583

Fuse Y[1], Fukui T[2]

1. *Tokyo-kita social insurance Hospital, Rehabilitation, Tokyo, Japan,* ***2.*** *Bunkyo Gakuin University, Sports Management Laboratory, Tokyo, Japan*

STUDY OF PELVIC FLOOR MUSCLES IN DIFFERENT SITTING-POSITIONS

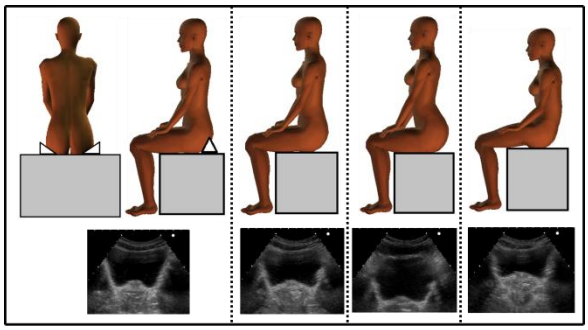
Hypothesis / aims of study

Those who have PFM (Pelvic Floor Muscles) dysfunction don't consciously feel the difficulty of the expansion and contraction of their muscles. It is also hard for physical therapists to evaluate the condition of PFM muscle tone. In a clinical trial, we considered that the position of the pelvis could change the function of PFM. The purpose of this study was to quantify the PFM tone and tension when the pelvis is titled at different angle whilst sitting.

Study design, materials and methods

Nine male and eleven female subjects（31.0±6.3years old, BMI=22.0±4.1）participated in this research. Ultrasonography (Hitachi-medico EUB-8500) was operated by one experienced operator. Subjects were asked to endure not urinating, to hold sufficient volume of urine in the bladder for one hour before the measurement was executed. The bladder base was measured by using ultrasonography while maintaining the sitting position. The four kinds of sitting positions which had previously been selected were as follows; A) controlled neutral position B) neutral position (subjects keep their position voluntarily) C) anterior tilted position D) posterior tilted position (Fig.1).

The probe was located at the upper parts of the pubic symphysis (Whittaker, 2004) [(1)]. The heights of the bladder bases were measured in 0.1mm increments (Fig.2). The differences of each sitting position were statistically analyzed (Bonferroni and followed by ANOVA SPSS ver18).



A B C D

Fig.1

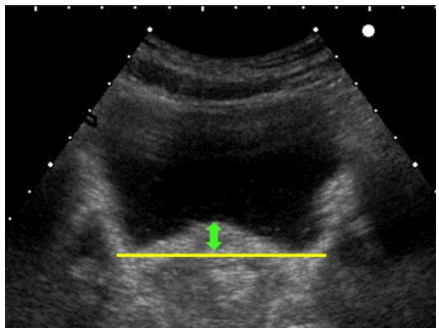
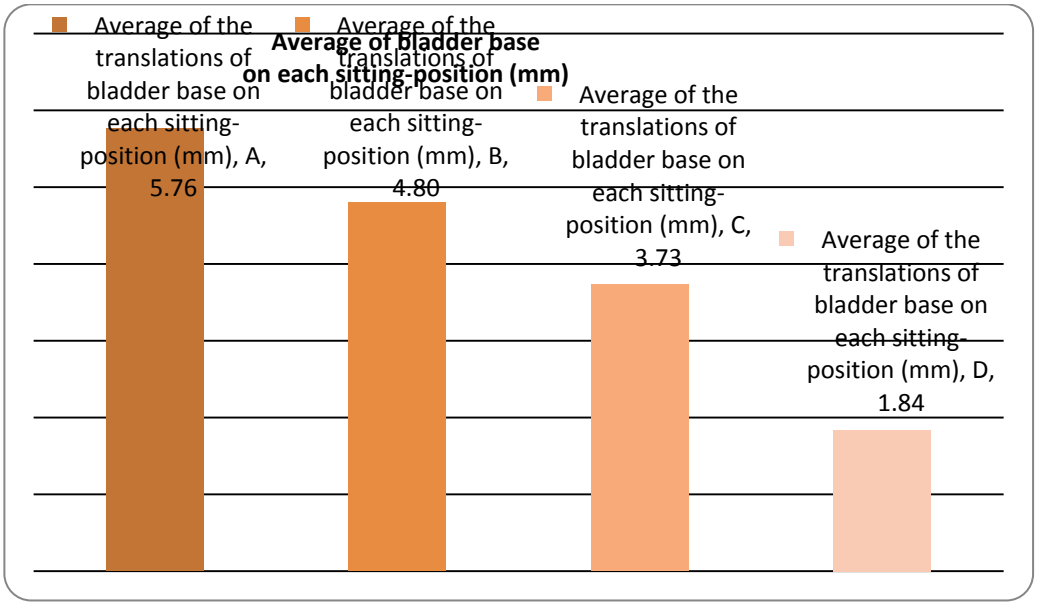


Fig.2 Height measurement

Results

1. The height of bladder base A was statistically greater than that of C, D
   (C: $p<0.05$, D: $p<0.0001$).
2. The height of bladder base B was statistically greater than that of D ($p<0.001$).
3. The height between A and B, B and C, C and D didn't have any statistical differences (A and B: $p=1.00$, B and C: $p=0.94$, C and D: $p=0.09$). (Table1)

Table1



Interpretation of results

This study showed that the PFM was encouraged by a neutral position (A, B), and the PFM had similar tendency between A and B.

Concluding message

Intervention of pelvic tilt to facilitate PFM could be attained by increased intra-abdominal pressure by sitting in position A or B. Therefore the condition of patients with PFM dysfunction could be improved by the appropriate pelvic tilting position.

References

1. Whittaker J L. Abdominal Ultrasound Imaging of Pelvic Floor Muscle Function in Individuals with Low Back Pain. The Journal of Manual and Manipulative Therapy 2004; 12(1):44-49.

Specify source of funding or grant	**None**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**This study was approved by Ethics Committee of Tokyo-kita social insurance Hospital.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**