Quality Assurance
in Medical Laboratories e.V.

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Explanation for the evaluation

In addition to the documents sent to you by mail, you will receive further information on the training here.

Certificate of participation

All training segments are listed on the certificate of participation.

Individual printout of results

Participants could view the solutions immediately after answering each question and could download the entire training with all tasks and solutions as a PDF file after submitting the training.

General overview of results

Tabular summary:

Analysis Urine Sediment (N=29)	
Passing rate [%]	96.6
Mean of percentage points [%]	80.2
Range of percentage points [%]	56.4-90

Diagnosis Urine Sediment (N=27)	
Passing rate [%]	33.3
Mean of percentage points [%]	54.6
Range of percentage points [%]	20-100

Training materials

For this training, images and questions were made available online and as a PDF document. After each task, the individual result and an expert commentary on the answers could be seen.

Solutions and assessment scheme

The tasks were compiled in cooperation with the above-mentioned expert (Dr. Falbo) and the solutions were approved by her.

The tasks are multiple-choice, single-choice and matching tasks. For multiple choice and matching tasks, the participant receives 1 point if all correct answers are selected. If not all answers are correct, the points are calculated by dividing the number of correct answers by the number of possible answers.

Correctly identified wrong answers are counted as correct answers.

At least 60 % of all achievable points are required to receive a certificate of successful participation in the analysis or diagnosis of the cases.

Comment

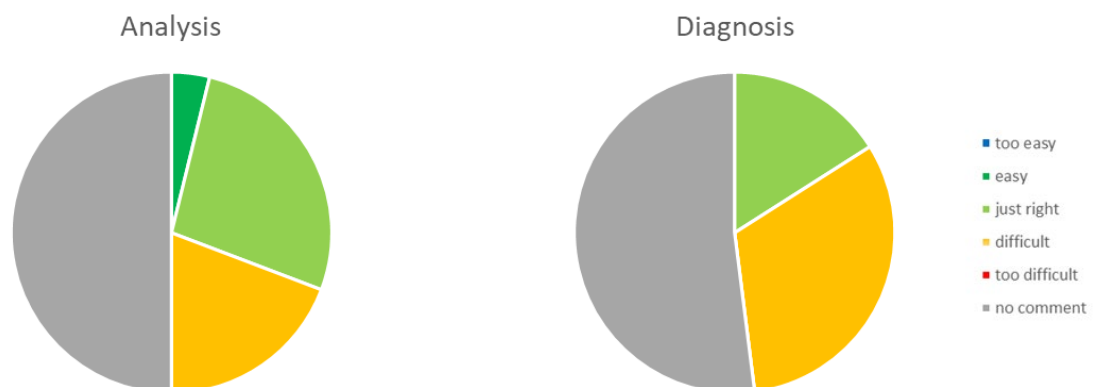
Dear participants,

The current online training course 'Urine Sediment' was again addressed to technicians and laboratory managers.

Thus, the 'Online Training Urine Sediment' is divided into two themes, the analytical part and the diagnostic part. The participants can decide for themselves whether they want to complete only one or both parts. The 'Analysis' and the 'Diagnosis' are evaluated separately.

In this training, the analytical part of the training was completed by 29 participants. 27 participants also answered the diagnostic questions.

About 50 % of the participants gave feedback on the difficulty of the training. Almost 27 % of the feedback for the analytical part of the training was "just right", 19 % "difficult" and 4 % "easy". For the diagnostic part of the training, again 48 % of participants rated the level of difficulty: about 16 % found the questions "just right", 32 % "difficult" and 4 % "too difficult". The pass rate for the analytical section (96.6 %) was again very high, and for the diagnostic section (33.3 %) it was lower than in the previous training.



In the analytical part, the average percentage points achieved for the individual questions ranged from 19 % to 98.1 %.

All 29 participants inaccurately chose "mucus" as one of the correct answers (Card 6: Urine Sediment 3 - further). To clarify, mucus is not a plausible option due to its amorphous nature. Even when in thread form, mucus lacks segmentation, unlike pseudohyphae. Additionally, mucus threads exhibit irregular and ribbonlike characteristics. Furthermore, mucus aggregates do not undergo budding, as observed in the image; these aggregates are characteristic of yeast and form through a process of budding from mother cells.

Many participants stated in the following question (Card 4: Urine Sediment 2 – Discrepancy) that nitrite is not positive for pseudomonas in urine. This was an error on our part because *Pseudomonas aeruginosa* has a limited ability to convert nitrate to nitrite, often resulting in a negative nitrite result. This discrepancy was due to a transcription error in the name of the urine culture result. As a result, we have accepted any answer where at least "leukocyte esterase: negative" was selected as the correct answer.

