



# Is metabolic control affected by military service in young adults with type 1 diabetes?

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## BACKGROUND

Applicants with type 1 diabetes (T1D) are generally not accepted for military service by most armed forces in the world. The rationale for exemption is the possibility of severe hypoglycemia during stressful situations such as combat conditions or diabetic ketoacidosis (DKA) due to unavailability of insulin.

In Israel, young adults with T1D are exempt from obligatory service but can volunteer for civil or military service, in non-combative tasks. Still the change in daily routine, physical activity and eating habits raises concern whether national service compromises health status in T1D patients.

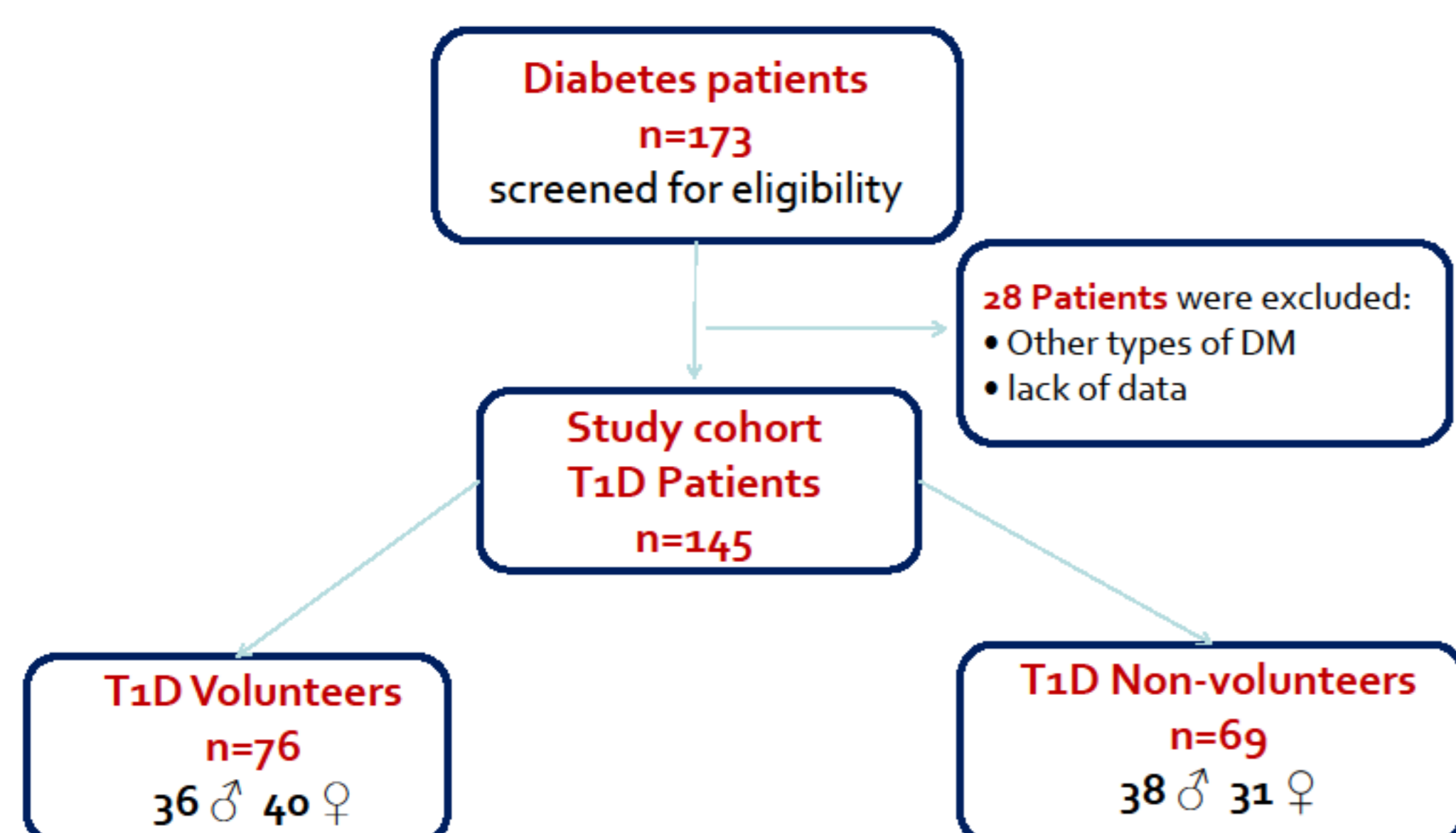
## OBJECTIVE

To evaluate the effect of military service on metabolic control and incidence of acute diabetes complications

## STUDY DESIGN, PATIENTS & METHODS

**Study design** Retrospective, comparative.

**Study cohort** 145 T1D patients born between 1988 and 1992 and followed at the National Center of Childhood Diabetes.



**Main outcome measures** HbA1c, occurrence of severe hypoglycemia or diabetic ketoacidosis (DKA), BMI-SDS, insulin dosage.

