

The Development of TOPURAK (TOtok-PUKul-geRAK) Manipulation Model for Knee Joint Reposition.

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ABSTRACT

Introduction: This study aims to develop the manipulation model of "Topurak" (Totok, Pukul, Gerak) for the repositioning of knee joints. In 2016 Topurak manipulation model has been developed for upper body, and the most effective results occurred on shoulder and neck reposition, with the effectiveness value of 96.7% and 82.3%, respectively. The duration of manipulation for each joint were approximately 4 minutes (average 3'49 "). Topurak manipulation model was developed for the repositioning of the knee joints in 2017, due to high prevalent injuries at those joints in the community.

Methods: Research and Development Methods were used in this study with the initial stages: Development of Draft Model Manipulation Topurak generated from literature review, especially about pressure manipulation (emphasis on trigger point), beating, and motion of joint repositioning, integrated with the results of field studies. The draft model has been developed consisting of 12 stimulation points on the limb with supine position, and 6 points in the facial position, followed by beatings using hand grip on the entire surface of the leg and followed by 15 movements. The draft model was then validated by expert manipulative therapy and exercise therapy through Focus Group Discussion (FGD). The input from the experts becomes the revision material, which will then be tested on a small group (8 people) to see the feasibility of the Model. Feasibility will be seen from the ease, duration, safety, comfort, and effectiveness in healing both subjectively and objectively.

Results: After the revision taking into account the results of small group testing, the Draft model only consisted of 7 movements that were most instrumental for repositioning especially for ligaments and tendons in the knee, while for accupoint and tapotement were appropriately targeted so that there was no change. Furthermore, a large group trial (20 people), which is also used to determine the effectiveness of the model in curing knee injury. Range of Motion (ROM) knee joint data, level of pain scale and scale of function taken before and after manipulation, to determine the effectiveness level of manipulation. Different test from mean of pre test and post test and its significance is used to show the level of effectiveness of Topurak manipulation. Different test results in large groups showed that flexion increased by 57.1 degrees, extension increased by 39.1 degrees. The pain scale decreased by 6.15 points, and the ability to walk increased by 4 points. The ability to sit then stand increased by 4 points, and the ability to climb the stairs increased by 4.35 points, which all were significant ($p=0.00$).

Conclusions: The final product was defined as Topurak manipulation model for knee joint repositioning consisting of 18 points of stimulation, tapotement throughout the lower limb surface, and 7 repositioning movements, with a duration of 8 min.

Kata Kunci: *manipulation therapy, knee joint reposition*