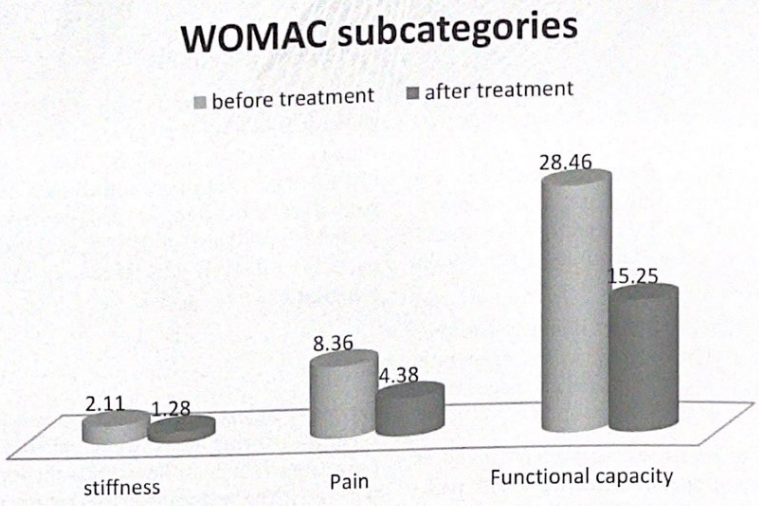

Figure 2. *WOMAC subcategories before and after PRP treatment*

Results

50 patients were evaluated in this study, including 38 women (76%) and 12 men (24%). The mean age of participants was 56.90 ± 8.8 years and the female: male ratio was 3:1.

The mean total WOMAC before treatment was 39.12 ± 16.25 and 21.05 ± 14.73 after treatment which experienced meaningful change ($p = 0.001$). The changes in all WOMAC subcategories (stiffness, painand functional capacity) were meaningful as demonstrated in Figure 2 ($p = 0.001$).

Discusion

There are a lot of studies about the effects of PRP on knee OA. (5, 6) In these studies, patients' symptoms and their functions have been improved significantly after the usual 3 courses of injections with 2-3-4 week intervals. (7) Many authors confirmed that platelet growth factors are effective in the cartilage healing process and chondrocyte stimulation. (1, 8)

Our results were similar to the study of Wang-Saegusa et al. They evaluated the effects of plasma-rich growth factor (PRGF) on function and quality of life in patients with knee OA. In their study, the mean changes of WOMAC and related parameters were meaningful. (9)

Filardo et al. reported that 3 injections of intra-articular PRP in 90 patients with chronic knee OA revealed improvement in Internatioal Knee DocumentaionComitee (IKDC) and EQ-VAS scores at the 2-year follow-up and that it had discernible positive effects especially on younger patients with early osteoarthritis. (10)

Napolitano et al. also reported improved outcome by reviewing 27 patients with numerical rating scale (NRS) and WOMAC scores for 6 months. This study also evaluated the clinical results before and after PRP treatment. (11)

Kon et al. reported that intra-articular PRP injection in 100 patients with chronic degenerative condition of the knee had positive effects on improving pain and quality of life and on the scores of IKDC and EQ-VAS at the 1-year follow-up. (12)

Jang SJ et al. analyzed 65 patients suffering from OA that were treated with intra-articular PRP injection. The patients were prospectively evaluated at 1, 3, 6, 9, and 12 months after the procedure using a visual analogue scale (VAS) score and an International Knee Documentation Committee (IKDC) score. They conclude that intra-articular PRP injection can be used for the treatment of early OA. In their opinion increasing age and developing degeneration result in a decreased potential of the patients treated with PRP injections. (13)

Spakova et al. reported a comparison study of PRP vs. hyaluronic acid in Kellgren-Lawrence grade 1, 2, or 3 osteoarthritis patients with better result in PRP group. The authors concluded that their preliminary findings supported the application of autologous PRP as an effective and safe method in the treatment of the initial stages of knee osteoarthritis. (14)

Conclusions

Our study showed that intra-articular knee injection of PRP can decrease joint pain and stiffness and improve functional limitations of the patients with gonarthrosis and at the same time it can increase their quality of life.