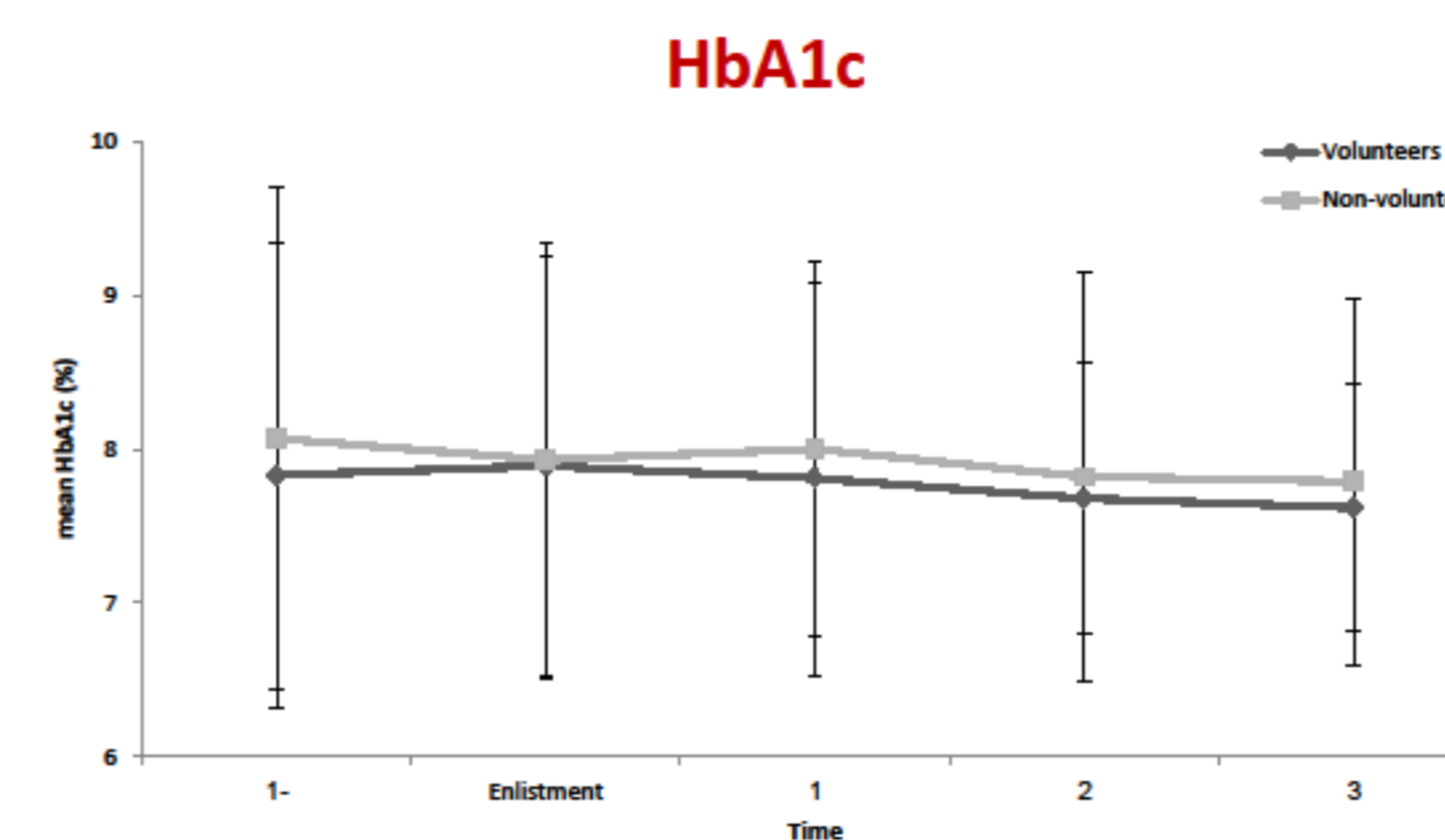
**Methods** Clinical and laboratory data was collected from medical records one year prior to enlistment to military service, at enlistment, after 1, 2 and 3 years of service.

