Video Conferencing in Foot and Leg Chronic Ulcers (LEU) Treatment: Prospective Historical Cohort Study

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Aim of the Study

To compare the videoconferencing based interventions to the usual face-to-face treatment of foot and leg ulcers

Background

- Prevalence of foot and leg ulcers in developed countries assumed to be 1.2%÷3.2% and is growing.
- Humans live longer; more medical care resources shall be needed.
- Number of medical specialists per capita may be insufficient for proper treatment coverage country-wide.
- Video conferencing technologies may facilitate medical care in remote areas.

Results

Table 1. Patients characteristics.

	Sample Data	TM n [%]	FTF n [%]	Total	P Value	OR Value	95% CI
Sample	Number of Patients	55 (49.5)	56 (50.5)	111			
Gender	F	18 (32.7)	25 (44.6)	43	0.244	0.603	0.279-1.304
	M	37 (67.3)	31 (55.4)	68			
Age Group	<60	16 (29.1)	23 (41.1)	39	0.162	0.538	0.242-1.194
	>60	39 (70.9)	33 (58.9)	72			
Interventions	Q-ty of Visits	227 (38.3)	366 (61.7)	593			
	Mean Value of Visits ± SD	4.36 ± 2.360	6.32 ± 4.170		0.003	Mean Diff. 1.958	Mean Diff. 0.683-3.233
Ulcer Type	DM (diabetic ulcerations)	29 (52.7)	20 (35.7)	49	0.087	2.008	0.938-4.297
	NonDM (other ulcerations)	26 (47.3)	36.(64.3)	62			
Outcomes	POS (positive outcomes)	43 (78.2)	42 (75.0)	85	0.823	1.194	0.495-2.878
	NEG (negative outcomes)	12 (21.8)	14 (25.0)	26			
Treatment Duration	Average [days]	74.05 ± 46.606	96.41 ± 73.148		0.058		
	Total [days]	3076 (42.8)	4105 (57.2)	7181			

Treatment duration implies positive outcomes: complete healing or more than 50% of tissue granulation.

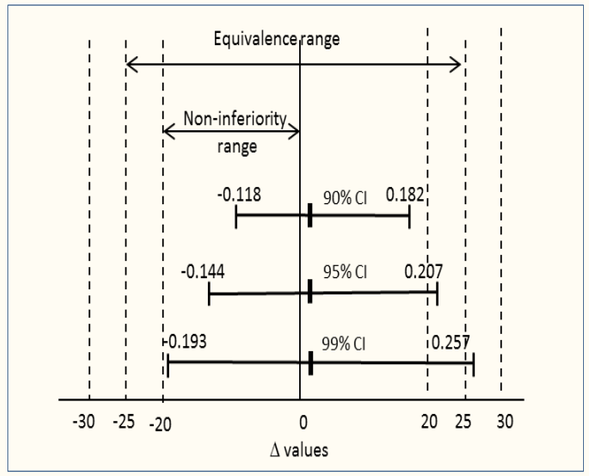


Fig 2. Non-inferiority of TM vs. FTF with 90 to 99% CI ranges

Method

- The study performed at Maccabi Health Care outpatient clinics of the Northern District during the 1.1.2015 – 31.21.2015 period.
- Patient assisted by nurse setting used at all sessions.
- Analysis performed using SPSS for Windows, Version 22.0. Armonk, NY: IBM Corp. and WINPEPI version 11.63.
- Literature review of TM studies performed for the 1993-2016 period.
- High capacity telecommunications and High Definition video conferencing infrastructures incorporated.

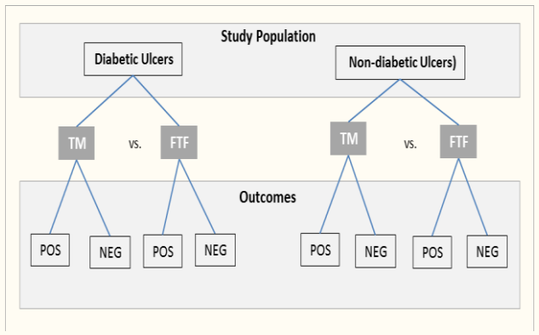


Fig. 1 Study Flow-Chart. Abbreviations: TM – Telemedicine, FTF– Face-to-Face, POS – positive or NEG – negative outcomes.

Limitations

- Generalization of results – potential regional differences.
- Potential observer bias – single medical specialist for both modalities.
- No randomization – possible bias due to rejected records.

Conclusions

- No significant differences between compared modalities were found.
- The study demonstrated TM non-inferiority within 15% difference in outcome effect.
- Lower number of visits in TM modality was demonstrated.
- Video conferencing may be a valuable TM tool for foot and leg ulcers treatment.

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