



Predictive Model of Severe Decompression Illness in Artisanal Fishing Divers of the Yucatan Peninsula



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Background

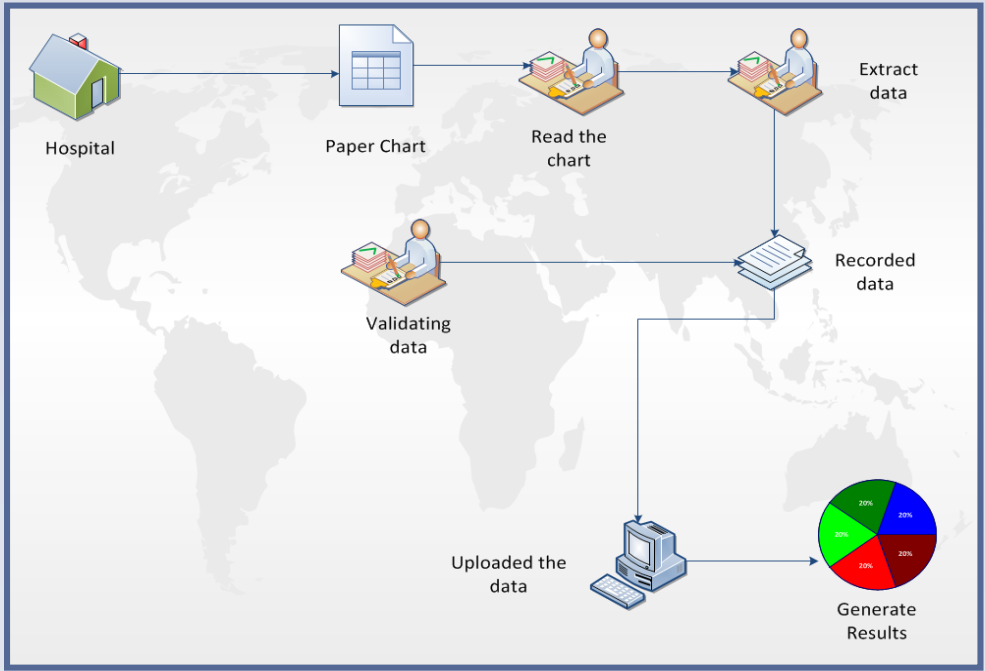
Artisanal fishermen use surface supplied air to dive for marine protein. Many of the fishermen experience DCS annually.

Purpose

We wanted to identify predictors of repetitive DCS in this population.

Materials & Methods

Retrospective review of 115 fishermen divers treated for DCS from 4 fishing villages (FV) during the first seven months of the 2014-2015 fishing season was conducted from the Hyperbaric Center in Tizimin, Yucatan, Mexico. Symptom Severity Scale (SSS) was formulated based on symptoms present upon admission. Symptoms were scored using a two-point scale (0-1) and assigned an importance factor from 25%-100%, where 0 means no symptoms and 100% means a critical symptom, e.g. paralysis. Univariate and bivariate analysis of variables were used to build a binary logistic regression model (BLRM). The break for the outcome for BLRM was set at a prevalence of DCS of more than 5.

