



MANAGEMENT OF MULTIPLE SCLEROSIS: APITHERAPY
بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

IN THE NAME OF GOD

The Effect of Bee Venom on Rheumatoid Arthritis Patients

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The Effect of Bee Venom on Rheumatoid Arthritis Patients

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The Effect of Bee Venom on Rheumatoid Arthritis Patients



Welcome to
my Seminar

What Apiacupuncture can do for arthritis?



Apitherapy



Many people with MS use bee venom instead of drugs

- One of the major peptides in bee venom, called Melittin, is used to treat inflammation in sufferers of Rheumatoid Arthritis and Multiple Sclerosis.
 - Melittin blocks the expression of inflammatory genes, thus reducing swelling and pain.
 - It is administered by direct insect sting, or intramuscular injections.

What type of conditions is Bee venom used to treat?

- Bee venom simulates the release of cortisone (cortisol)
- It is effective in the treatment of rheumatic diseases, especially arthritis and multiple sclerosis (MS).
- It can be applied directly or by intradermal injections.

What type of conditions is Bee venom used to treat?

- ointment - Apireven –
- liniment
- both have been used successfully in several cases of rheumatoid polyarthritis.

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- The results have shown an important reduction in muscular pain, sciatic pain, nerve pain, neuromialgias and intercostal and bronchial nerve pain.

Applying the venom topically can provide

- a long-lasting effect
- and can offer significant benefits in arthritic and rheumatic conditions.

Bee venom causes

- local pain,
- redness,
- swelling in people who are not allergic.



Allergic reactions

- Happen on the second (or later) sting
- Antibodies to venom over-react and produce chemicals (like histamines) that can damage neighboring cells.
- Severe allergies can lead to anaphylactic shock,
- a potentially deadly swelling of the airways and other tissues.
- If you've been allergic once, you've got a 60% chance of being even more allergic next time.

- **Bees leave their stinger and venom sac implanted in their victim**
-





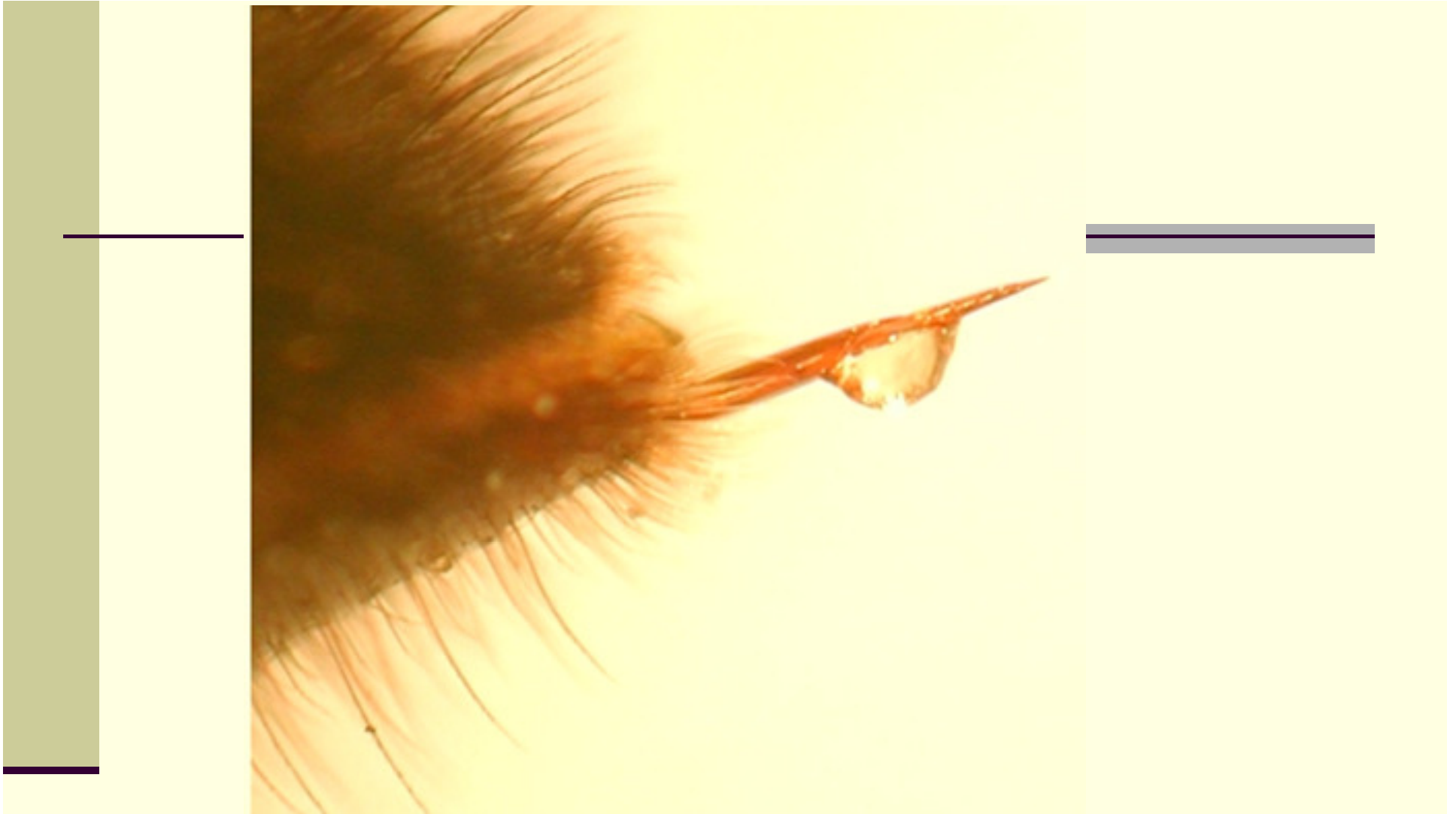
Honeybee
stings, then
leaves





Alarm pheromones evaporate from stings, attracting other bees to the victim

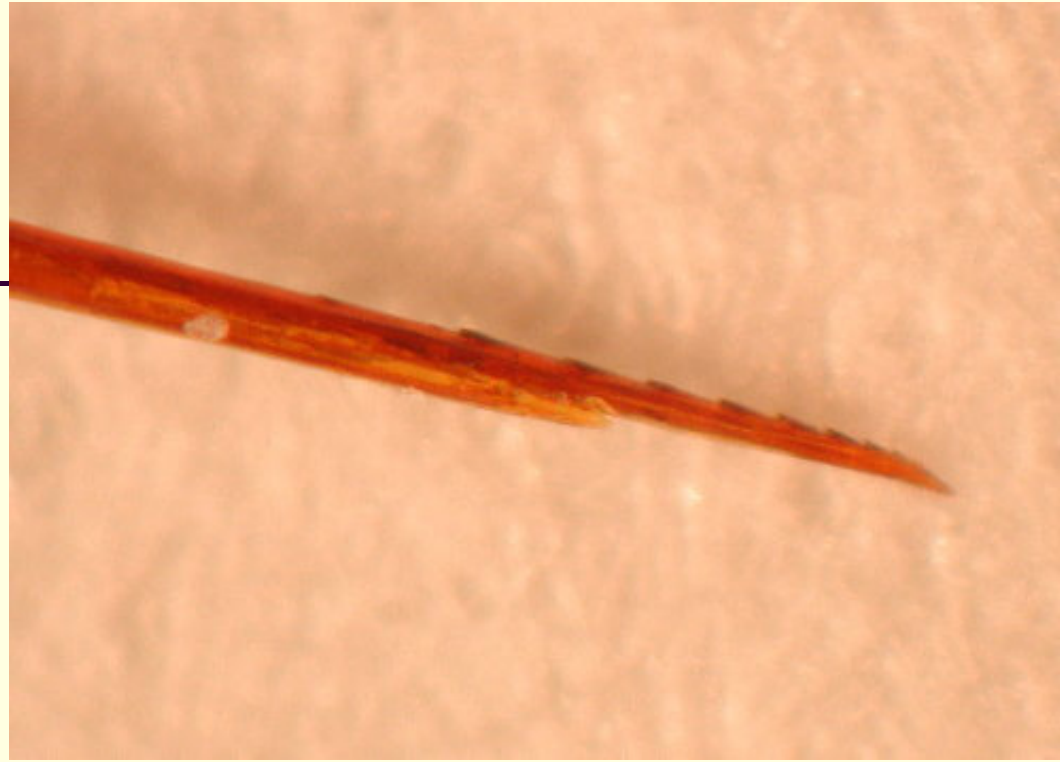
Lewis,FS, Smith, LJ. What's eating you? Bees, part 1. *Cutis* 2007;79:439-44



The exuded sting with a small drop of venom on it



The sting and its poison gland attached



Close-up of the sting showing the barbs, which allows the sting to anchor inside the victim's flesh, much like the barb on a fishing hook.



- A worker bee trying to get away after stinging.
- The sting has barbs preventing the sting to be pulled out, part of her digestive system is seen dragging behind her



- **Two minutes after being stung.**
- **The sting is removed to show the site of sting entry**



- **The site of a sting injury after 24 hours.**
- **Light red and swelling is seen, a small scar tissue is forming at the site of sting entry.**



Urticaria (hives) on a person, who is having a systematic reaction to a bee sting.

This can be a prelude to an anaphylactic response, which can be fatal if not treated immediately.

VENOM Composition

- a mixture of proteins & peptides
 - melittin 50% dry wt
 - phospholipase A 12% dry wt
 - hyaluronidase <3% dry wt.
 - acid phosphatase <1% dry wt.
 - histamine <1% dry wt.

VENOM

■ Melittin

- lysis of blood & mast cells
- release of histamine & serotonin from mast cells
- depression of blood pressure & respiration.

■ Phospholipase A

- cell lysis
- pain
- toxicity
- synergistic with melittin

VENOM

- **Hyaluronidase**

- hydrolyzes connective tissue
- the spreading factor

- **Histamine**

- itching & pain

- **Acid phosphatase**

- involved in allergic reaction

Bee Venom:



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- Applications in the field of medicine
 - Basic protein research using venom

Purpose

- Provider education on the use of Acupuncture as a complementary alternative therapy in arthritic conditions.





- The aim of this study is to evaluate the efficacy of bee venom acupuncture as alternative medicine therapy for the long term treatment of rheumatoid arthritis (RA).

Materials & Methods

Materials and Methods

- This study is a randomized, controlled clinical trial with two parallel arms.
- The study intend to compare the effects of BV by bee sting and with pharmacotherapy only in patients with RA.

Materials and Methods

- Forty patients with Rheumatoid arthritis disease are allocated to group of patients with RA are treated with BVA (bee sting) therapy twice a week with convention drug therapy.
- While other group of patient with Rheumatoid arthritis disease on convention drug therapy.

Age

- Patient ages ranged between
- 26-71 years,
- mean of 38.7 ± 4.8 . 2 .

-
- All cases were subjected to
 - complete clinical
 - history
 - examination to confirm the diagnosis.

Materials and Methods

- **Tender joint count,**
- **swollen joint count,**
- **morning stiffness,**
- **visual analog scale (VAS),**
- **health assessment Q,**
- **Disease activity score in 28 joints**
- **Function disability index**

PAIN SEVERITY CODING TRANSLATIONS

Measurement (Cm) = Score Measurement

Table 6

Response Frequencies Regarding Degree of Difficulty in Performing Activities of Daily Living Using the Health Assessment Questionnaire (HAQ) and a Modified HAQ (MHAQ)

Are you able to:	Degree of difficulty			
	Without any	With some	With much	Unable to do
Dressing and grooming				
1. Dress yourself, including tying shoelaces, and doing buttons?				
2. Shampoo your hair?				
Arising				
3. Stand up straight from an armless straight chair?				
4. Get in and out of bed?				
Eating				
5. Cut your meat?				
6. Lift a full cup or glass to your mouth?				
7. Open a new milk carton?				
Walking				
8. Walk outdoors on flat ground?				
9. Climb up 5 steps?				
Hygiene				
10. Wash and dry your entire body?				
11. Take a tub bath?				
12. Get on and off the toilet?				
Reaching				
13. Reach and get down a 5-pound object from just above your head?				
14. Bend down to pick up clothing from the floor?				
Gripping				
15. Open car door?				
16. Open jars which have been previously opened?				
17. Turn faucets on and off?				
Other activities				
18. Run errands and shop?				
19. Get in and out of a car?				
20. Do chores such as vacuuming or yardwork?				

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Materials and Methods

- **ESR,**
 - **CRP,**
 - **Tumor Necrosis Factor (TNF),**
 - **Interleukin 1(IL1)**
 - **Interleukin 6,(IL6),**
 - **Nuclear Factor and Kappa B (NF-KB).**
-
- All these parameters will be assessed before and after treatment.

