



Oral hygiene and health among hemodialysis patients

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Dental and oral cavity diseases are common problem among patients with chronic kidney disease (CKD).

CKD leads to the fast progress of caries and periodontal diseases.

Oral health is also deteriorated by inadequate hygiene.

The consequence is dysfunction of the chewing apparatus and improper nutrition, which impairs the quality of life and leads to malnutrition.

In addition, The World Health Organization points to the correlation between obesity and periodontal disease.

Oral status is also important in the transplant qualification process.



Patients who require dialysis are predisposed to dental problem such as:

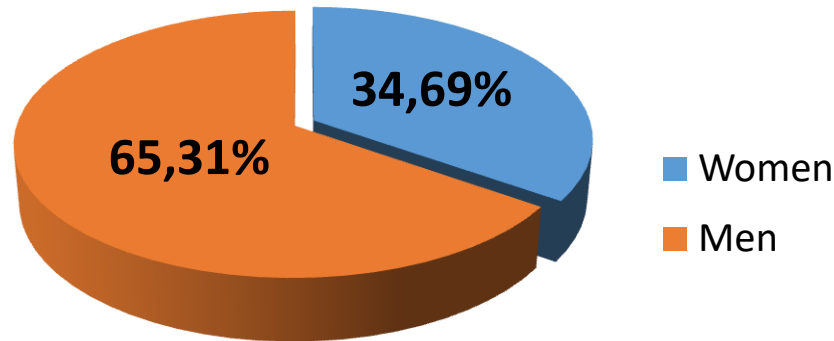
- Peridontal disease,
- Gingivitis,
- Tooth abnormalities,
- Premature tooth loss,
- Xerostomia.

- The assessment of behaviors related to oral hygiene for hemodialysed patients and clinical evaluation of their oral health.



- 49 hemodialysis patients from Bielsko-Biała were examined by a dentist.
- The oral examination occurred in the dialysis unit on the day of dialysis.
- We performed oral examination in the dialysis room using a light-emitting diode (LED) headlamp and standard sterile oral examination kit.

- The research material was also collected by means of a 16-items author's questionnaire and blood tests results.
- Study was approved by the Research Ethics Committee.
- Participation was voluntary and anonymous – consent signed.



- The mean age of the respondents: 59.76 ± 14.37 years (range 31-83 years).
- The mean duration of participants requiring haemodialysis: 50.45 ± 59.04 months (range 1-274 months).
The mean Kt/V: 1.21 ± 0.21
- The mean BMI: 26.98 ± 6.89 kg/m²

		Women	Men	All
Frequency of dental office visits	Once every six months	35.30%	18.75%	24.49%
	Once a year	41.17%	40.62%	40.82%
	Once every 2 years	5.88%	9.38%	8.16%
	Less frequently	17.65%	31.25%	26.53%
Frequency of toothbrush replacement	Once every three months	52,94%	43,75%	46,94%
	Once every six months	29,41%	28,13%	28,57%
	Less frequently	11,77%	21,87%	18,37%
	More frequently	5,8%	6,25%	6,12%
Frequency of brushing	No brushing	-	12,50%	8,16%
	Once a day	23,53%	28,13%	26,53%
	Twice a day	70,59%	53,12%	59,19%
	After each meal	5,88%	6,25%	6,12%
Forgetting about brushing	Yes	47,06%	56,25%	53,06%
	No	52,94%	43,75%	46,94%
Other hygiene treatments (flossing, rinsing...)	Yes	29,41%	28,13%	28,57%
	No	70,59%	71,87%	71,43%
Movable dentures	Yes	52,94%	46,88%	48,98%
	No	47,06%	53,12%	51,02%

