

ABSTRACT

In a quasi-experiment, 3 groups of subjects (n=20 each): obsessive compulsive disorder (OCD), trichotillomania and healthy controls, rated their subjective psychophysical states via SMS (mobile phone) for 4 weeks, 3 times per day.

Hypothesis: The ambulatory assessment leads to a normalisation in the emotionality of the clinical groups, OCD and trichotillomania.

Results: Mean values of the subjective states: emotional state, activities, physical fitness and mental energy remain different from the controls, but the variability of the ratings daily sent per SMS systematically declined in 4 of the 5 scales over the monitoring period to values resembling the controls. This effect is interpreted as a normalization of the subjective state of both clinical groups.

INTRODUCTION

Ambulatory Assessment (AAS) needs equipment that is easy to use, reliable in functioning and valid for measuring compliance (see Westmeyer, 2007).

The Mobile phone is a useful instrument as an

- input terminal in form of text messages (SMS=short message service)
- a device the subject already possesses and is familiar with (Wölk & Seebeck, 2006; www.psychotherapie-2-0.de)

Using SMS as an AAS was introduced by Bauer, Percevic, Okon, Meermann & Kordy, 2003)

Goals of the study

- testing the usability of the self-developed Ambulatory Assessment System "PSY-MON".
- accumulating ratings about the psychophysical state of the subject in real life via SMS
- obtaining therapeutic effects in clinical populations:
 - Obsessive Compulsive Disorder (OCD)
 - Trichotillomania
 vs. healthy controls

Hypothesis

PSY-MON leads to a normalisation of emotionality, i.e. a higher level of emotional stability resembling non clinic subjects, measured via standard deviation of the subjective states sent per day.

Literature:

- Bauer, S., Percevic, R., Okon, E., Meermann, R. & Kordy, H. (2003a). Use of text messaging in the aftercare of patients with bulimia nervosa. *European Eating Disorders Review*, 11 (3), 279-290.
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- Hautzinger, M. & Bailer, M. (1993). *Allgemeine Depressionsskala (ADS)*. Weinheim: Beltz.
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METHODES

Design:
quasi-experiment

Subjects:
Obsessive compulsive disorder (OCD) (n=20; age M=31.75 SD=7.85; m=6 f=14)
Trichotillomania (n=20; age M=33.25 SD=9.74; m=0 f=20)
Healthy Controls (n=20; age M=29.7 SD=7.04; m=13 f=7)

Procedure:
3 SMS / day (morning, noon, evening) were sent, requesting a short self-report about current psychophysical state. This consists of 5 digits, describing their subjective state, as ratings from 1 to 9. The 5 scales are: emotional state, activities, nervousness, physical fitness and mental energy. The first letters of the 5 scales in German are „Stimmung“, „Aktivitäten“, „Nervosität“, „körperliche Frische“, „geistige Tatkraft“ building the word: "SANFT"="soft" as a reminder for the meaning of the 5 digits. Sending this SMS was reinforced by a proverb. (For a description of the PSY-MON System see Wölk & Seebeck, 2006 and www.psychotherapie-2-0.de).

Dependent Variables:

daily:
3 x 5 PSY-MON ratings (morning, noon and evening)

weekly:
2 questionnaires (contact by phone) :
• "Allgemeine Depressionsskala (ADS)" = german translation of the CES-D (Hautzinger & Bailer, 1993) a scale for measuring depression
• 4 ratings (1...9) addressing the practicability of AAS, the motivation to use it and its helpfulness

pre/post to the 4-weeks AAS:

2 questionnaires (via e-mail):
• "Skalen zum Erleben von Emotionen" (SEE, Behr & Becker, 2004): 7 scales focusing experience and handling of emotions
• Symptom-Check-List by Derogatis (SCL-90-R, German version by Franke, 2002), measuring the amount of psychological distress

Display of the Mobile phone during interaction with the PSY-Mon-System

SMS asking the subject:
"Please enter your momentary psychophysical state using the scales: emotional state, amount of activities, nervousness, physical fitness and mental energy"



Subject has entered his actual psychophysical State, here e.g. "76356"



Receipt-SMS containing a proverb as answer of the server, after the subj. has send his ratings: "It is not that we don't risk anything because it is too difficult, things are difficult because we don't take any risk! (Seneca)"



DISCUSSION

No systematic trend in the mean values of the PSY-MON-ratings. At the beginning the SDs of the 3 ratings per day of the two clinical groups were higher than those of the controls, reaching levels nearly as low as the controls at the end of the study. No reduction in motivation and compliance. AAS leads to more "healthy" psycho-emotional reactions also in the pre/post questionnaires. OCDs show higher psycho-emotional stress, but benefits most from using the AAS. "Is it a learning process that leads to more accurate perception of the inner psychophysical state?"

CONCLUSION

The mobile phone SMS-based AAS:

- is very practicable in application
- has an educational/therapeutic effect
- opens many possibilities for research

Psychotherapy 2.0 will use technical aids to be more efficient and economical (Wölk, 2007 & Wölk et.al., 2009).

RESULTS

PSY-MON-ratings

Standard deviation of the 3 SMS sent by each subject per scale each day.

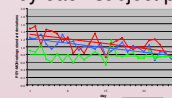


Fig. 1a PSY-Mon-dimension „emotional state“, standard deviation of the 3 ratings per subject and day, mean values per day, separated in groups, trendlines added, arbitrary units (n=20 per group)

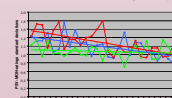


Fig. 1b PSY-Mon-dimension „amount of activities“, details as Fig. 1a

MANOVA: values for the standard deviations blocked per week: factor week* and factor group*

Weekly:

rating scale: "How was your motivation using the system the past 7 days?" only between week 1 and week 2 a significant** drop.

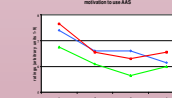


Fig. 2a Mean values for groups, high values stand for more motivation (n=20 each group)

Rating scale: "How helpful did you experience the system during the last week?" MANOVA: factor time* increase over time using the system, most pronounced for all groups after one week.

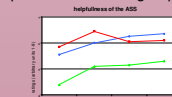


Fig. 2b Mean values for groups, high values stand for "more helpful" (n=20 each group)

Pre /post questionnaires

questionnaire "experience and handling of emotions" (SEE) MANOVA: factor group* and time of measurement (pre and post)*.

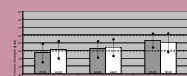


Fig. 3a SEE-Scale: "acceptance of the own emotionality" higher values stand for a more positive perspective of emotionality (n=20 per group)

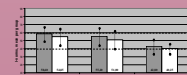


Fig. 3b SEE-Scale: "Experiencing of being flooded by emotions": drop Trichotillomania ** OCD + Controls [] lower values stand for a more positive handling of strong emotions (n=20 each)

SCL-90-R Global Severity Index (GSI): OCD show a significant drop in the actual psychological burden 64,75 to 60,49). Factor group **.

Discussion and Conclusion see box in the upper part of this column