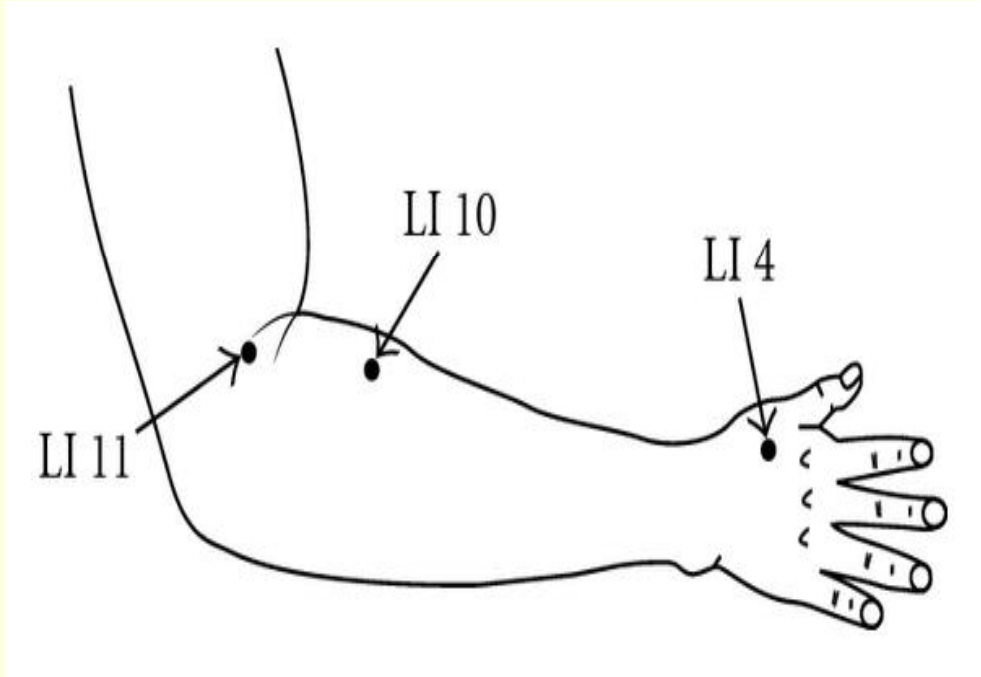
-
- **All cases were under their regular treatment by corticosteroids,**
 - **These cases were divided into two main groups, each group consists of 20 cases**

Group I received

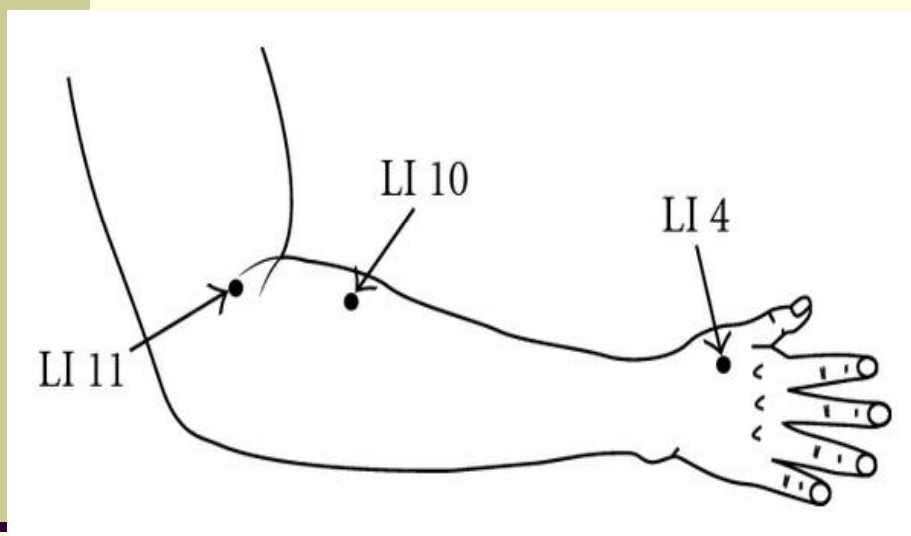
- treated with bee acupuncture 3 times weekly, for 12 weeks, started gradually by one sting then gradually increase up to 12 stings per session,
- in addition to their medical treatment



LI 4



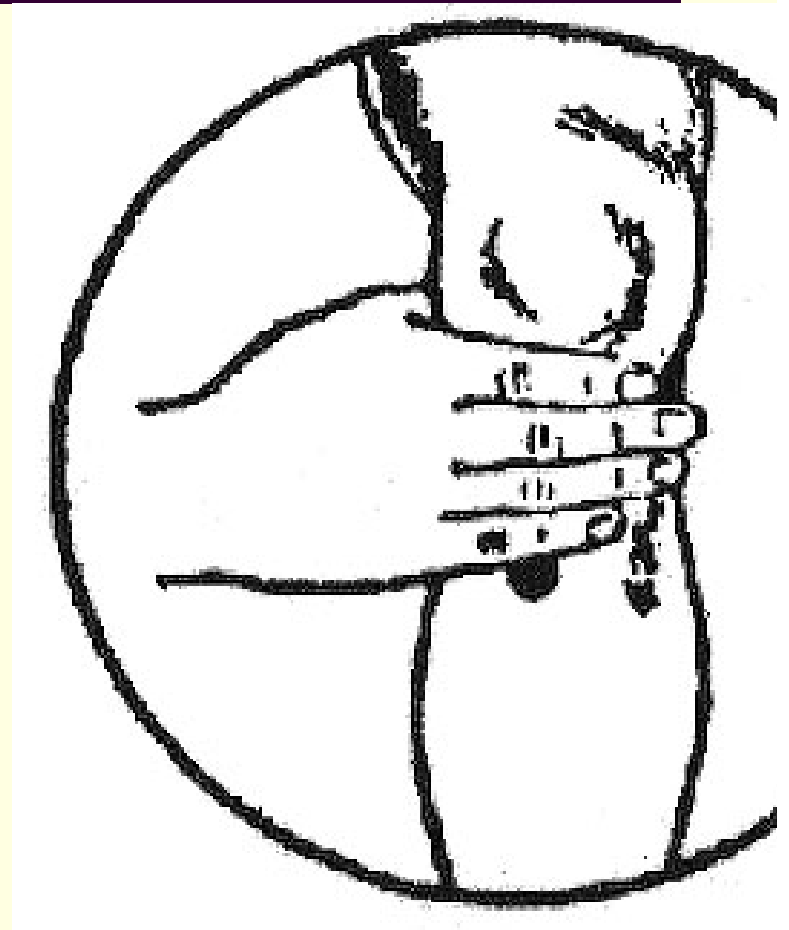
LI 11



SP 6



ST 36



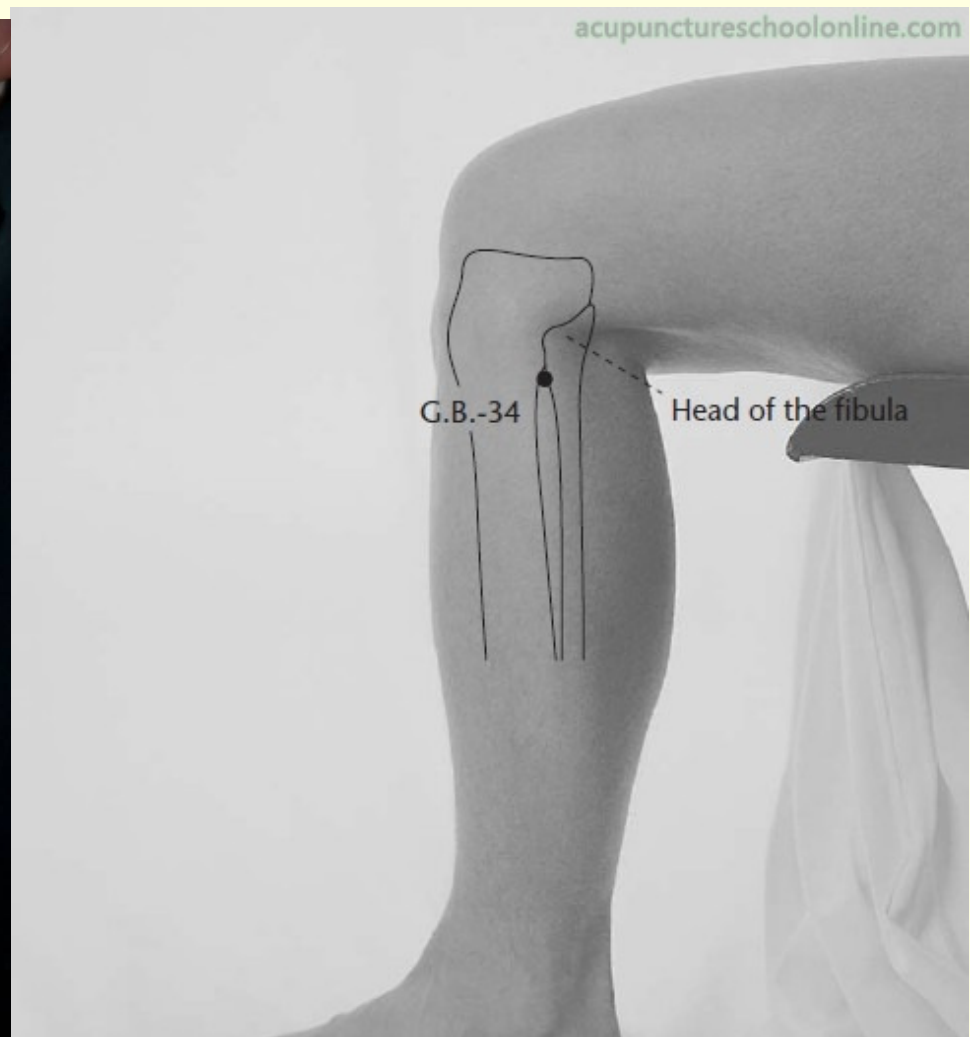
GV14



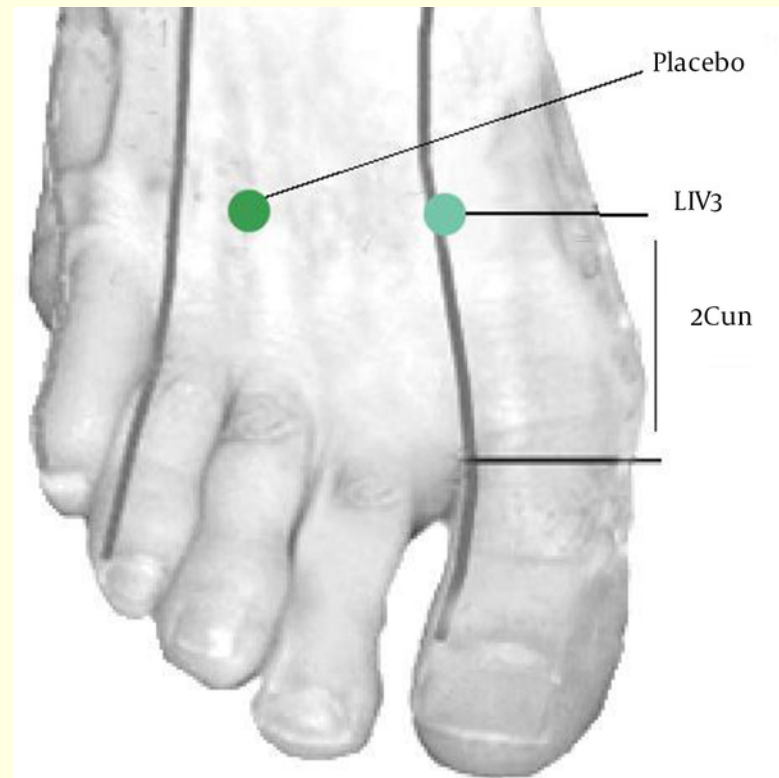
ST 35



GB 34



LIV 3



Group II

- Group II remains on their ordinary medical treatment only.

Serum samples were

- obtained from patients with clinically definite RA for estimation of serum levels of immunoglobulin E (Hirano et al., 1989)
- using commercially available ELISA kits according to the manufacturers' directions.

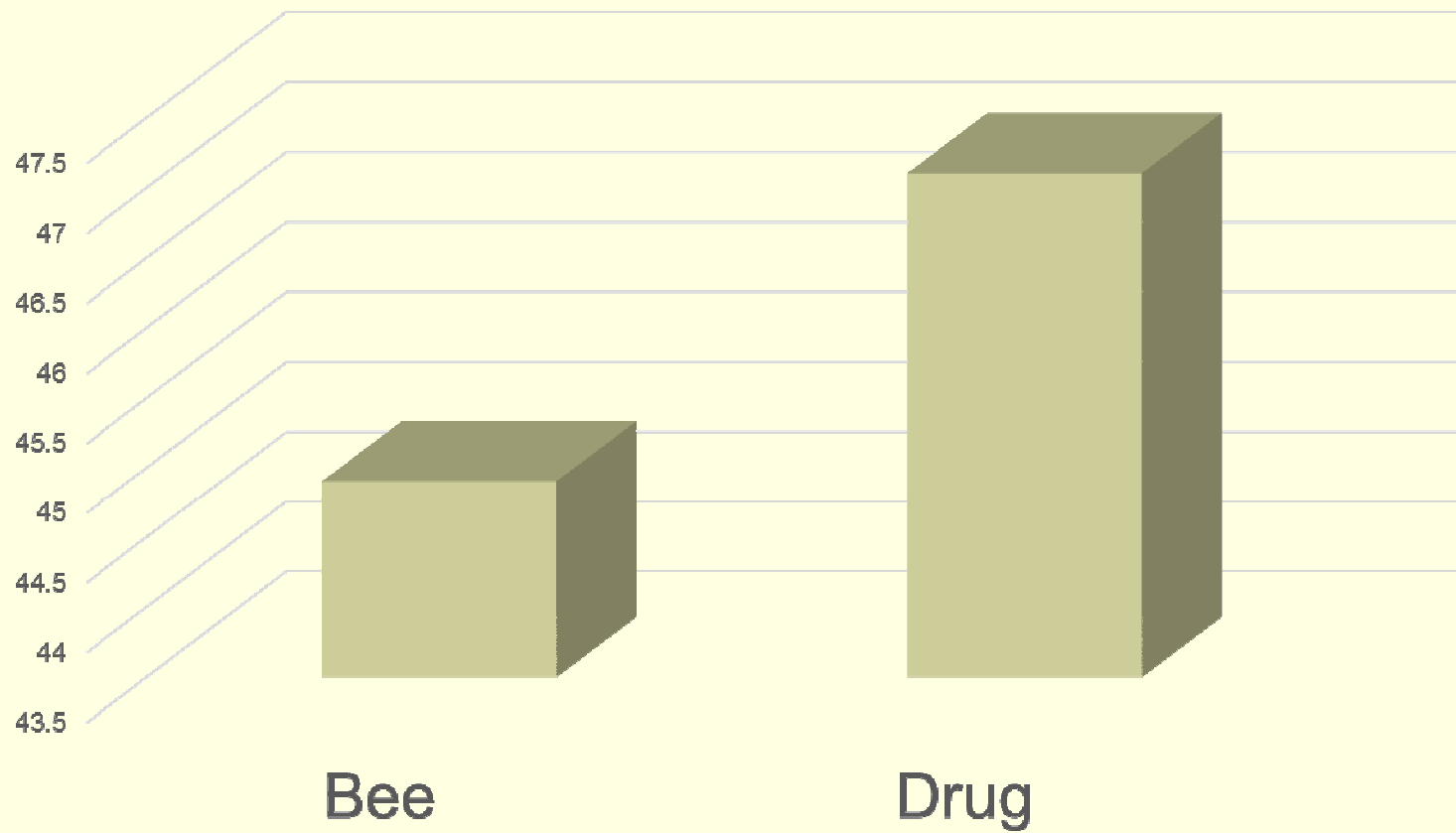
Serum IgE and cytokine levels

- IgE
 - interleukin (IL) 1 β ,
 - IL-6
 - tumor necrosis factor alpha (TNF α)
 - NFk β
- were assessed using enzyme linked - immunosorbent assays (Abrams, 1995) using commercially available ELISA kits according to the manufacturers' directions (kits produced by Bender Med System, Vienna, Austria).