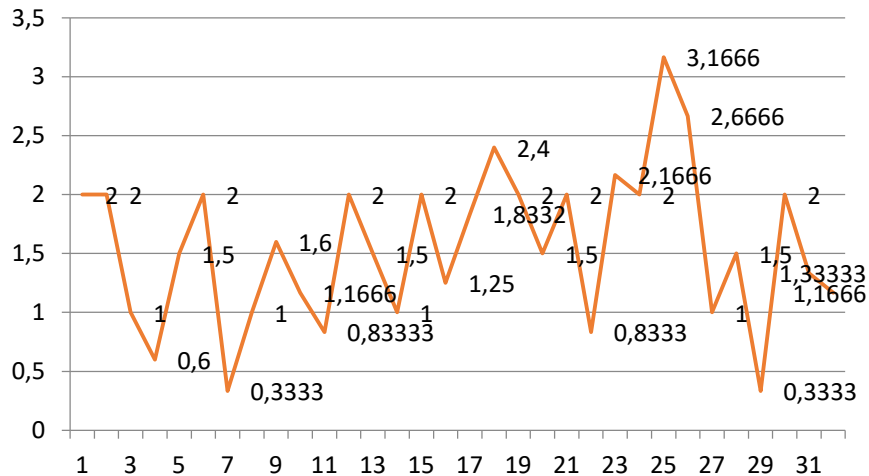
Type of toothbrush	N	%
Manual, soft	8	16,33
Manual, medium	23	46,94
Manual, hard	7	14,28
Manual but it doesn't matter what is it's hardness	9	18,37
Electrical	2	4,08
Total	49	100

- 75,51% of patients reported a problems with oral health, which in most cases (81,63%) appeared with dialysis.
- Contrary to the assumptions only 18,37% of patients reported bleeding gums during brushing teeth.

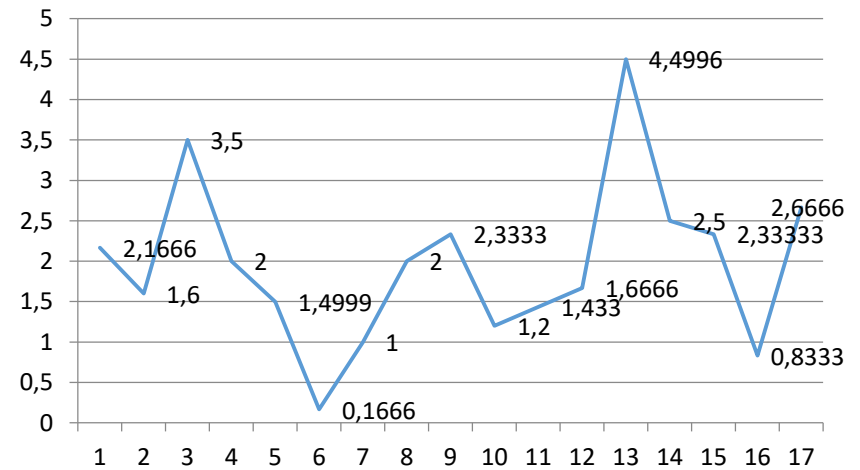


Dental examination

- Insufficient oral hygiene (Oral Hygiene Index – OHI) was found in 24,49% of patients.



Women



Men

- OHI:

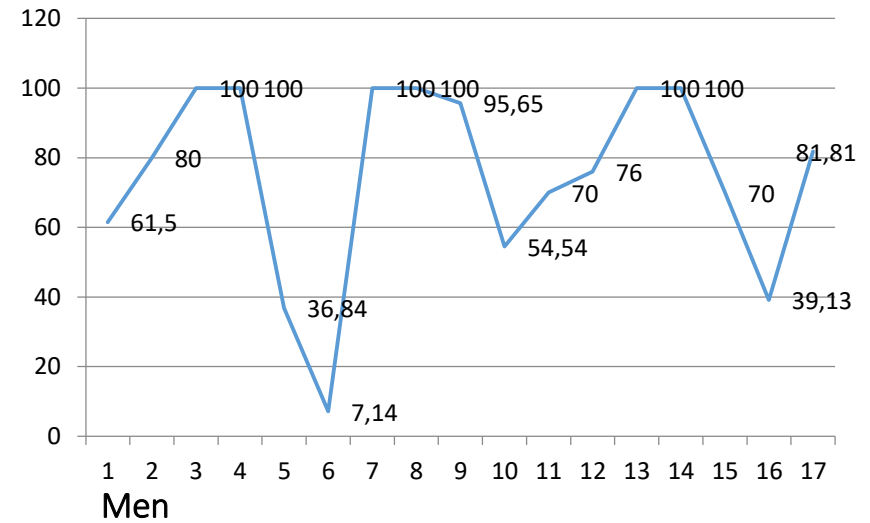
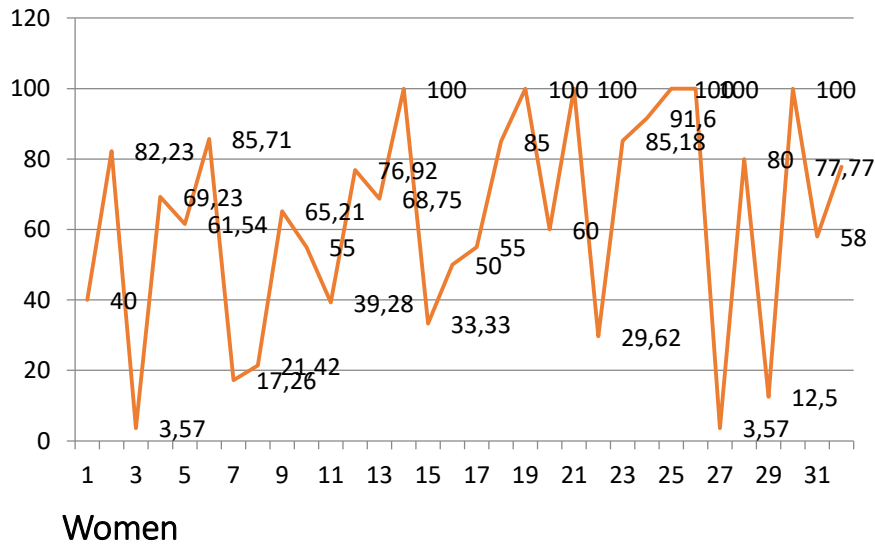
0 < 1 – Good oral hygiene

1.1 < 2.0 – Sufficient oral hygiene

2.1 < 3.0 – Bad oral hygiene

Dental examination

- Approximal Plaque Index (API) indicated the average hygiene of interdental spaces and need improvement (68,27%).



- API:

70-100% - Bad oral hygiene

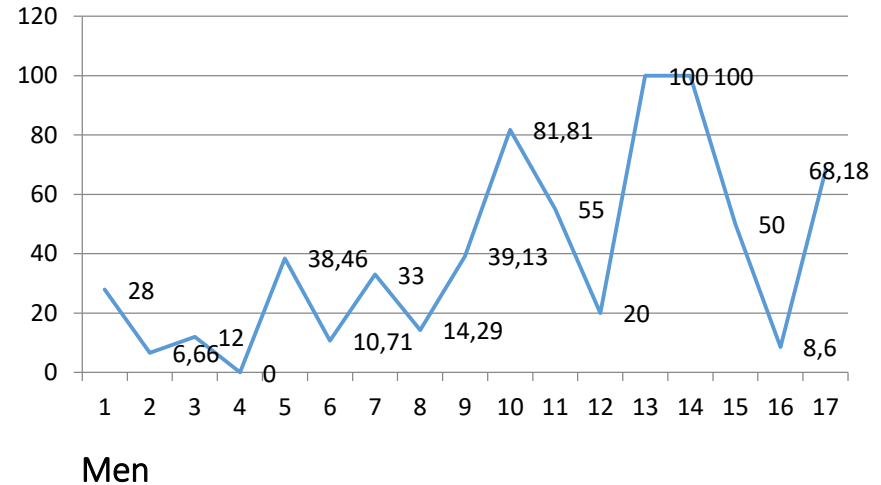
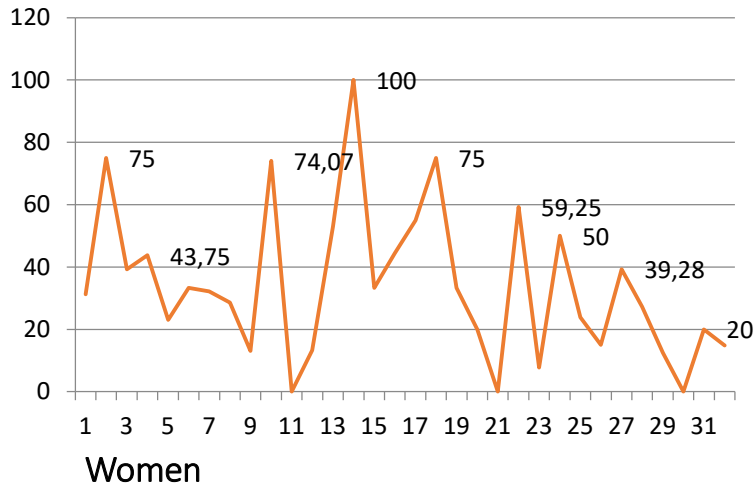
40-69% - Sufficient oral hygiene