## RESULTS

Baseline characteristics at one year prior to enlistment of T1D volunteers were similar to those of controls

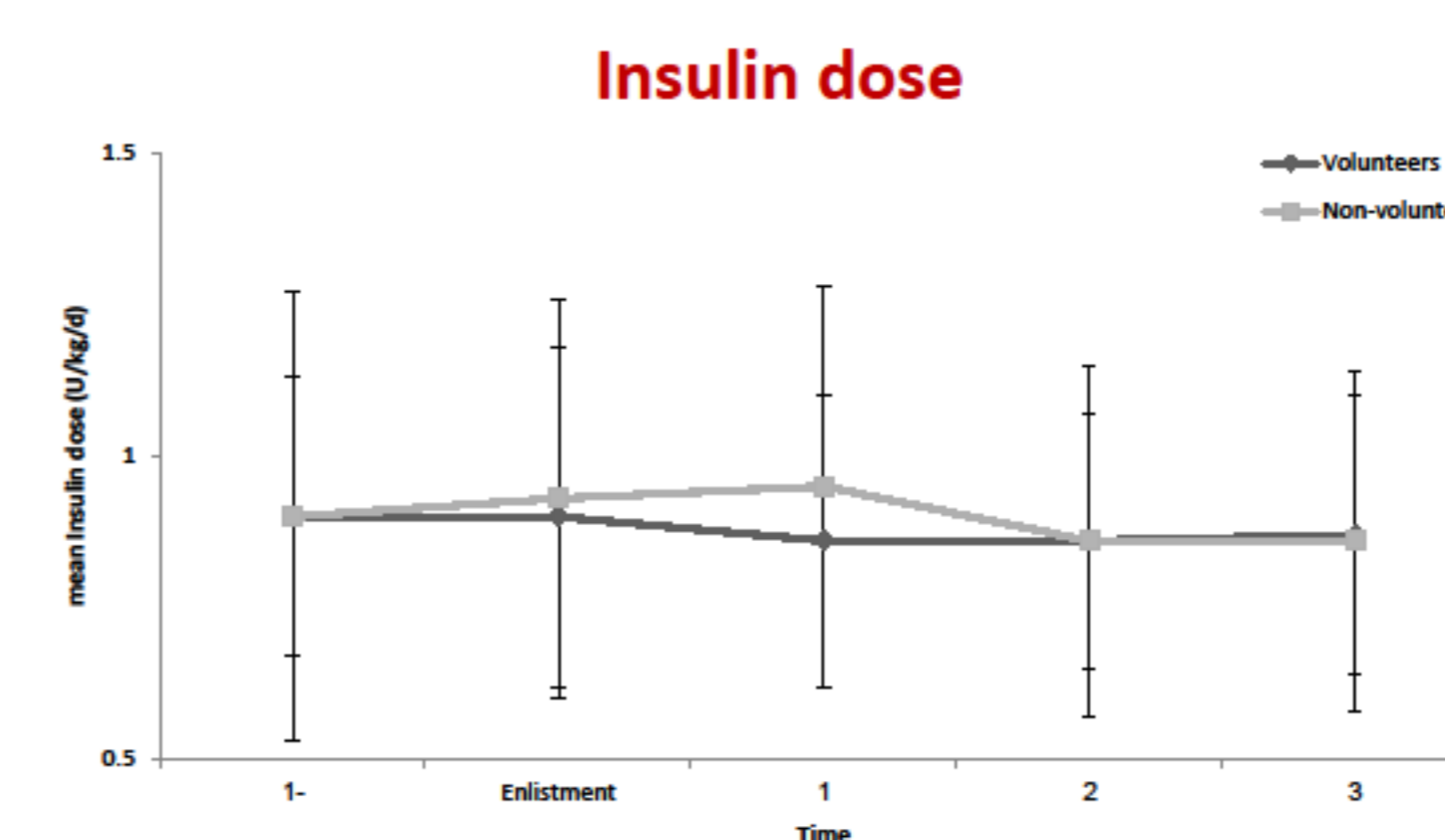
	National Service volunteers (n=76)	Non-volunteer controls (n=69)	P
Males, n (%)	36 (47.4)	38 (55.1)	NS
High school education, n (%)	74 (97.4)	67 (97.1)	NS
Age at diagnosis of diabetes, mean ± SD, years	10.7±4.3	11.8±3.9	NS
Insulin pump therapy, n (%)	33 (43.4)	23 (33.3)	NS
Co-existent autoimmune diseases, n (%)	13 (17.1)	5 (7.2)	NS
Hashimoto disease, n (%)	8 (10.5)	3 (4.3)	NS
Celiac Disease, n (%)	5 (6.6)	2 (2.9)	NS