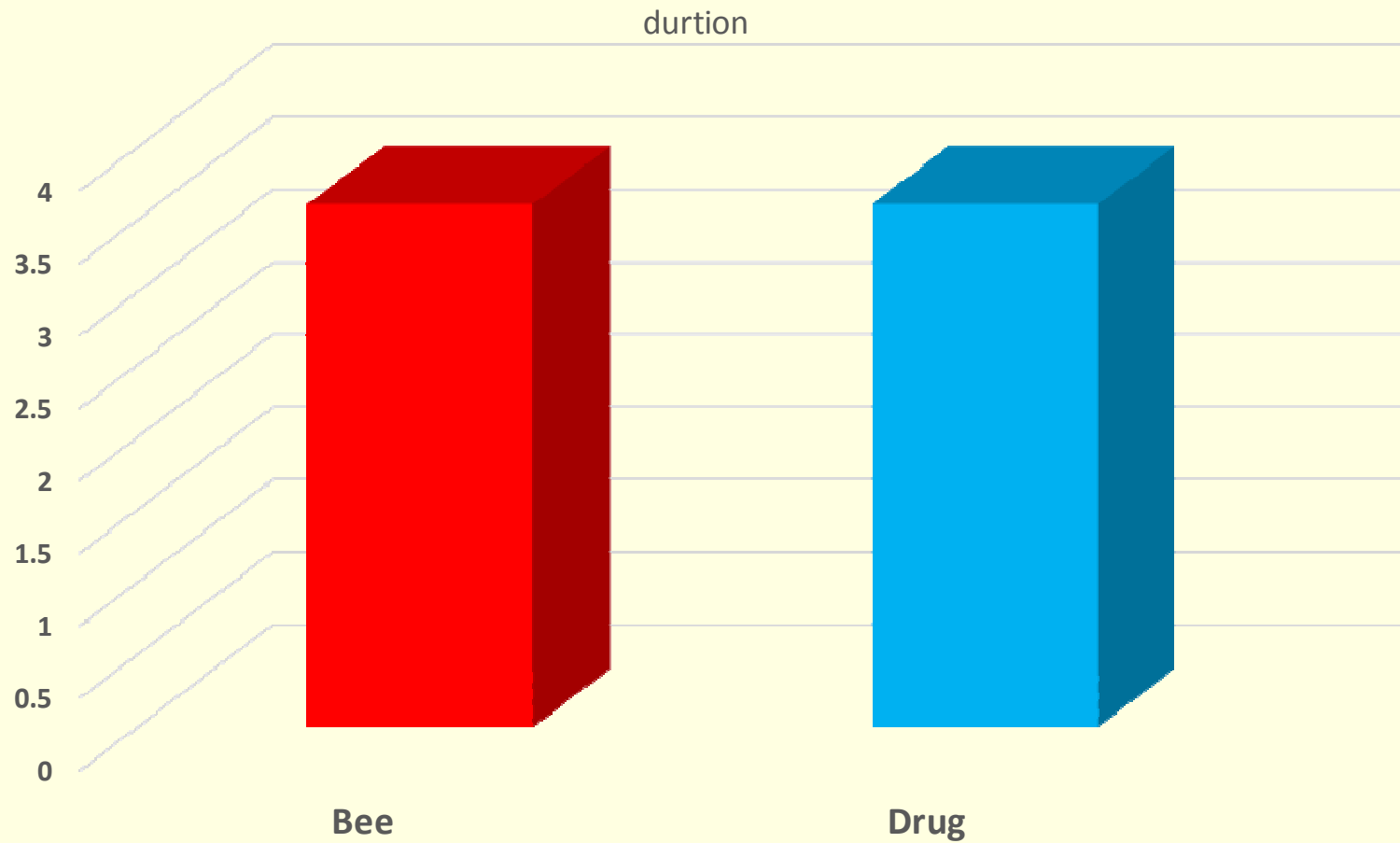
-
- All these investigations were done at the beginning of the study and by the end of 12 weeks of bee sting sessions

