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Rüdiger, Stefan; Shamim, Golam Kibria; Bür, Kaan

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LUND UNIVERSITY

PO Box 117
221 00 Lund
+46 46-222 00 00

Mobile Communication Technology for the Assessment of Postoperative Pain after Periodontal Surgery

Stefan G. Rüdiger

Specialist Dental Care Centre
Public Dental Service Malmö
Malmö, Sweden

Golam K. Shamim, Kaan Bür

Department of Electrical and Information Technology
Lund University
Lund, Sweden

Aim

Reliability of self-documented pain assessments in outpatients may need to be interpreted with caution. The aim of this study was to develop a more reliable approach using the mobile communication technology.

Material and Methods

11 periodontitis patients (36 to 81 years of age, 7M/4F) were included. Flap surgery was performed as individually required. Post surgery, patients were given a cellular phone equipped with an especially designed short message system (SMS) application for assessments on a visual analogue scale (VAS). After technical instruction, patients were asked to validate postoperative pain hourly on the day of the surgery, twice daily on the following two days and once daily for the rest of the week. VAS values, respective time points and dates were recorded.

Results

The response rate was 88% (median; quartiles 57 to 93%). Patients kept to the schedule by a deviation of 7 min (median; quartiles -39 to 57 min) which was negatively correlated to the response rate ($r = -0.9$; $p < 0.01$). The VAS values given during the hours directly post surgery (median 28; quartiles 10 to 46) were significantly ($p < 0.05$) higher than those given on the following two days (median 8; quartiles 0 to 12) and the rest of the week (median 4; quartiles 0 to 9). Scatter plot of all VAS values over time showed that a peak was reached three hours post surgery.

Conclusion

The results of this study indicate that mobile communication technology can reliably be used in outpatients for the assessment of postoperative pain over time.

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