25-39% - Good oral hygiene

< 25% - Optimal oral hygiene

Dental examination

■ Sulcus Bleeding Index (SBI) – 36,22%.



■ SBI:

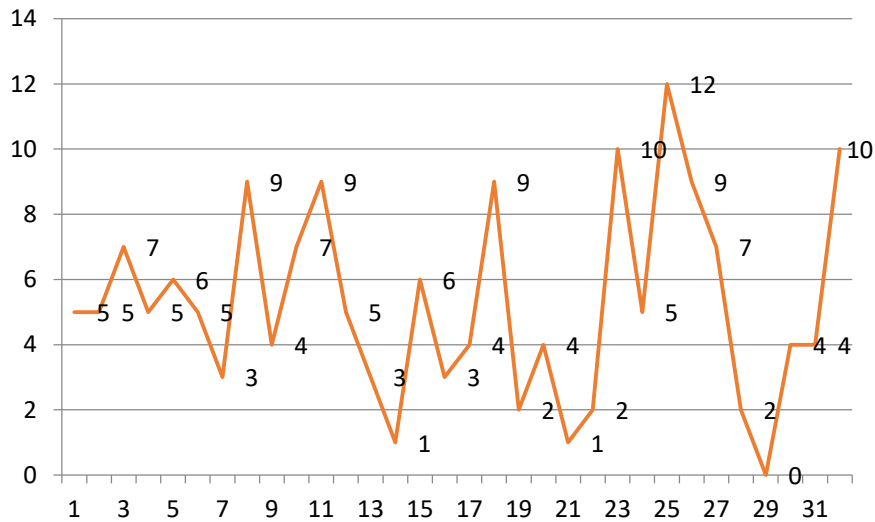
50-100% - Generalized heavy bleeding

30-49% - Generalized moderate bleeding

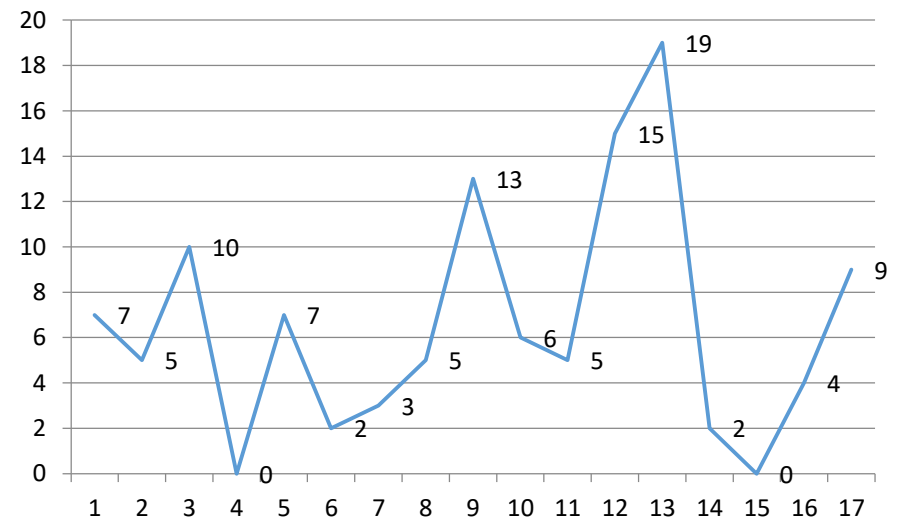
10-29% - Localized mild bleeding

<10% - Clinically healthy gums

Dental examination



Women

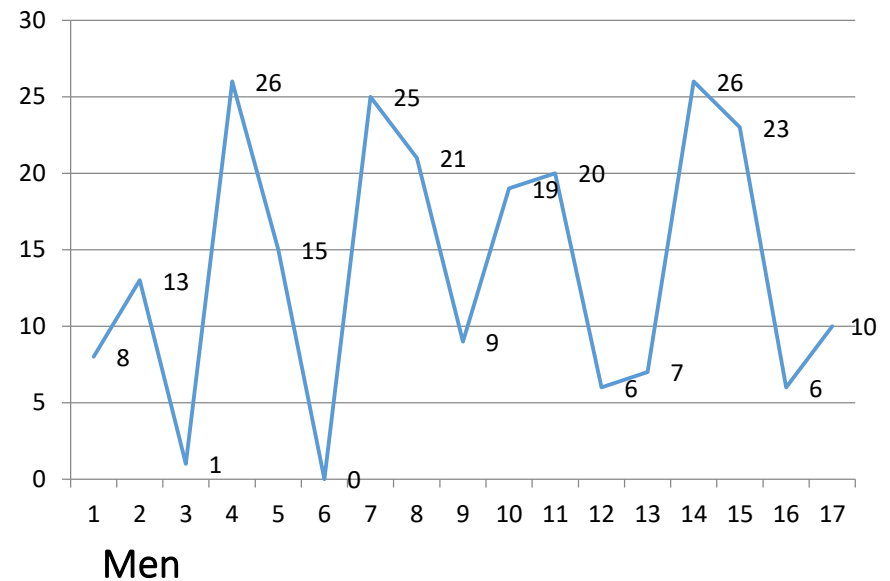