Results

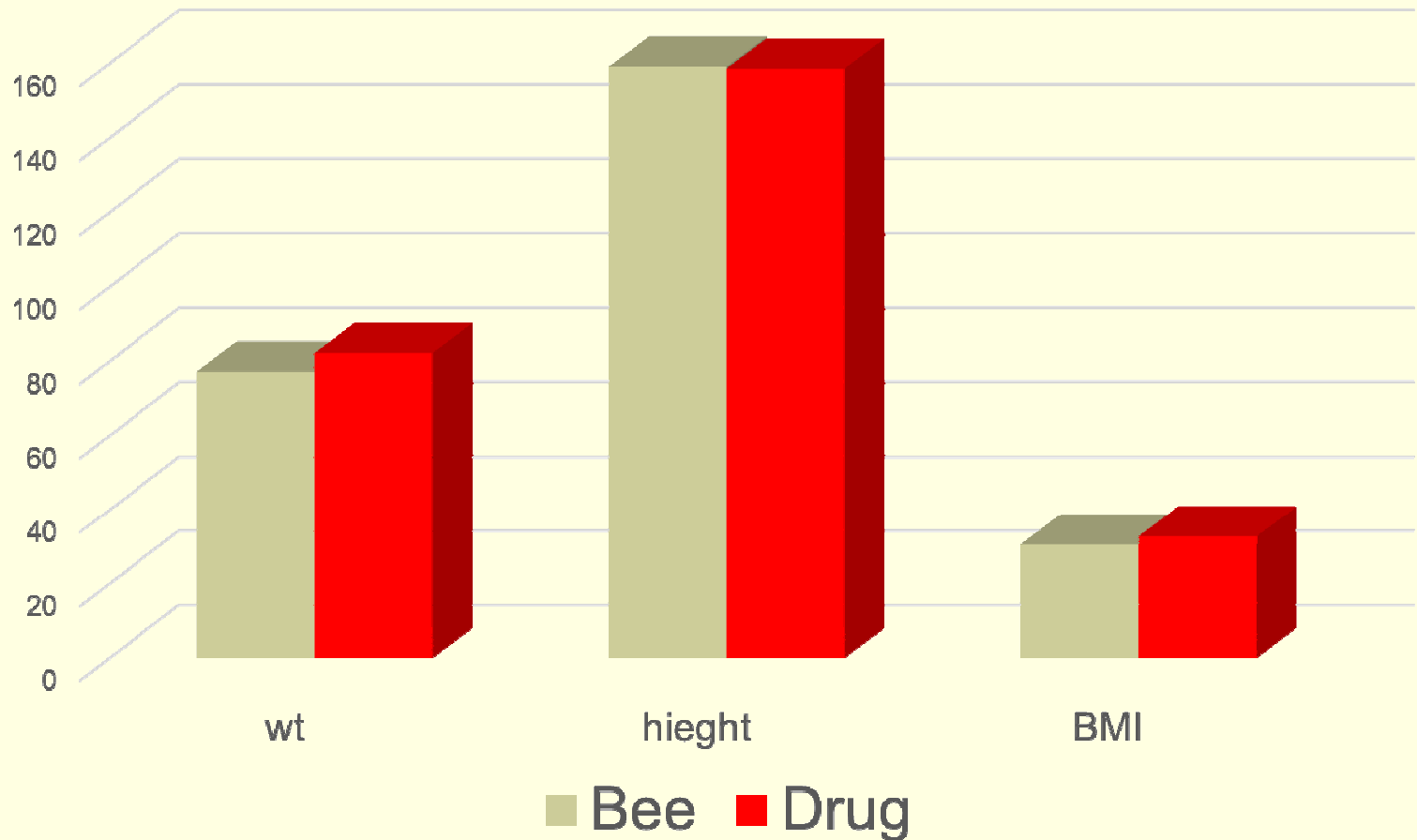
Age



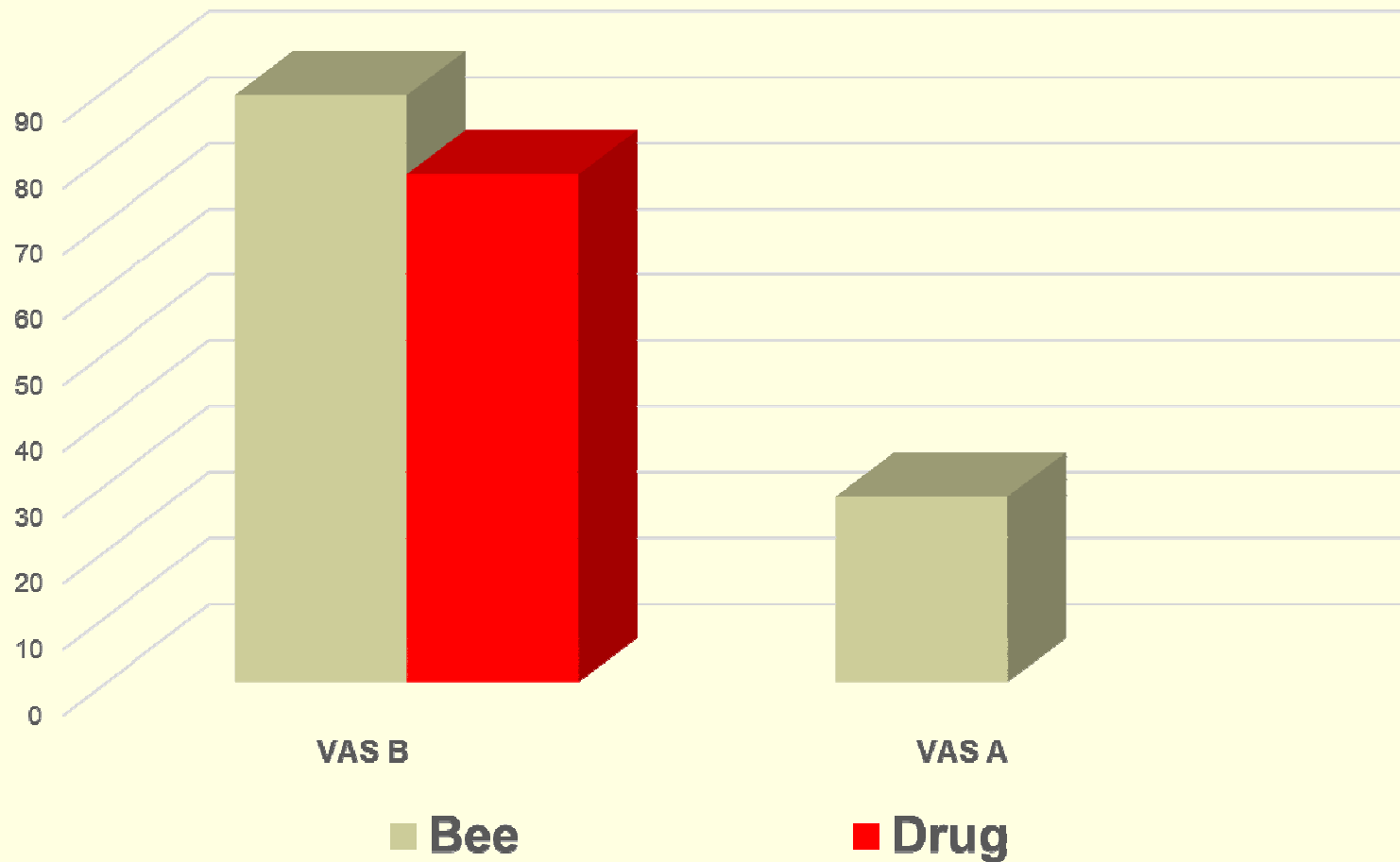
Duration



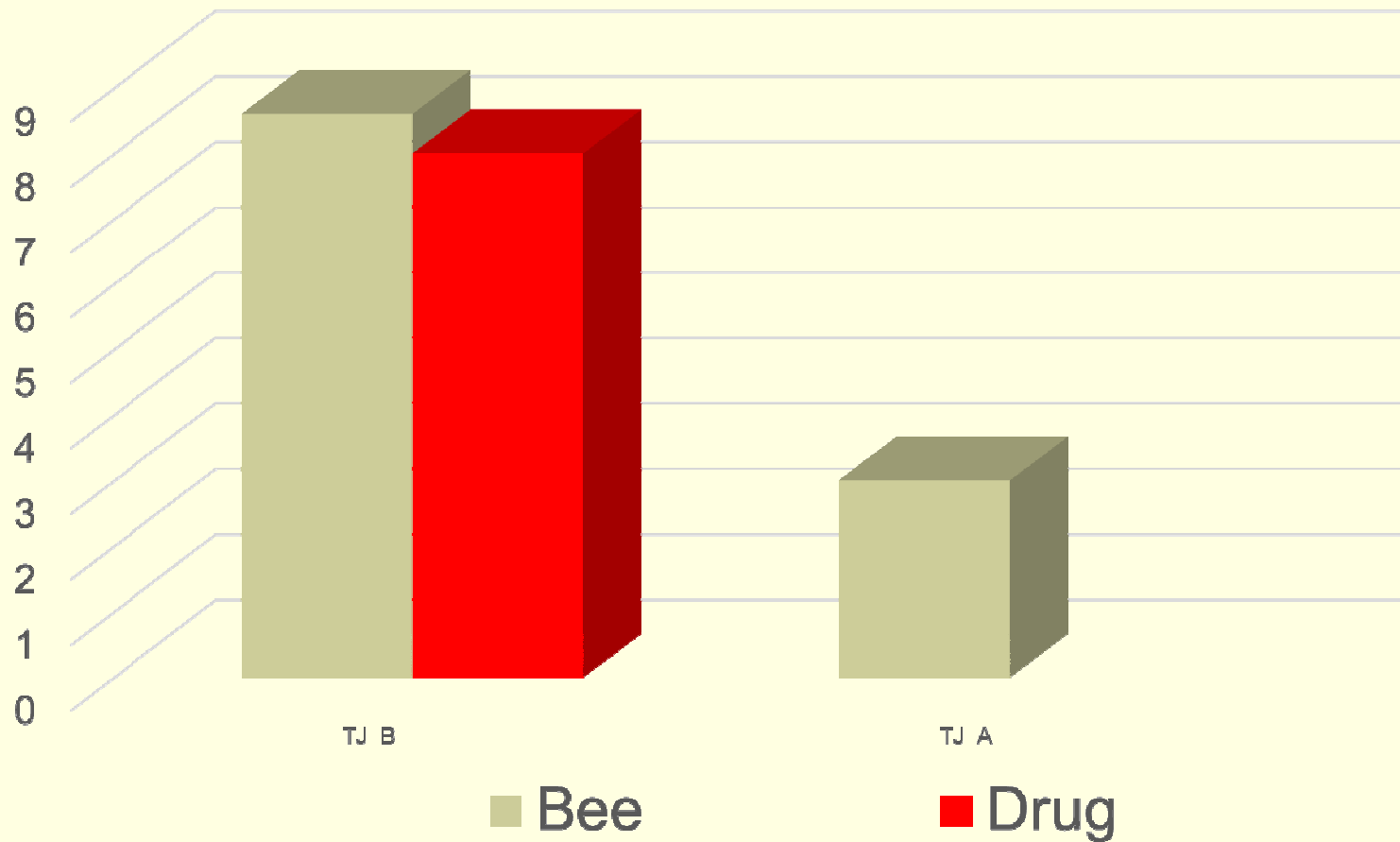
Weight, height and body mass index



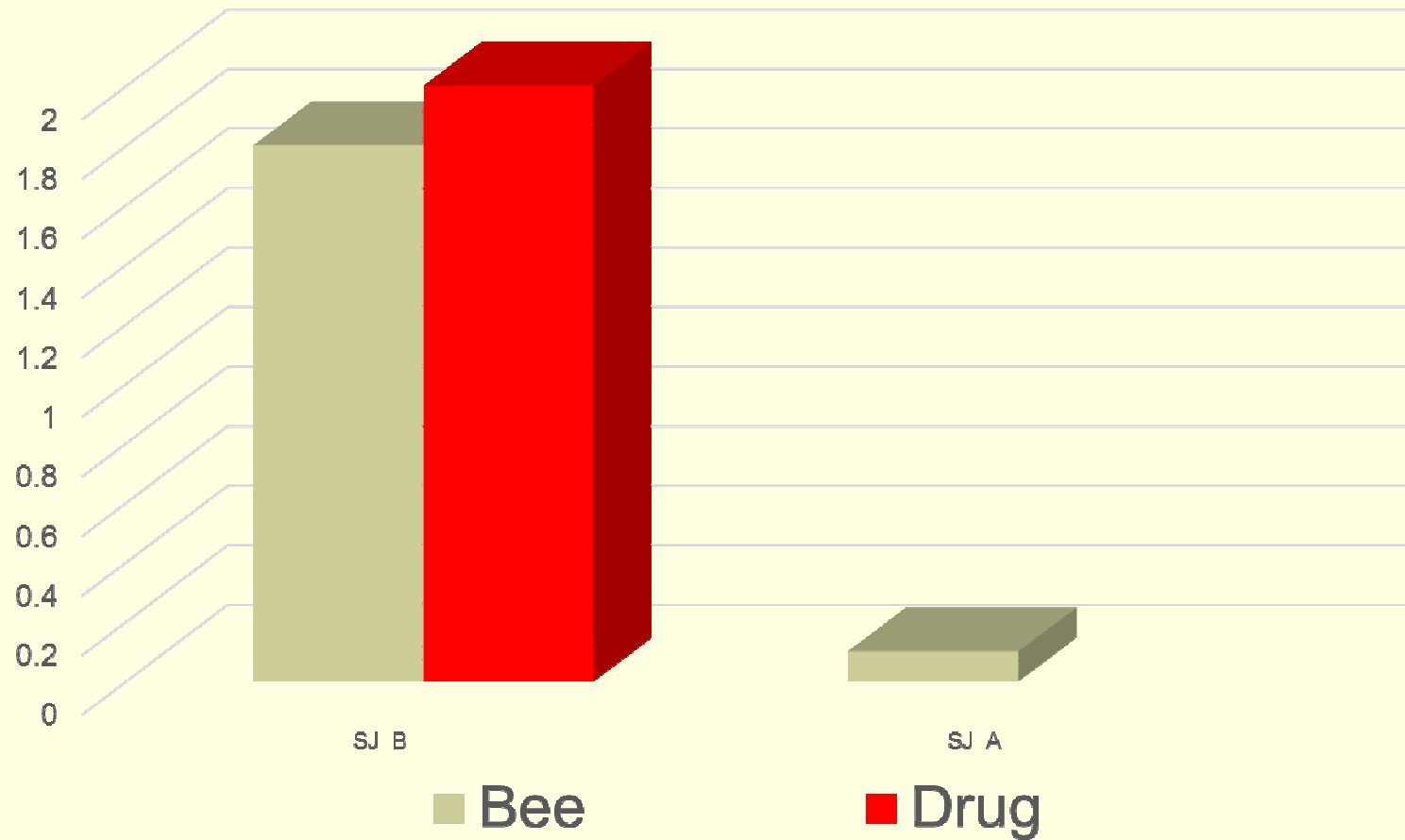
Visual analog scale (VAS),



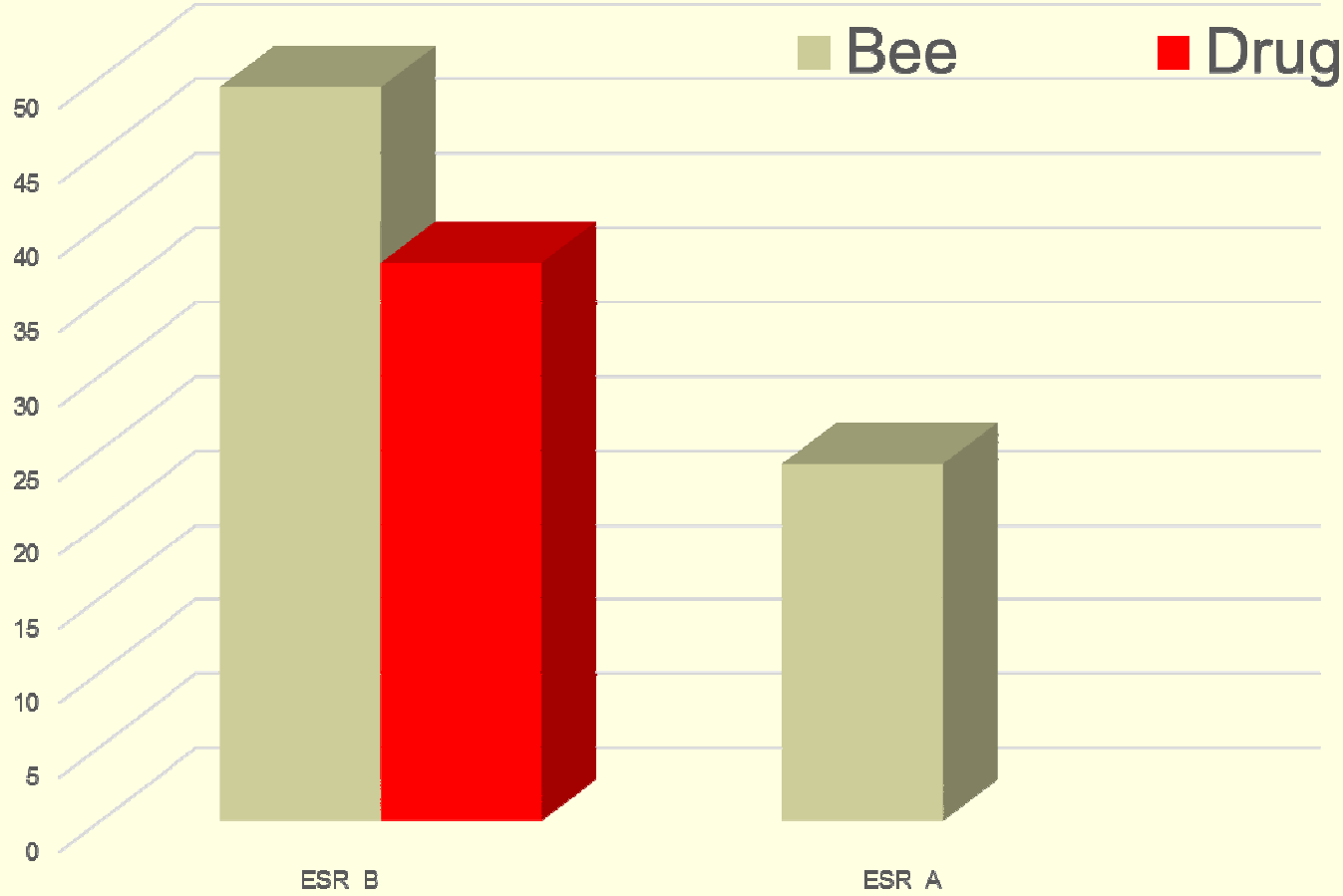
Tender joint



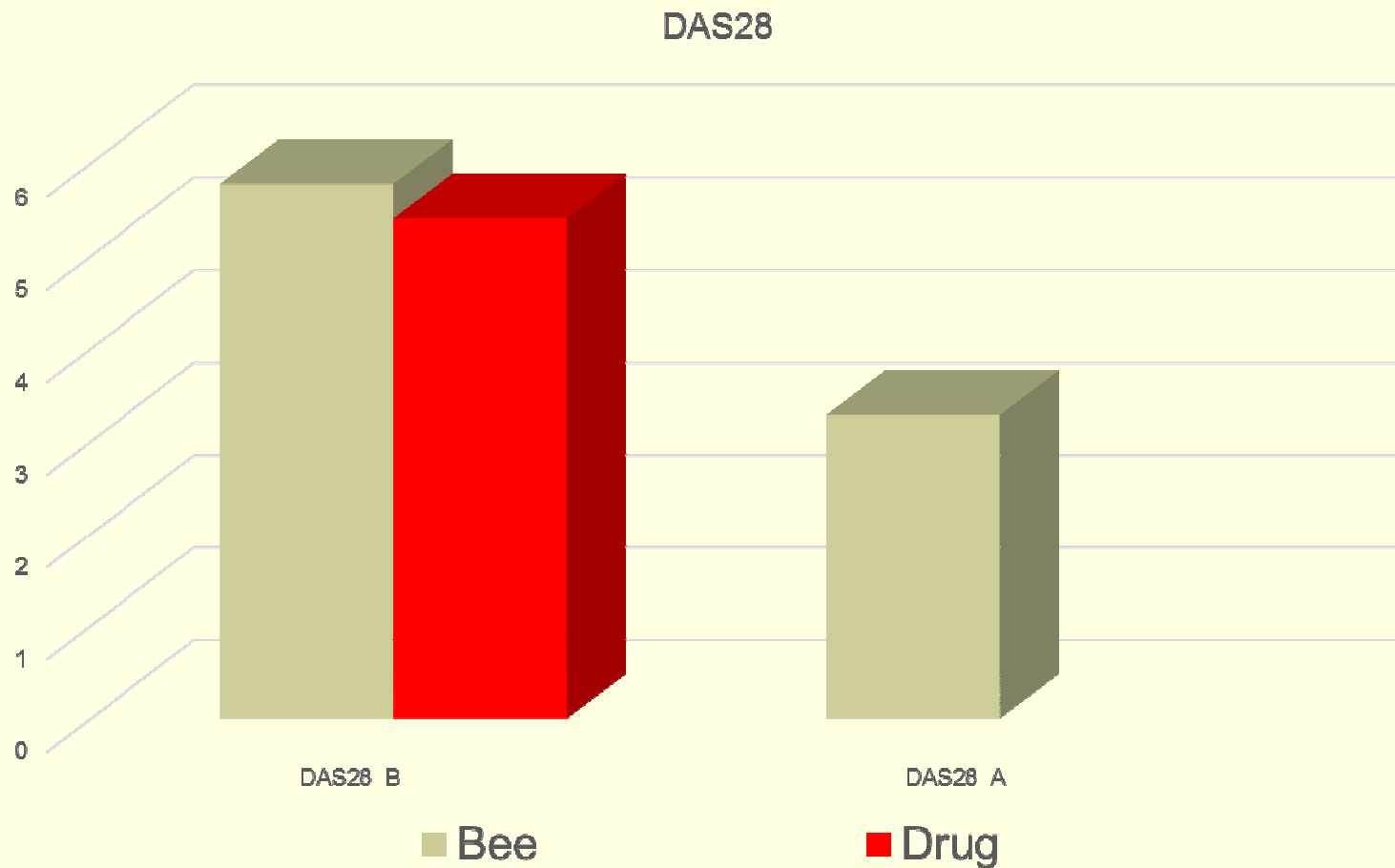
Swollen joint



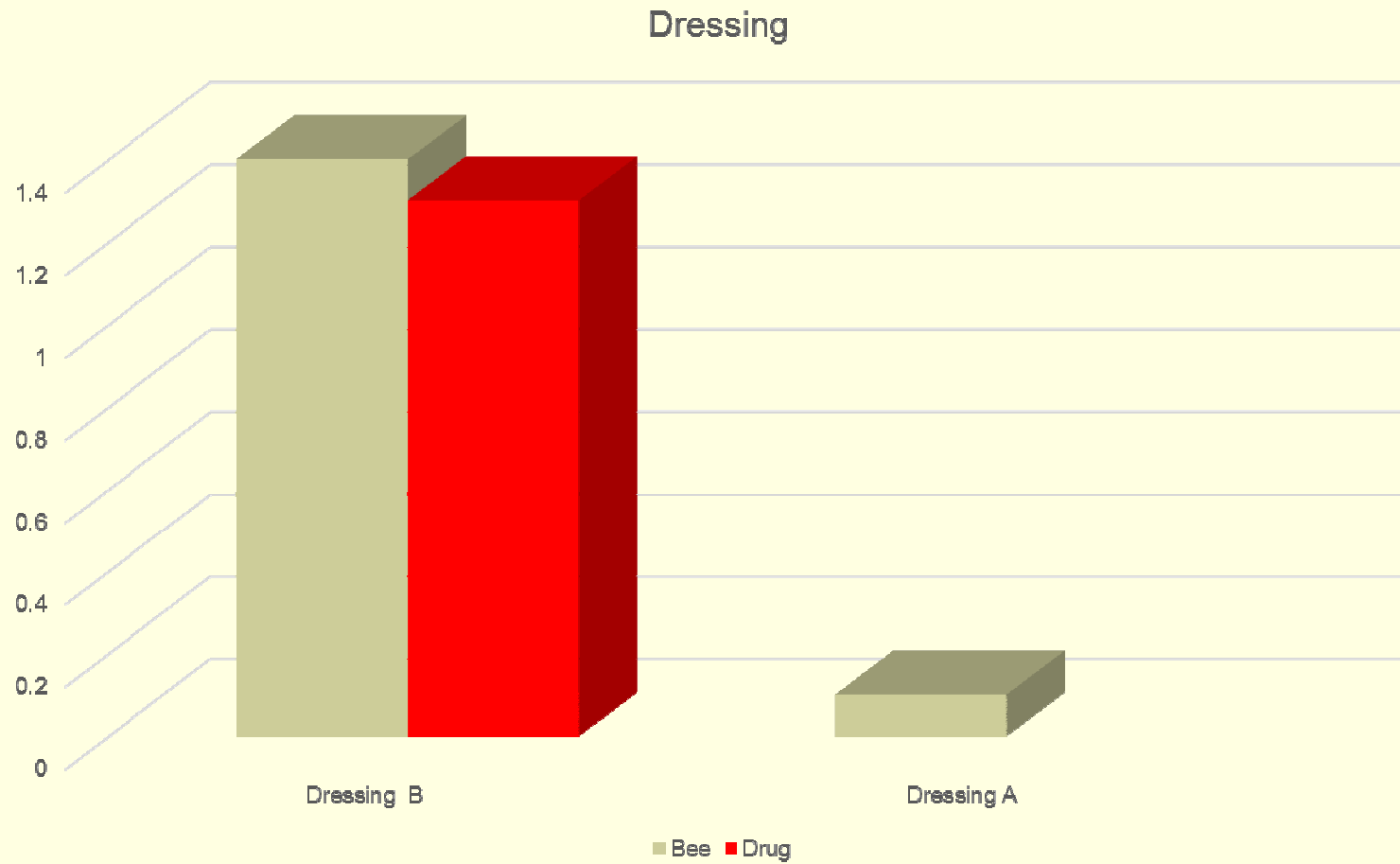
ESR



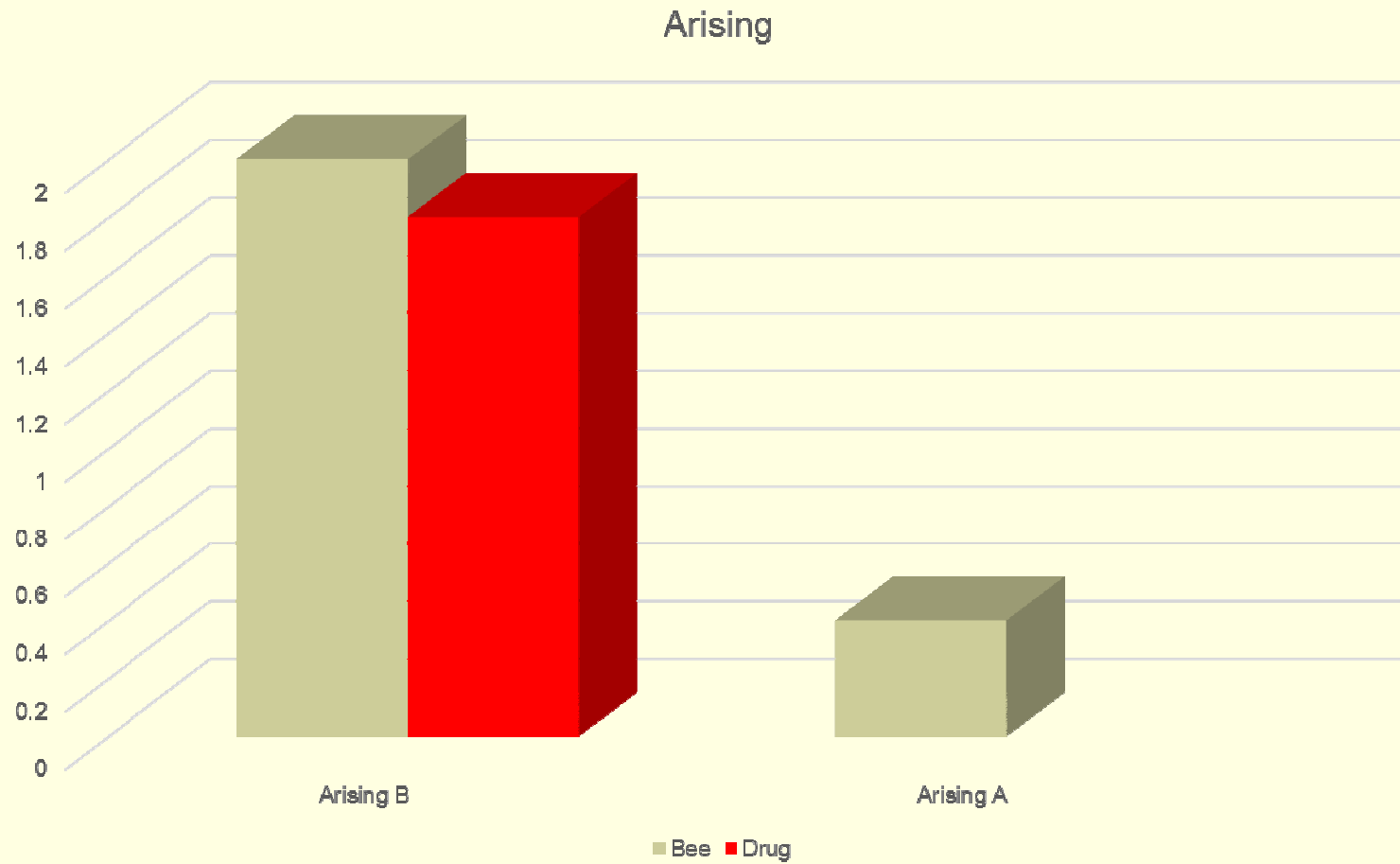