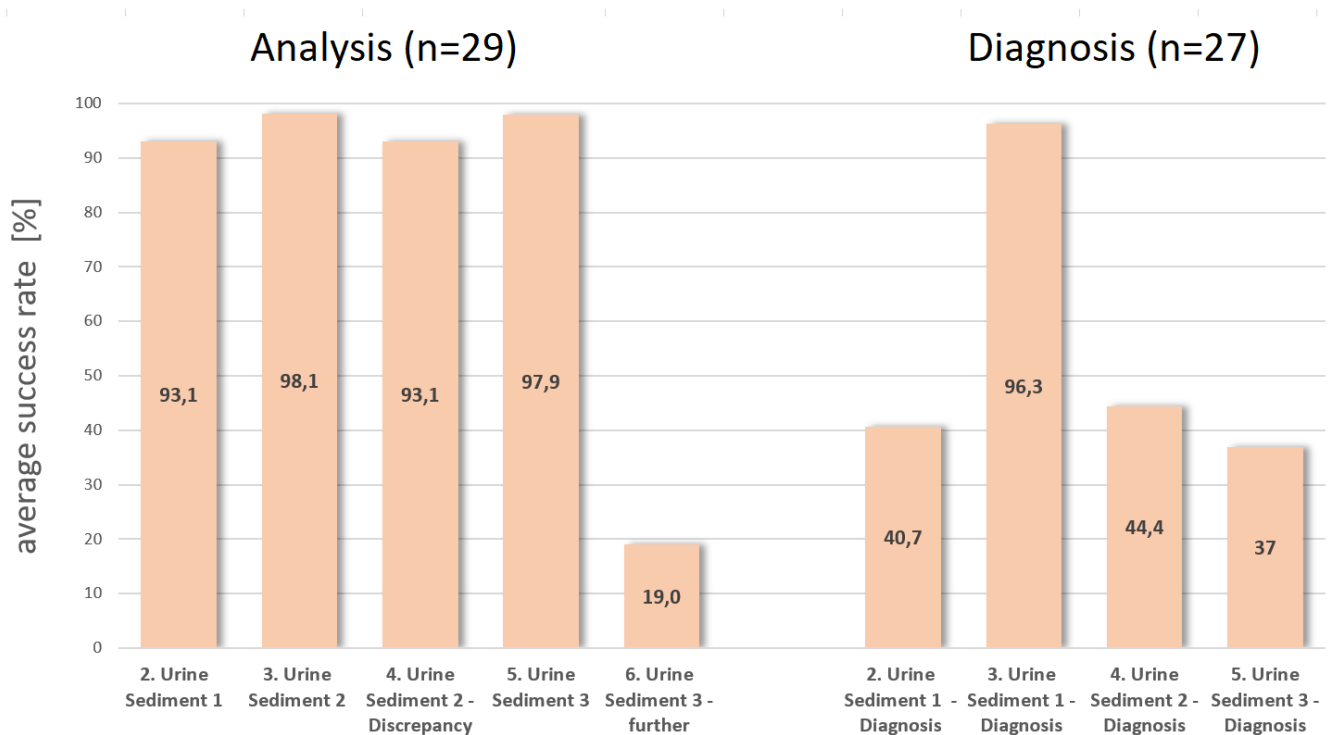
In the diagnostic part of the training, the average percentage points achieved for the individual questions ranged from 37 % to 96.3 %.

A notable number of participants considered "dehydration" to be the correct response (Card 2: Urine Sediment 1 – Diagnosis (MC)). However, the question referred specifically to the urine strip, not the sediment. Dehydration can lead to hyalin casts in the sediment, but it does not explain a false negative result for ketones in the strip analysis. The discrepancy arises from the delay in analysis, impacting ketone results, which is incongruent with glucose concentrations in both urine and serum.

Many participants thought that "recent use of antibiotics" was the correct answer (Card 4: Urine Sediment 2 – Diagnosis (MC)). While recent antibiotic use can indeed lead to false-negative results for leukocyte esterase, it should be considered correct only when coupled with neutropenia. The primary cause for these false negatives was neutropenia. The patient underwent a urine culture first to identify the infection cause, and (although not stated) antibiotic therapy commenced after receiving the urine culture results.

In many cases, "urinary retention" was chosen instead of "diabetes" (Card 5: Urine Sediment 3 – Diagnosis (MC)). To clarify, diabetes, not urinary retention, determines a state of immunosuppression. Patients with diabetes are often prone to infections, including UTIs due to yeast. While urinary retention might contribute, the primary or root cause is diabetes, as elaborated in the training card.

Below you can read the average success rates of the individual subtasks.



We would like to thank all the participants who sent us comments. Your feedback is very valuable for us. We are already looking forward to the next training with you!

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Mailand

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