## RESULTS



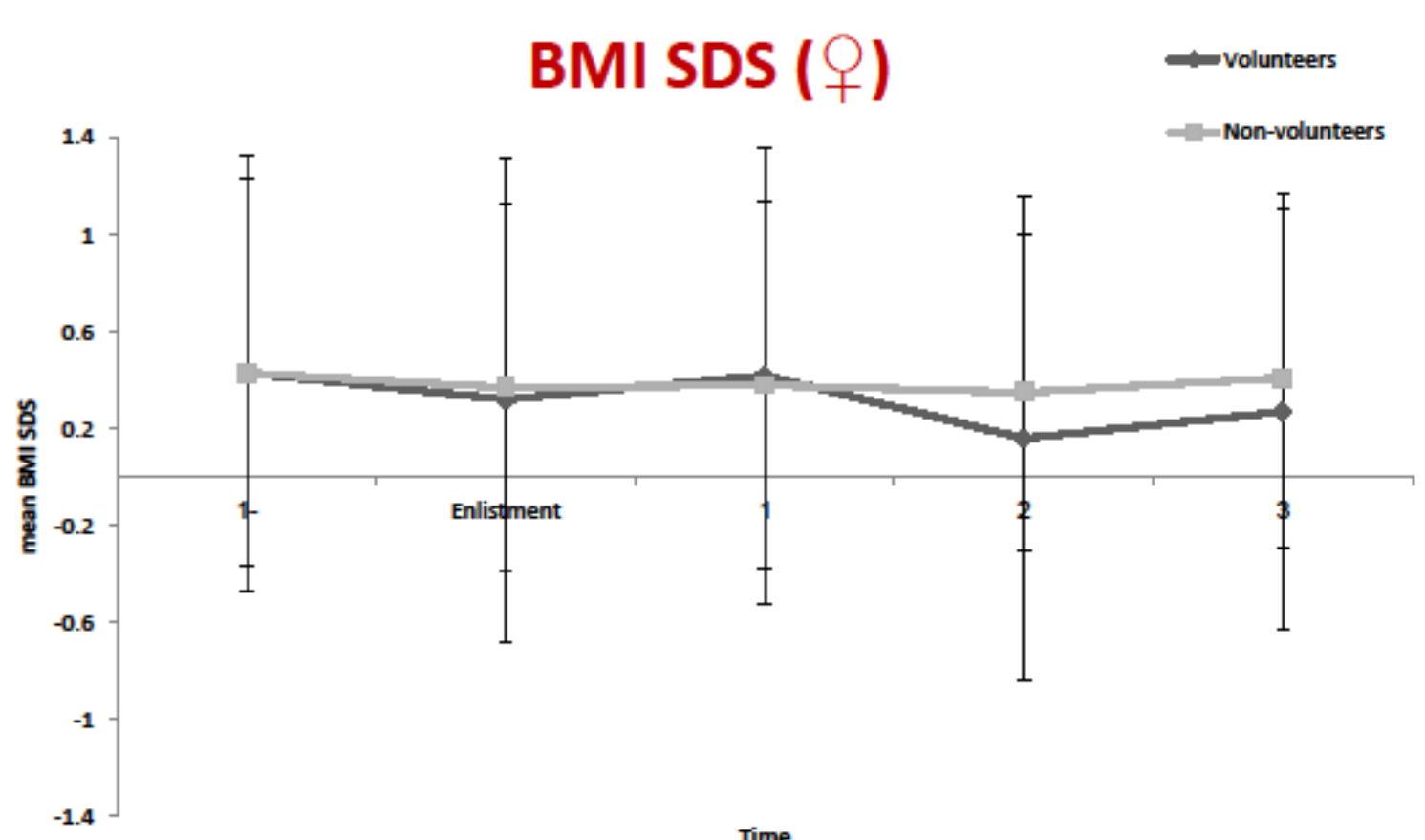
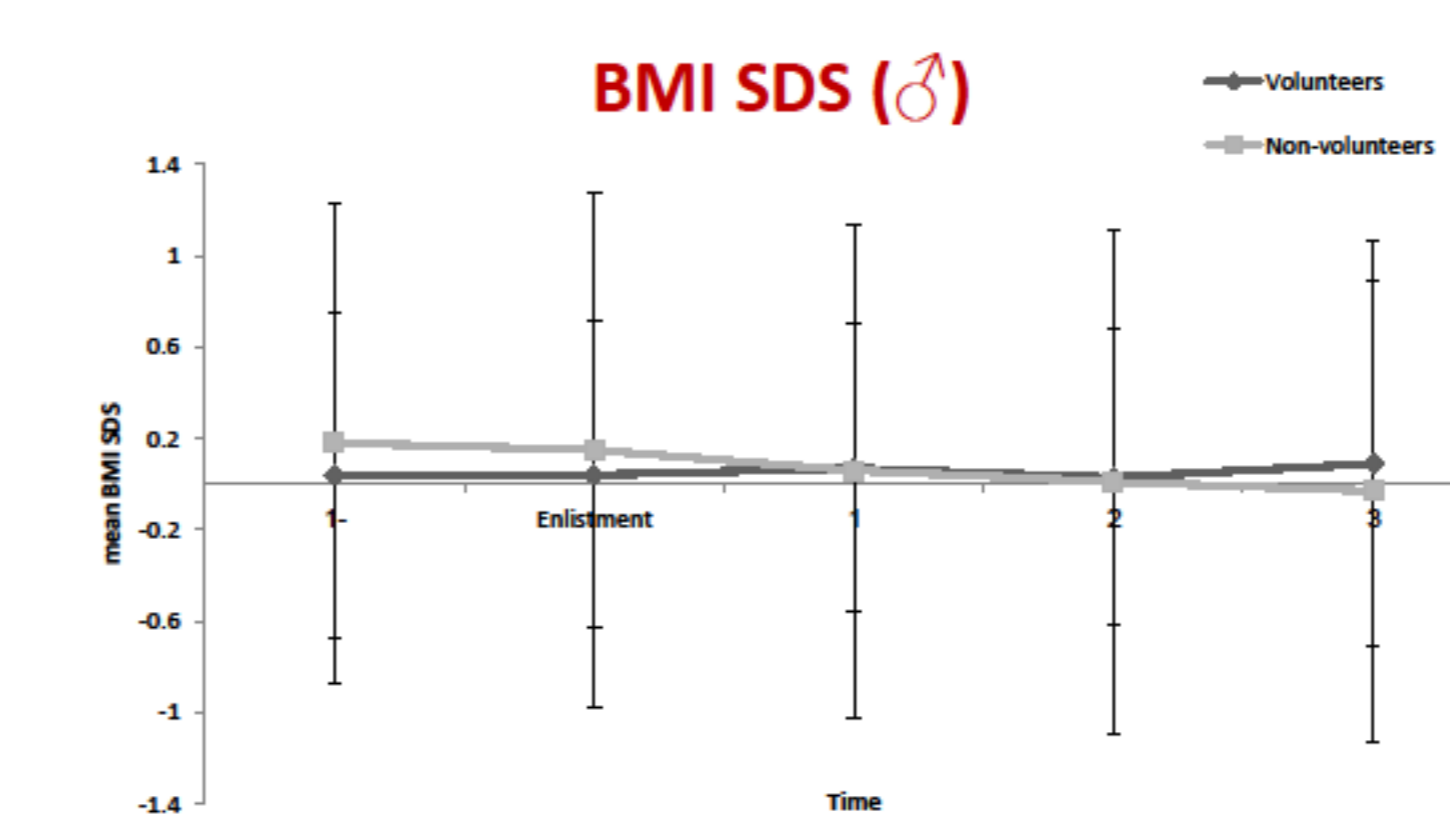
Mean HbA1c of the cohort at 1 year prior to enlistment age was  $7.95 \pm 1.57\%$

- no significant difference between volunteers and non-volunteers
- no significant changes from baseline throughout follow-up.



Mean daily insulin dose at 1 year prior to enlistment age was  $0.9 \pm 0.31$  units/kg/d

- insulin requirements were similar in the volunteers and non-volunteers
- no significant changes from baseline throughout follow-up.



BMI SDS was normal in both volunteers and non-volunteers, with no significant changes from baseline.

- Males weighed less than females at one year prior to enlistment and throughout follow-up.
- Metabolic control and insulin requirements were similar in males and females.

There were no severe hypoglycemia episodes and DKA events in both groups.

## CONCLUSIONS

Our data suggests that young adults with type 1 diabetes can maintain appropriate metabolic control during military service without significant weight change or severe acute diabetic complications, similarly to age-matched controls with type 1 diabetes.