Disease activity score in 28 joints



Dressing



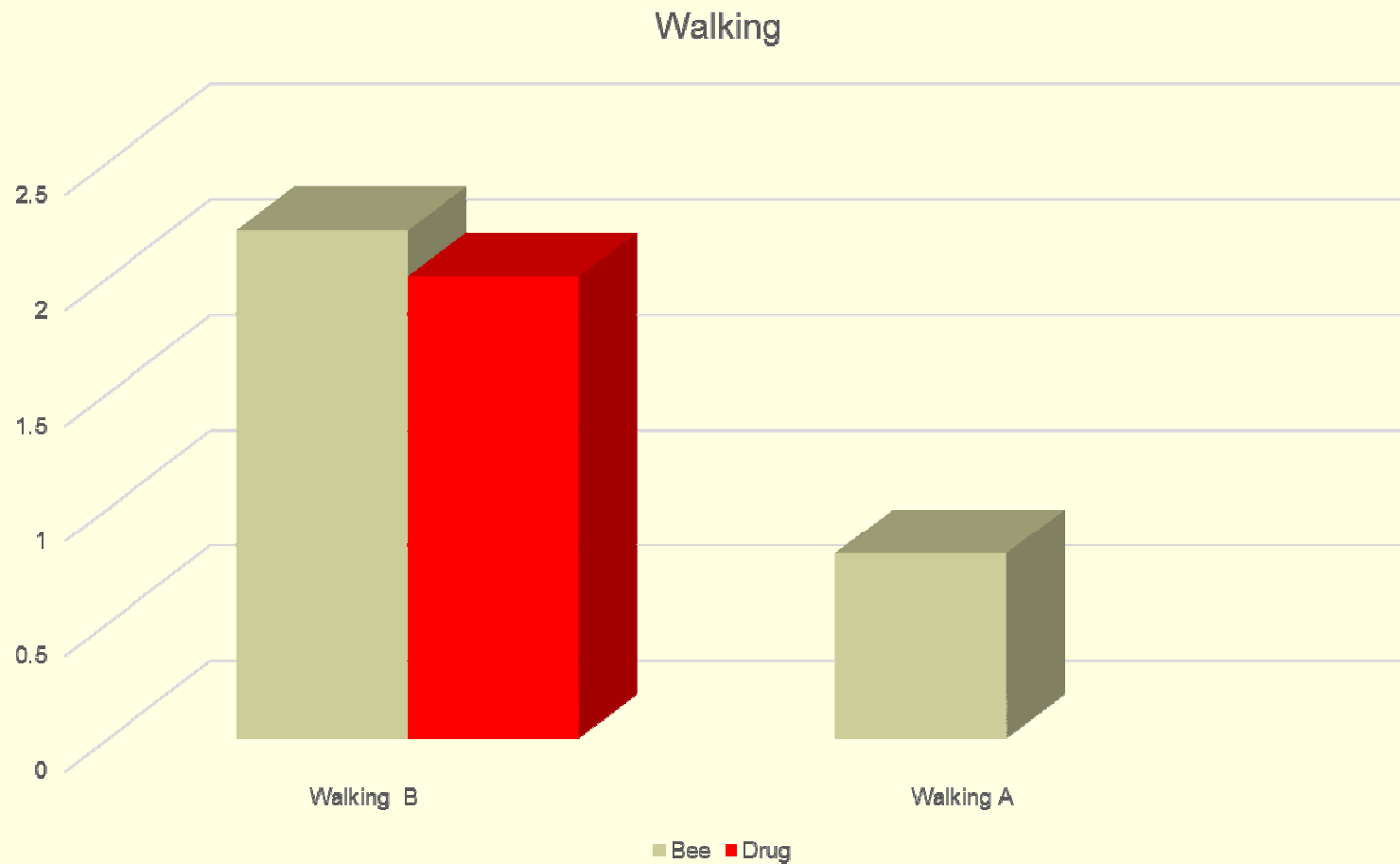
Arising



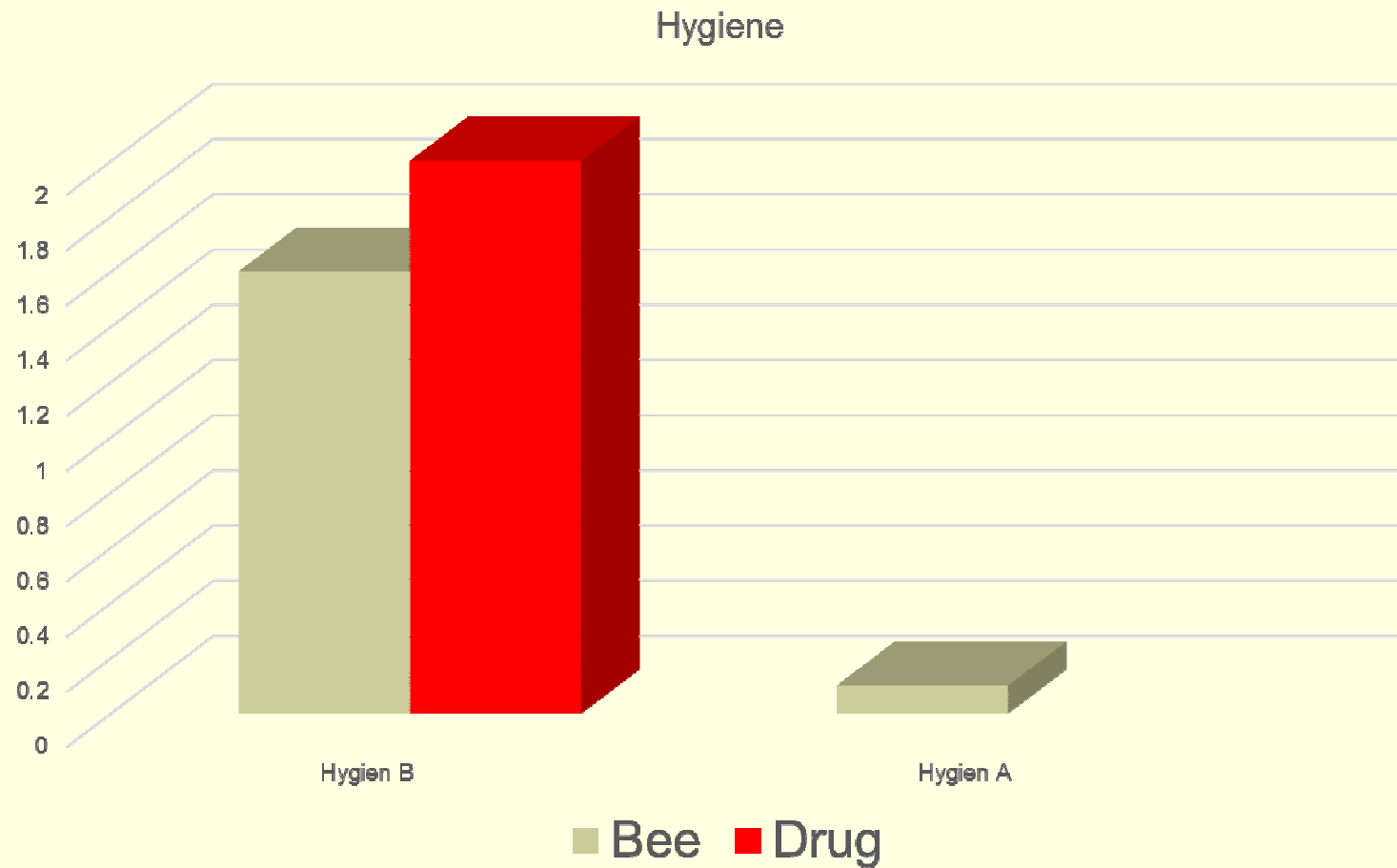
Eating



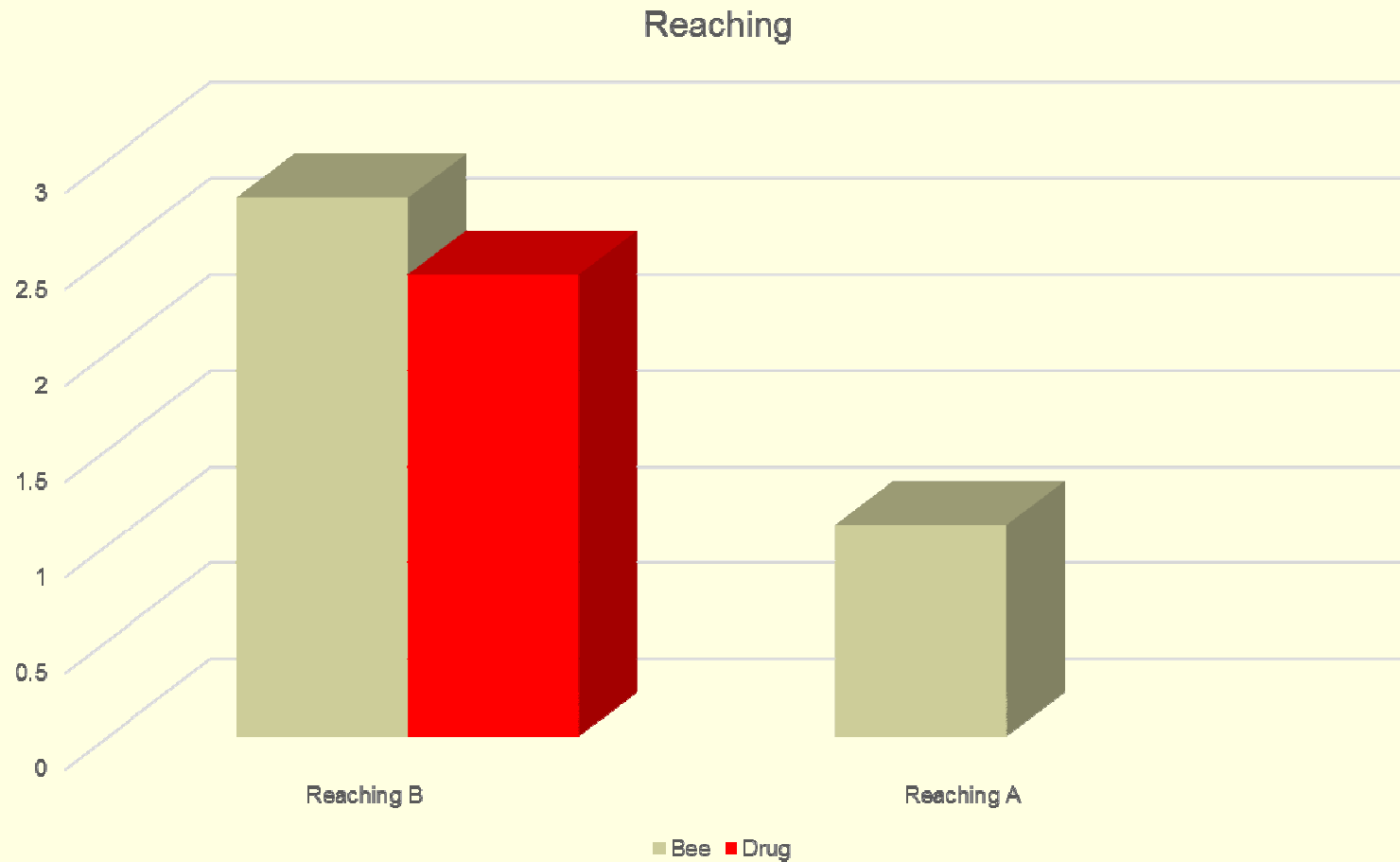
Walking



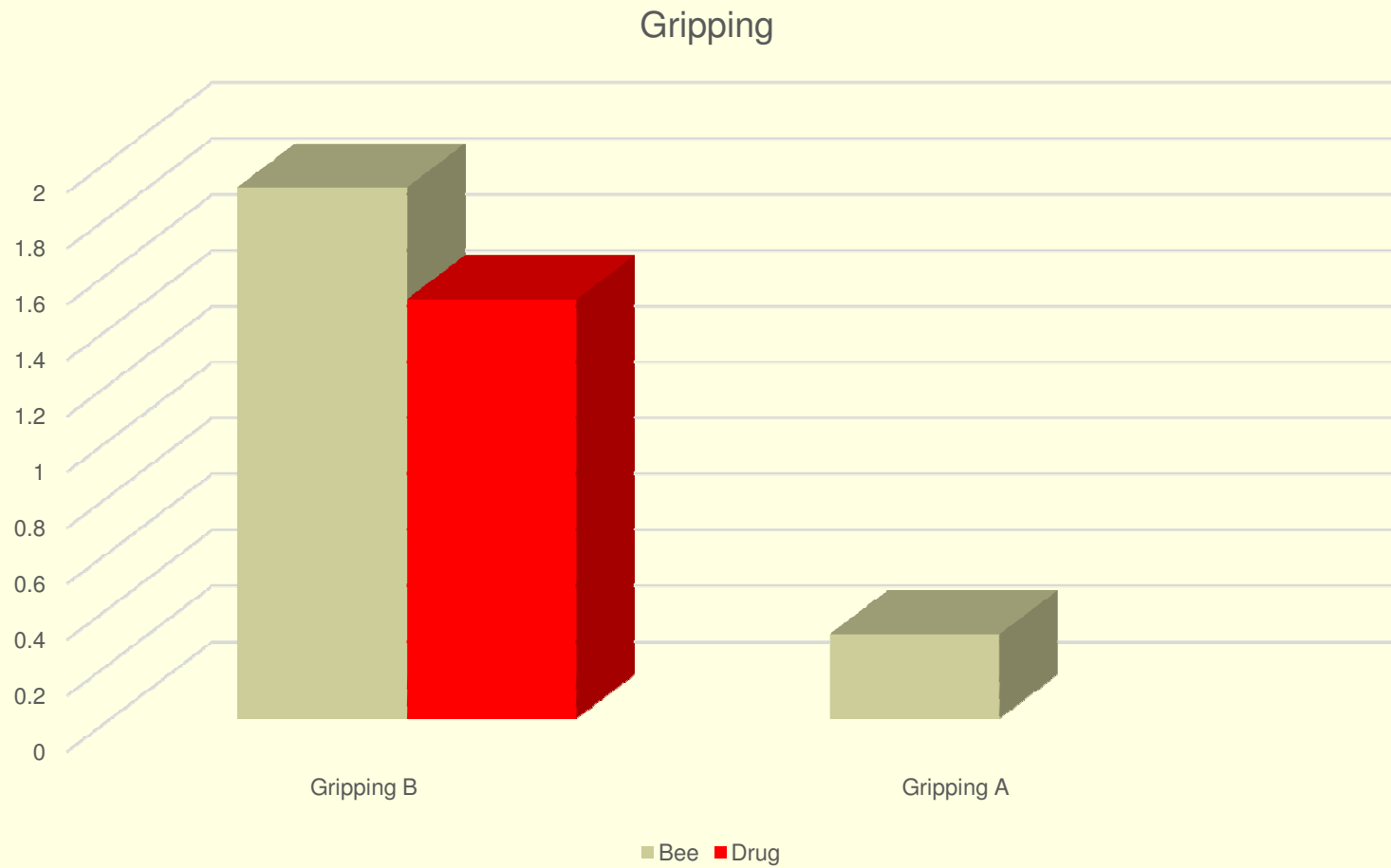
Hygiene



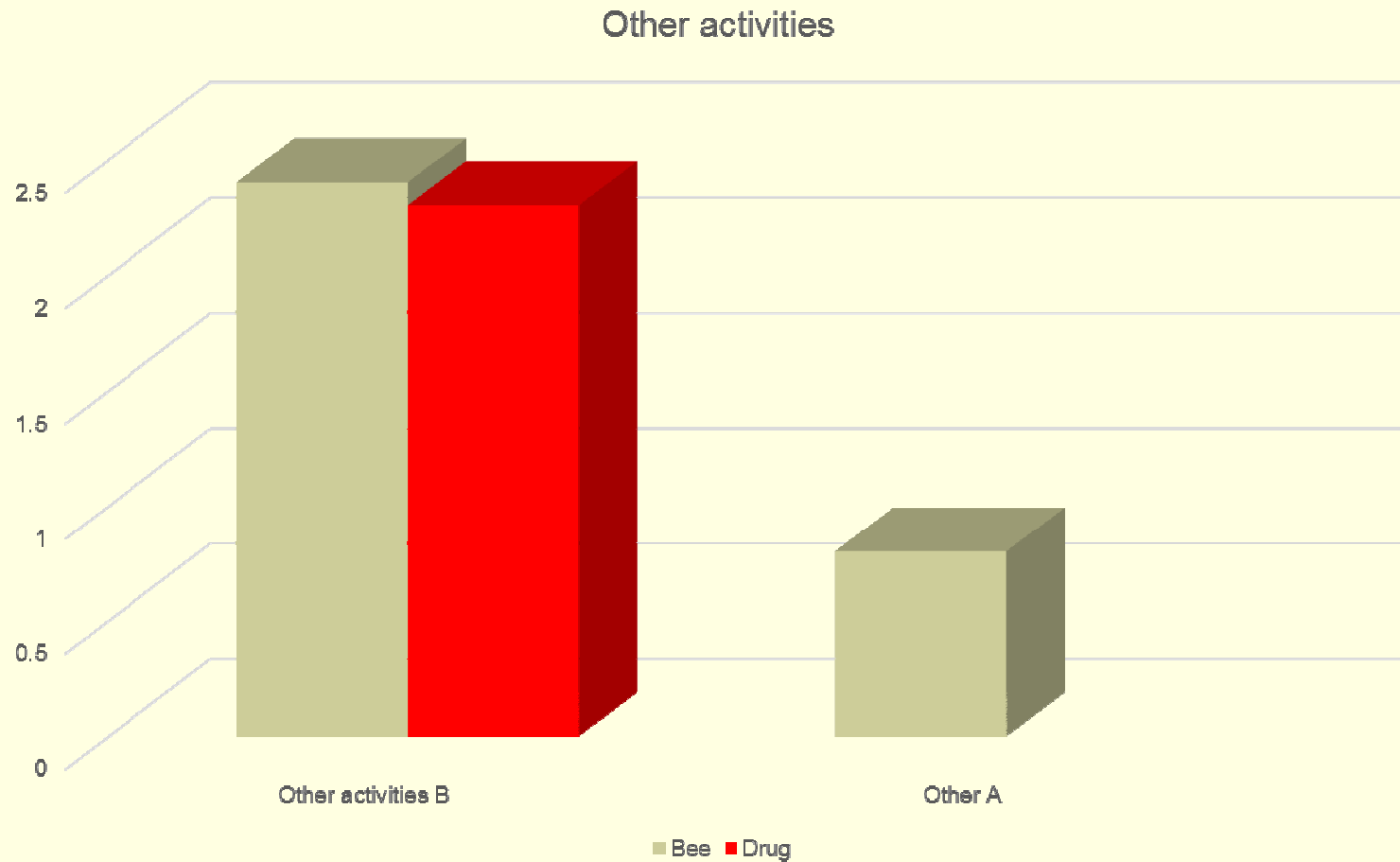
Reaching



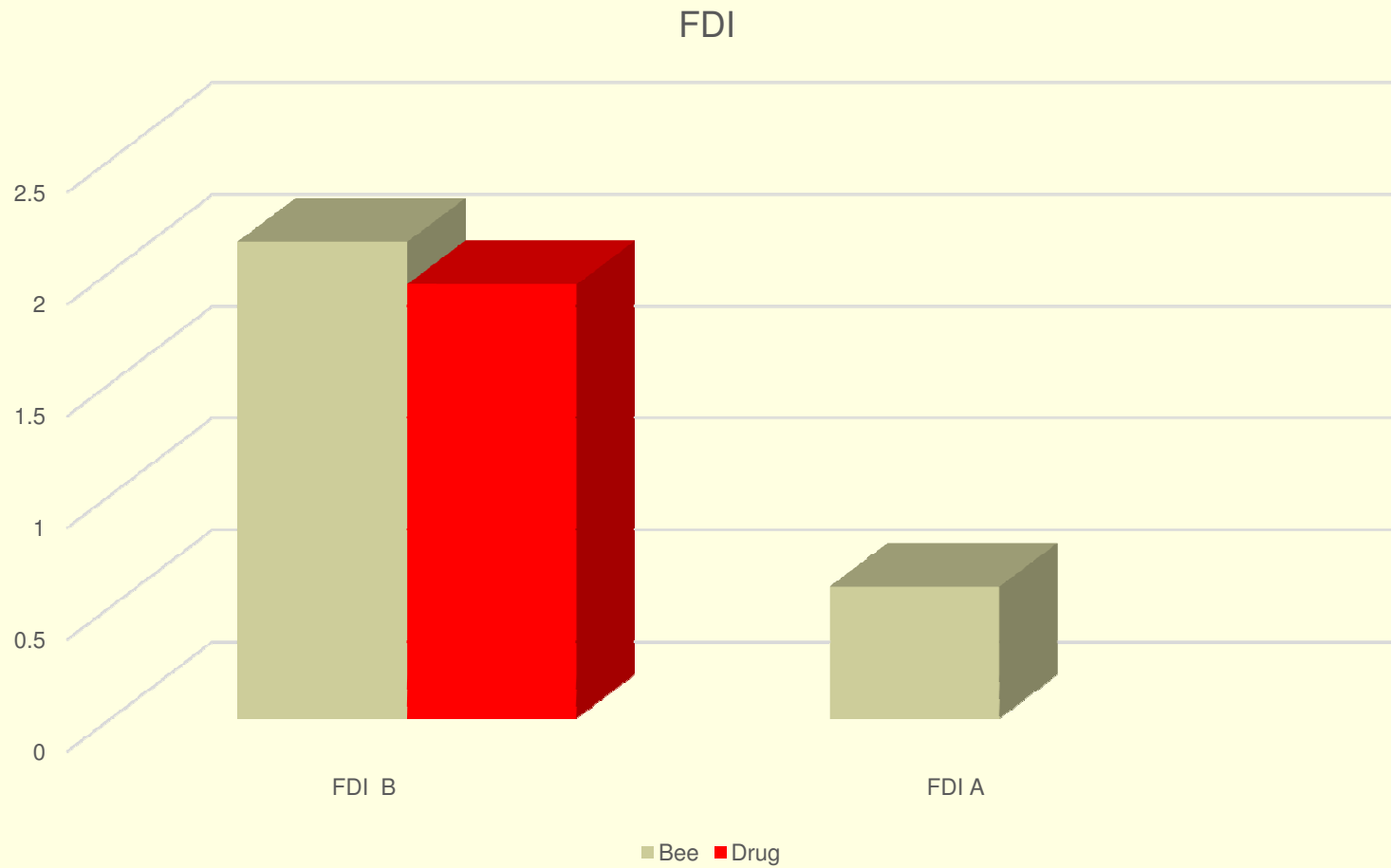
Gripping



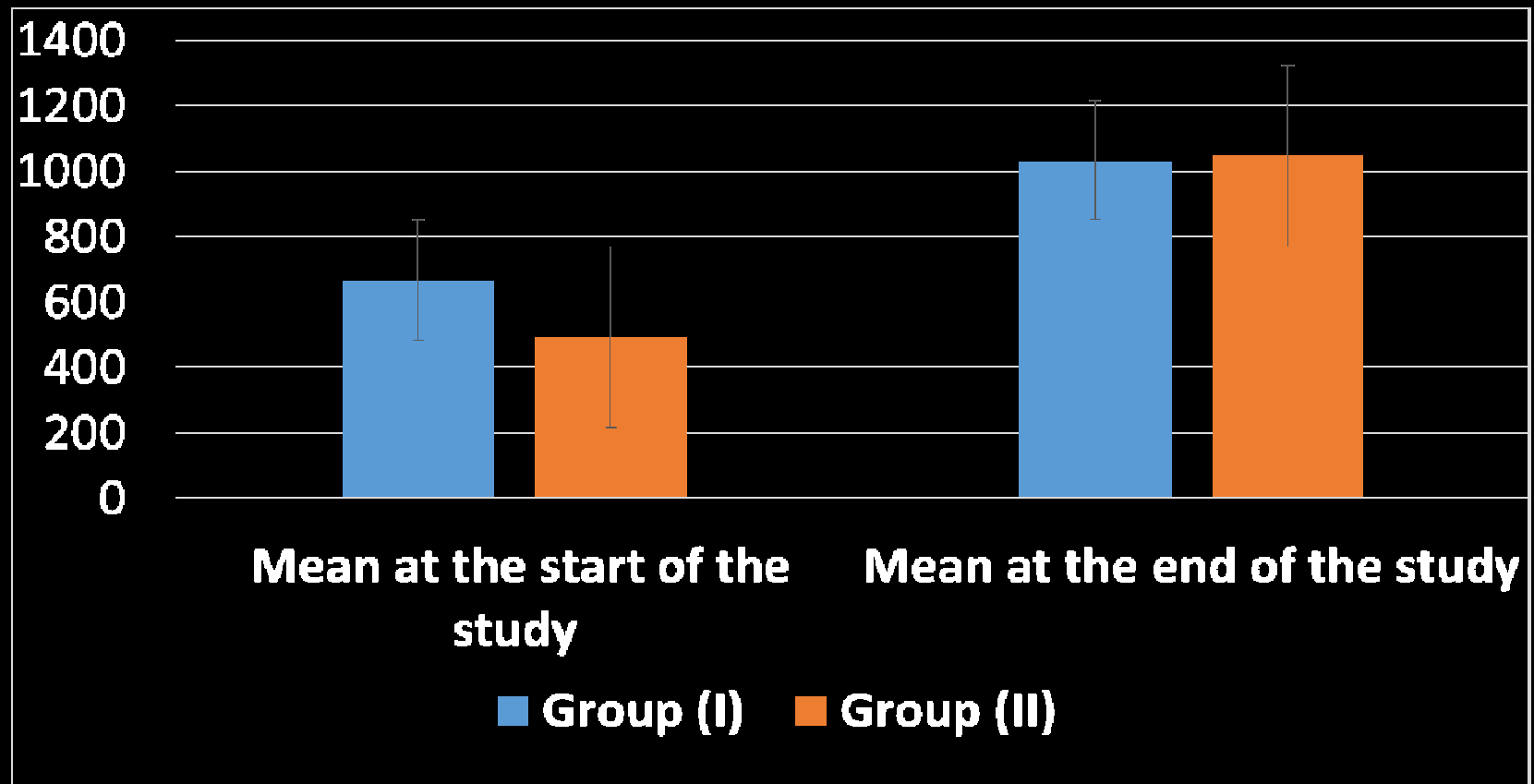
Other activities