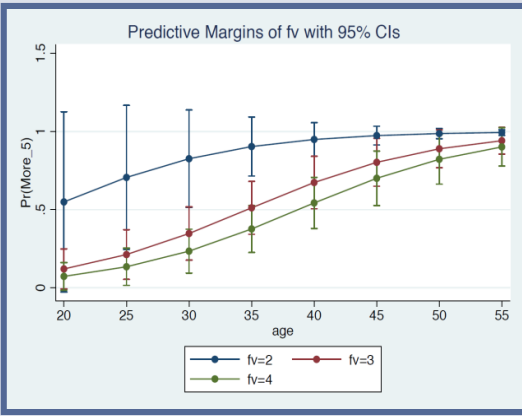
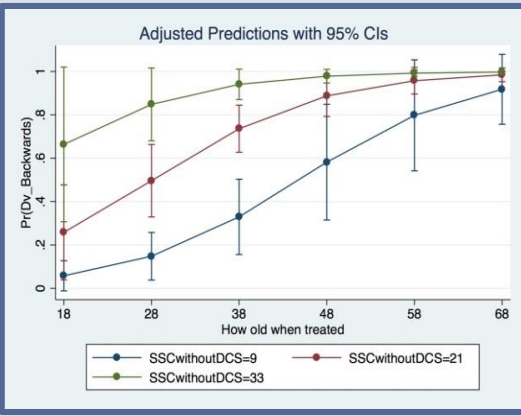
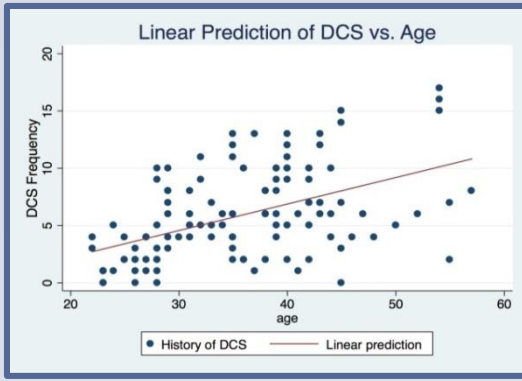
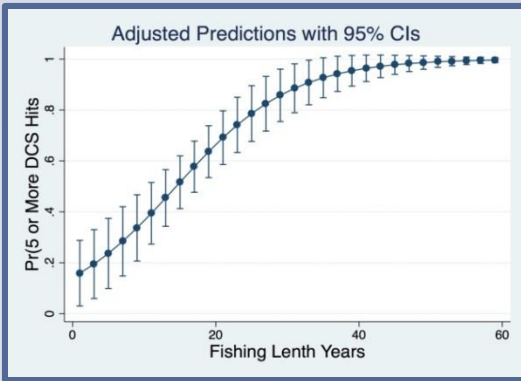
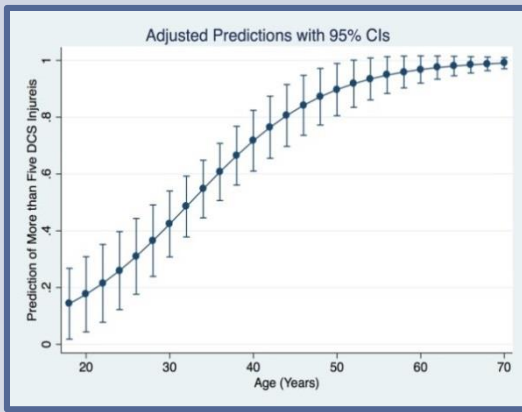
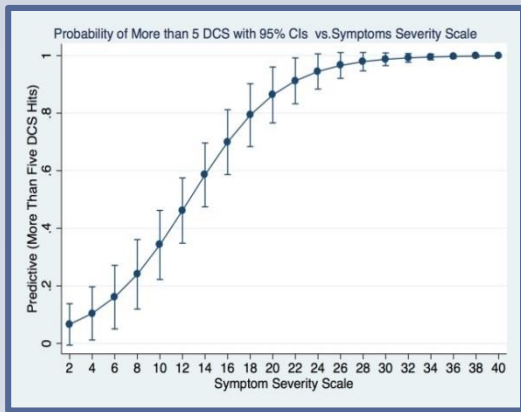
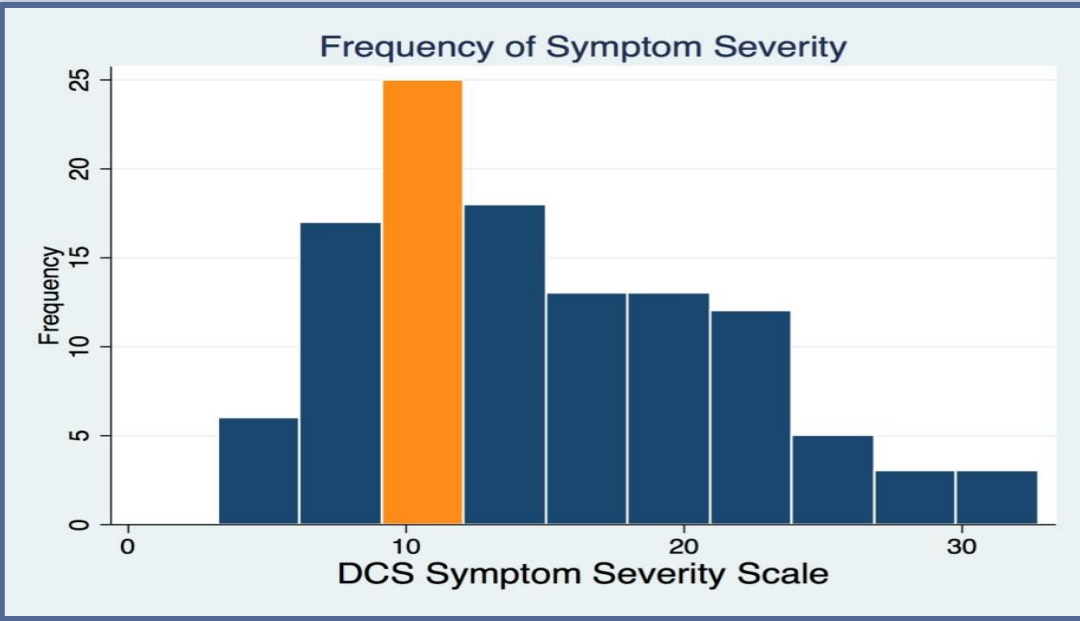
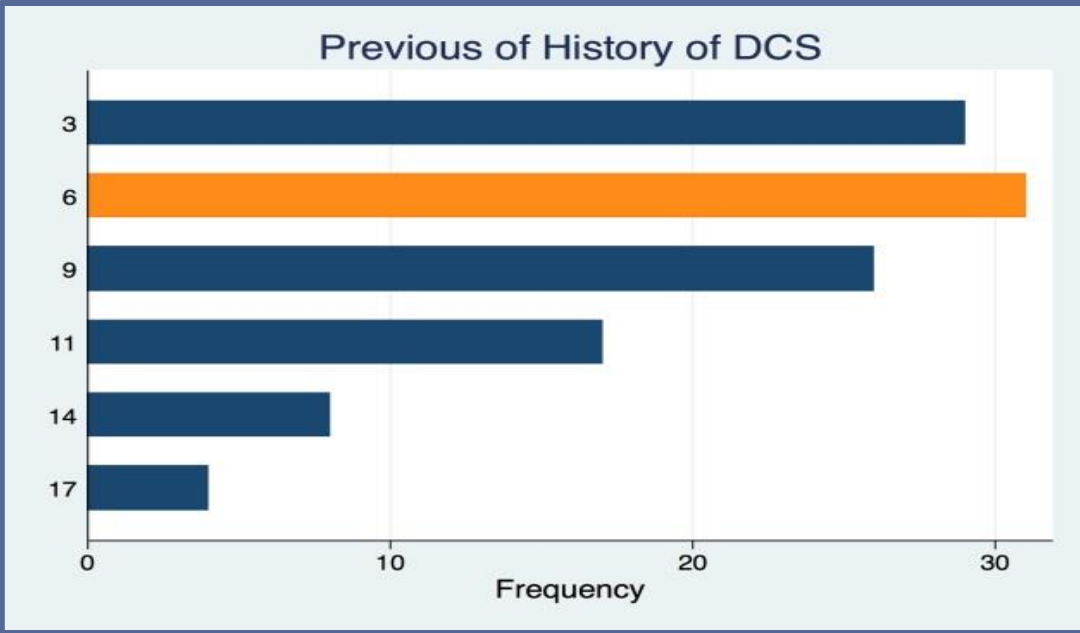
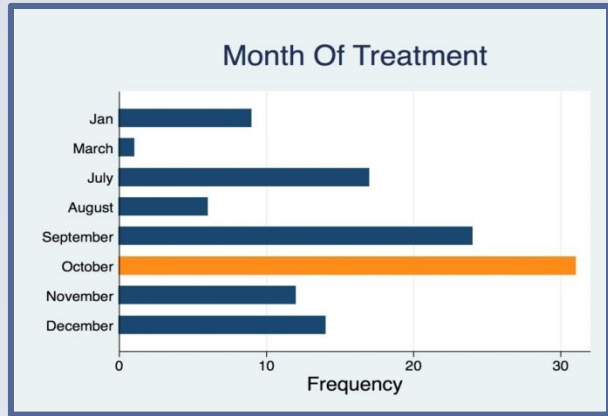
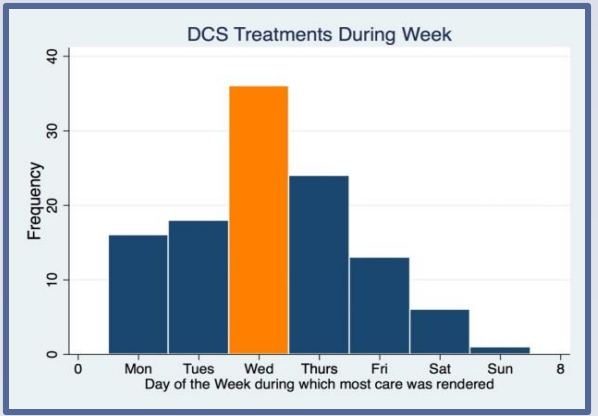
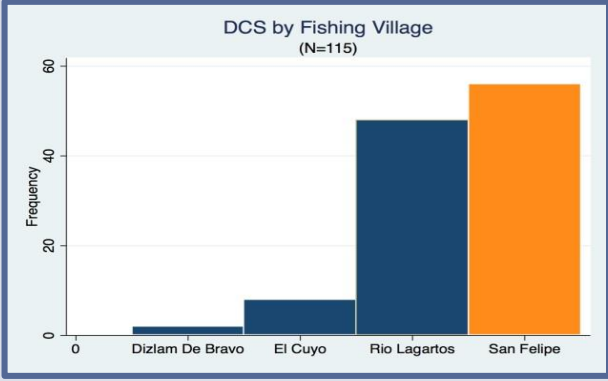
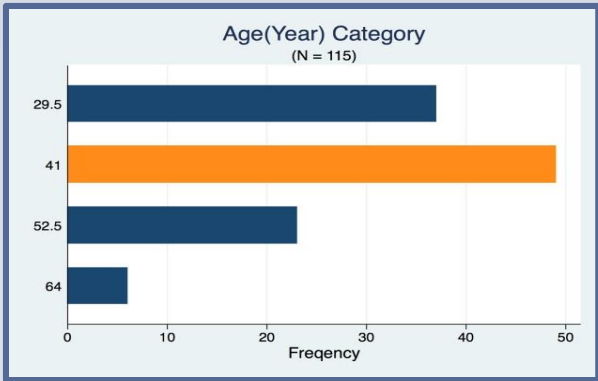


Results

DCS symptoms included upper and lower extremity pain (58%), thoraco-abdominal pain (49%), ecchymosis (13%), and inability to walk (13%). Minor symptoms included nausea, vomiting, vertigo, pruritis.

Descriptive Statistics					
	N	Min	Max	Mdn	Average
Age (Years)	115	22	57	35	36
History of DCS	115	0	17	5	6
Bottom Time (Minutes)	112	60	300	120	129
Severity Scale without history of DCS with Importance Factor	115	0.00	60.50	20.50	23
Time off from work (Days)	114	7	14	7	7

Symptoms Present		
	Yes	No
Musculoskeletal	97	19
Gastrointestinal	31	85
Neurological	48	68
Circulatory	8	108
Respiratory	3	113
Itchy Skin	11	105
Vertigo	14	102
Nausea	29	87
Vomitting	17	99
Echymosis	15	101
GML	35	81



Discussion

Group by group comparisons separated by age and SSS showed that prevalence of DCS become asymptotic after 55 years of age. Fishermen with repeated injuries were more symptomatic. One possible explanation is the nature of previously experiencing DCS and comfort of vocalizing symptoms.

References

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Acknowledgements

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