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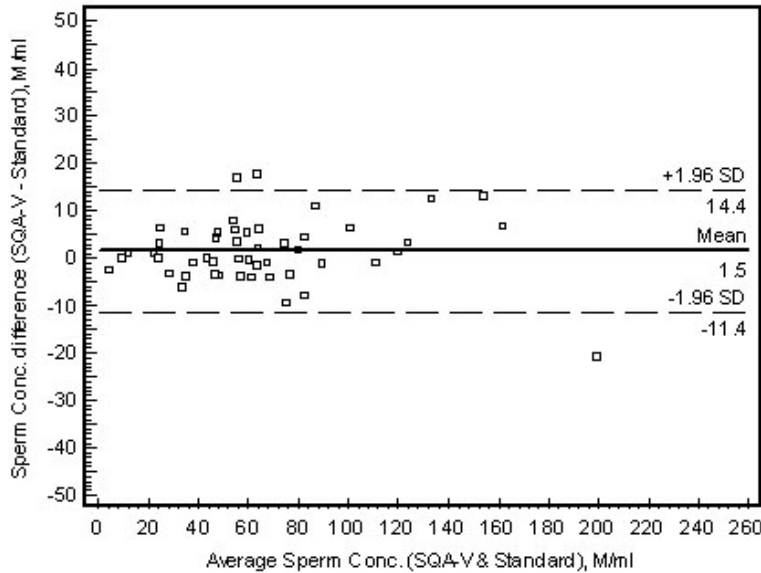
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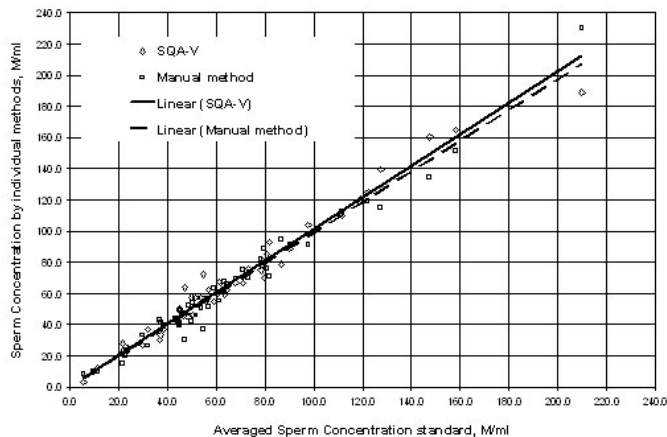
## **EVALUATION OF AUTOMATED SPERM CONCENTRATION ASSESSMENT USING SQA-V SPERM QUALITY ANALYZER**

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**Objective:** Manual assessment of sperm concentration remains one of the most important parameters in the evaluation of male infertility. The method is subject to high variability. New automated methods of semen analysis evaluation are of clinical interest. The objective of this study was to evaluate the sperm concentration measurement by the SQA-V (SQA-V; Medical Electronic Systems, Ltd., Caesarea Industrial Park, Israel) in comparison with the standard values derived from two independent operators. **Design:** Double-blind prospective study **Materials and Methods:** Semen samples of 50 healthy subjects were analyzed manually for sperm concentration by two independent operators using Makler counting chamber and SQA-V. The instrument is based on the principle of electro-optical signal processing in combination with built-in computer algorithms. For standardization, completely liquefied semen samples were analyzed manually and using the analyzer in parallel within 1-2 hours after collection at room temperature. For manual analysis, samples were immobilized at 55<sup>0</sup>C for 5 minutes and the Makler chamber was loaded according to the manufacturer's instructions. For SQA-V comparisons, the disposable capillaries were filled with liquefied semen samples and analyzed according to the user guide and onscreen instructions. The standard "true values" of the sperm concentration were established as an average of the manual results obtained by two independent operators and that of the analyzer. Both manual and automated results were plotted against the standard values using Bland and Altman plots and correlation scatter diagrams. **Results:** The automated analysis took <3 minutes. The mean of the differences between the sperm concentration measured by the SQA-V and the established standard values, was close to zero demonstrating no systematic difference between sperm concentration assessed automatically versus the standard. The majority of the data points were evenly spread within narrow 95% confidence interval. **Figure 1.** Bland and Altman plot of sperm concentration assessed using SQA-V device.



A high correlation was found between the standard values and the sperm concentration measured by the SQA-V ( $r = 0.985$ ) and by the manual method ( $r = 0.986$ ). **Figure 2.** Scatter plot showing correlation between the manual and automated (SQA-V) methods with the standard



values. Conclusion: The sperm concentration readings of the SQA-V automated analyzer are highly correlated with established standard values. No systematic differences are found between automated and standard values of sperm concentration. Both automated and manual sperm concentration assessment can be used interchangeably. The SQA-V analyzer is an objective, rapid and reliable tool for the evaluation of sperm concentration. Support: None

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**In-Training Award** : True

**ACCME Disclosure** : I will not be discussing non-FDA approved products

**I Agree** : True

**Status:** Complete