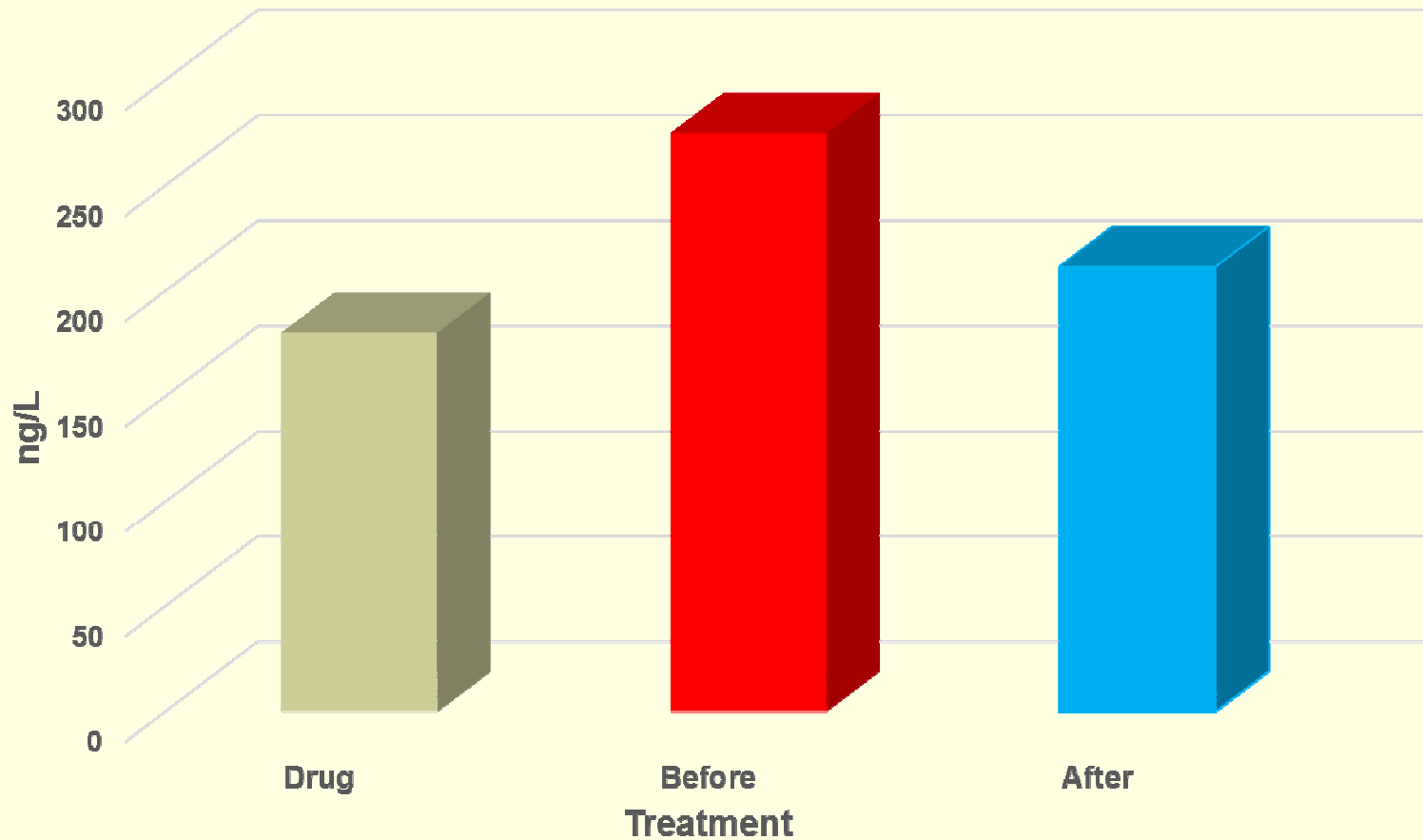
Function disability index



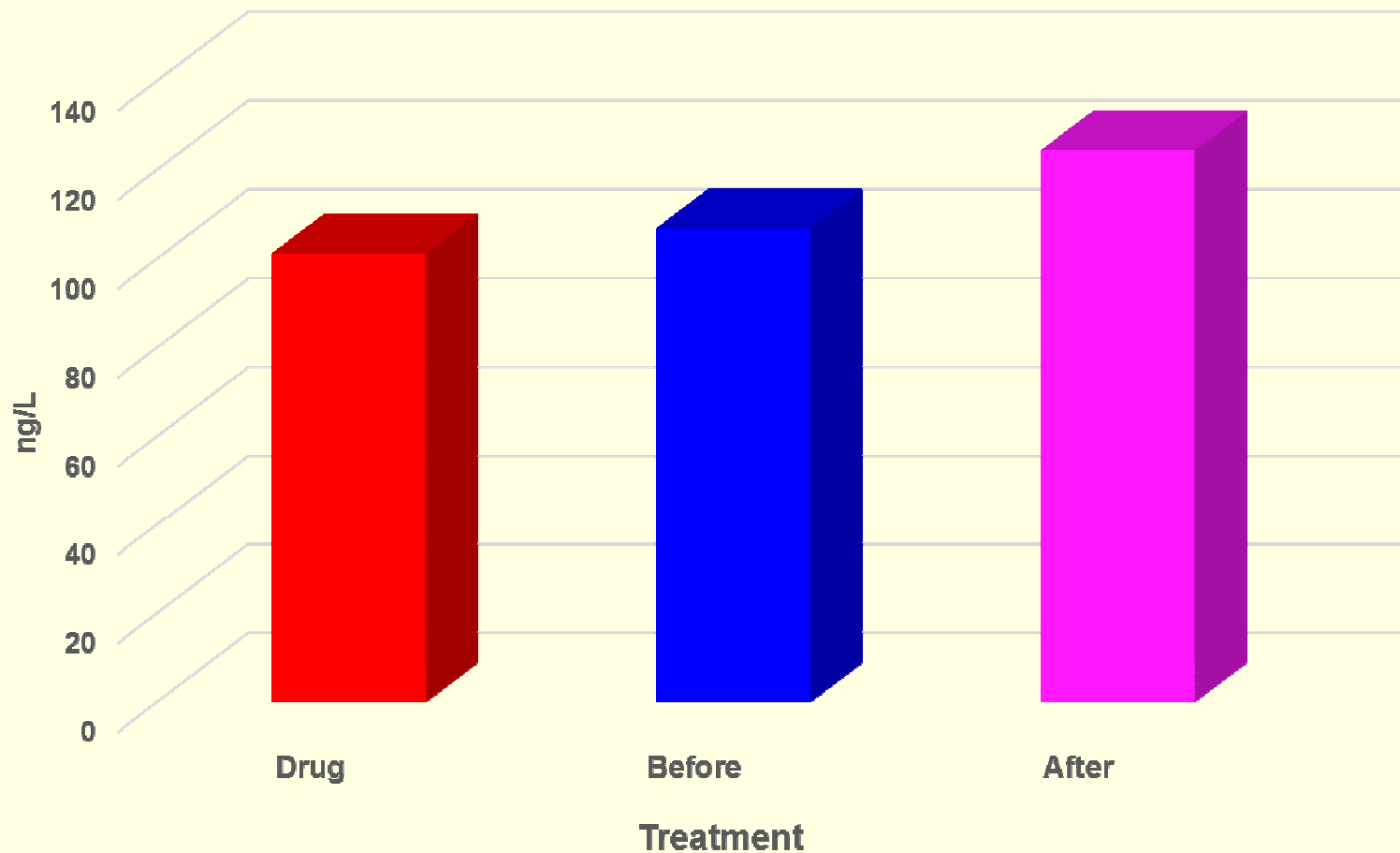
Mean levels of IgE of both groups at the start and end of the study



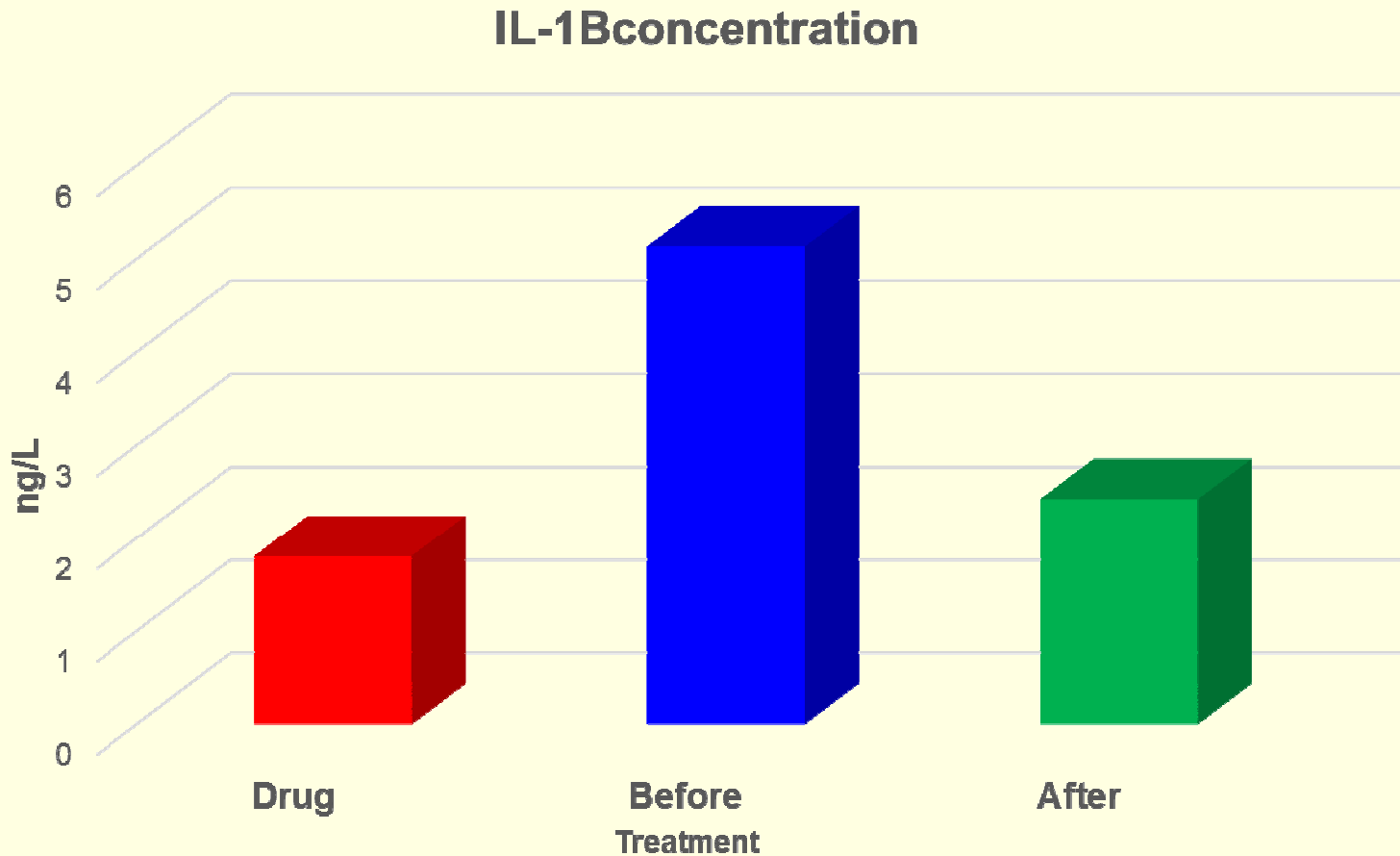
NFk β concentration



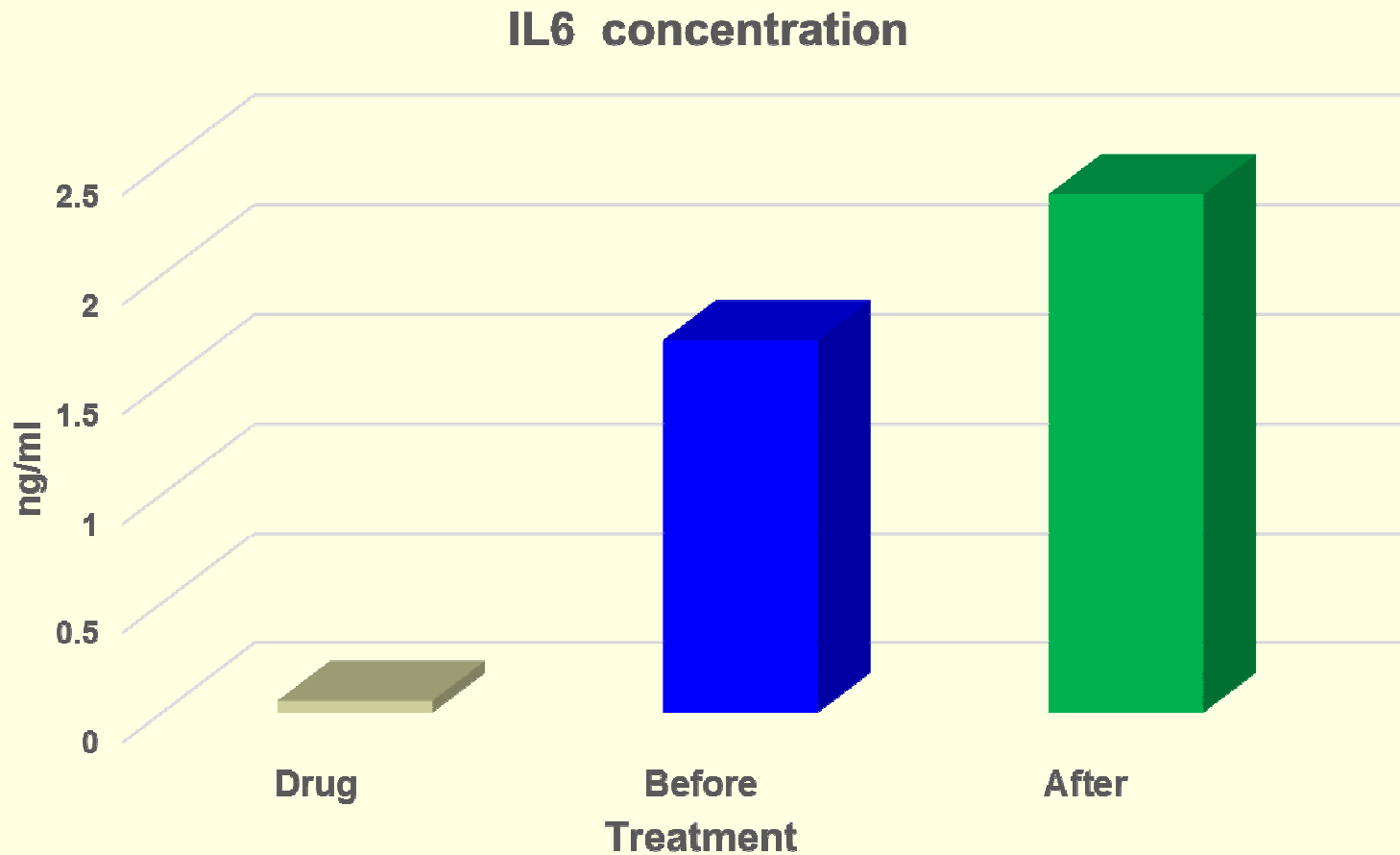
Mean levels of (TNF α concentration) α of both groups at the start and end of the study



Mean levels of (IL) 1 β concentration of both groups at the start and end of the study

