

# Bone mineral density (BMD) in women with Turner syndrome (TS) from the DSD-LIFE cohort, an epidemiological study **T8**

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## Aim

- Determine BMD in adult TS from DSD life from paediatric cohort,
- Analyze various factors related to the trabecular (lumbar spine = LS) and cortical bone (femoral neck = FN) mineralization

## Materials and Methods

Cross-sectional clinical outcome study  
BMD of the LS and FN expressed in g/cm<sup>2</sup>; in women's T scores.  
Osteoporosis if T score < -2.5 and Osteopenia between -1 and -2.5 T score

## Results

113 patients with TS  
Germany n: 34, Netherlands n:41, Poland n:3 France n:39  
8.3% patients had History of fracture  
10.9% of the cohort presented osteoporosis

## Means

Age: 30.15 ± 11.1 yrs.  
Height: 152.4 ± 6.9 cm,  
Gynaecological Age: 14.7 ± 10 yrs  
Weight: 59.1 ± 13.6 kg  
BMI: 25.5 ± 5.6 kg/m<sup>2</sup>

## The median for BMD

FN: 0.84g/cm<sup>2</sup> (IQR 0.75 ; 0.92 g/cm<sup>2</sup>) -T score: -0.7 SD (IQR -1.5 ; -0.2 SD)

LS: 1.0 g/cm<sup>2</sup> (IQR 0.93 ; 1.09g/cm<sup>2</sup>) - T score: -0.6 SD (IQR -1.4 ; -0.1 SD)

*Comparison tests of means versus theoretical average = 0 (Student's t-tests): the average of the score differs significantly from 0 (p < 0.001)*

## No Difference between

### Karyotype

Monosomy, n:58  
No Monosomy, n:59

### Puberty

Spontaneous, n: 26  
Induction, n:55

### Declared treatment

contraceptive pill, n:48  
HRT, n: 50

### Physical Activity

Sedentary, n:20  
Intermedary, n:36  
Sporty, n:30

## BMD with Age

Lumbar Spine

Femoral Neck

$r = -0.2181, p = 0.0450$

## Stratification on Age

FN

$p = 0.0004$

n: 84 < 40yrs > n:22

## Stratification on Height



n: 36 < 150 cm > n: 67

**Conclusion** The data of this study report a positive efficiency of estrogenic substitution on bone in TS adult and highlights the need to encourage hormonal treatment compliance for those patients

Ref Quality of health care in adolescents and adults with disorders/differences of sex development (DSD) in six European countries (dsd-LIFE). Thyen U, Ittermann T, & al Koehler B; dsd-LIFE group. BMC Health Serv Res. 2018 Jul 5;18(1):527.