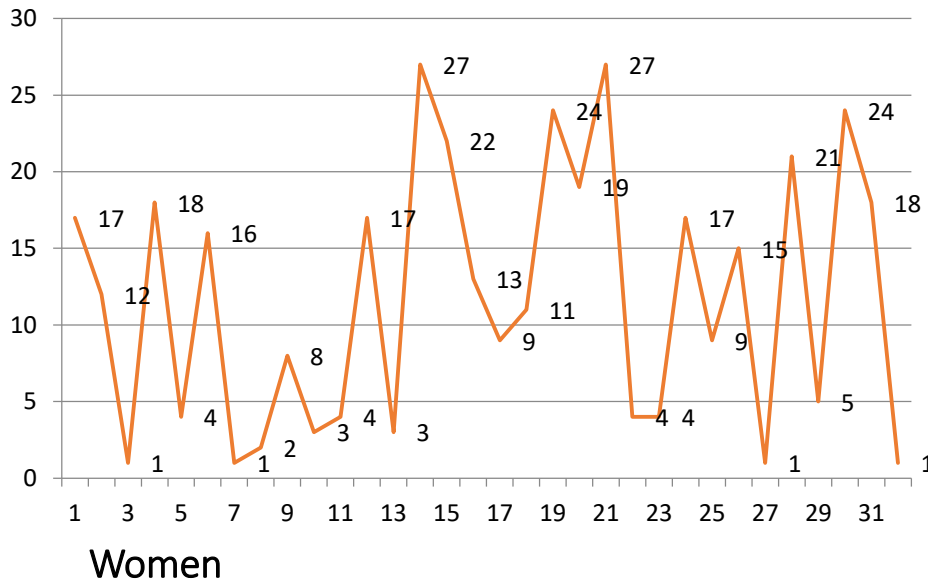


Men

The mean amount teeth with caries: 5.7 ± 3.9

Dental examination

- The mean amount removed teeth: 12.5 ± 8.5
- More than 10 teeth were removed due to caries over a half of patients.



- Oral health is getting worse with the start of renal replacement therapy.
- Most patient with inadequate oral hygiene and problems in oral health indicates the need for the education.
- Larger studies are required.



Thank You!