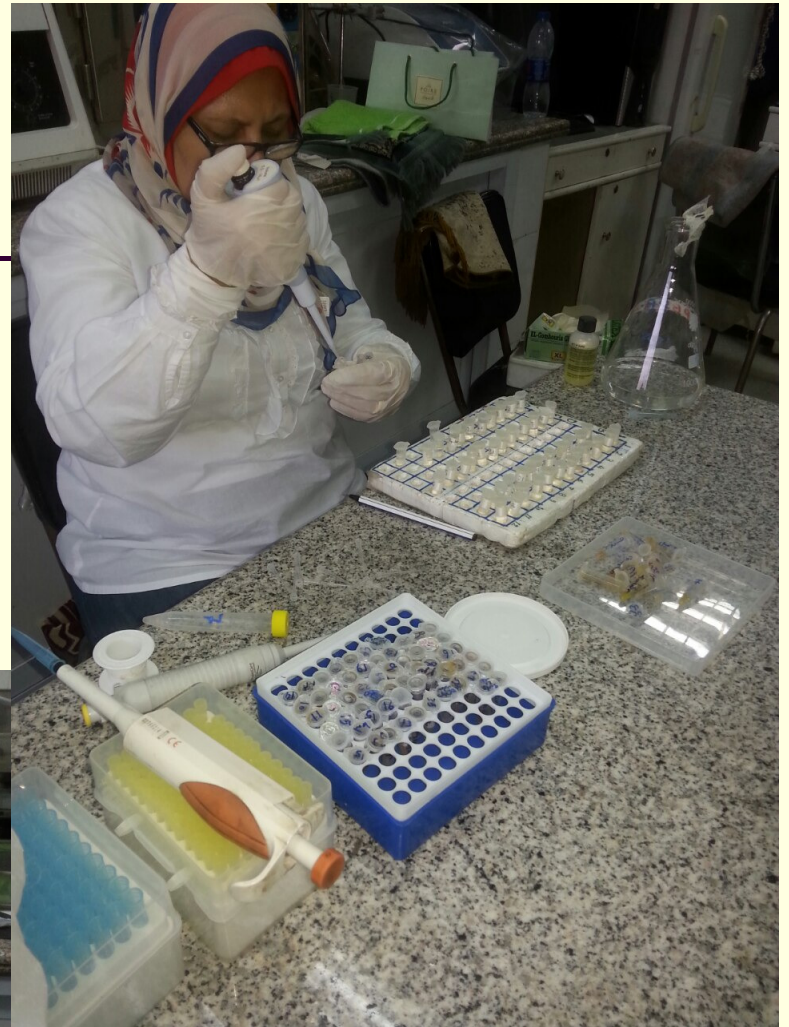


IL6 concentration











CONCLUSION

Results

- The results revealed that the bee venom acupuncture showed significant improvement in patients received bee venom group compare to patients received pharmacotherapy only.
- It is concluded that both modes of treatment for RA gave improvement regarding pain intensity, disability and quality of life being more evident in bee venom group supported with improved serum TNF, IL1. IL6 and NF-KB.

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- Although Apitherapy is not a curable therapy in RA, but it can be used to minimize some of the clinical symptoms of RA, and can be included among programs of RA therapy.



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1987

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NATIONAL RESEARCH CENTRE



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