Reviewer’s report

Title: Burden of Disease Resulting from Chronic Mountain Sickness Among Young Chinese Male Immigrants in Tibet

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Reviewer: Wu TY

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Comments to the Author

General comments

Review of the Manuscript: BMC Public Health Research article entitled “Burden of disease resulting from chronic mountain sickness among young Chinese male immigrants in Tibet”

The authors set out to assess the burden of disease resulting from chronic mountain sickness (CMS) among the young Han Chinese soldiers who stationed at high altitudes (3570-5380 m). Authors used disability-adjusted life years (DALYs) to estimate the disease burden of CMS. The results showed that CMS imposes a considerable burden on Chinese soldiers in Tibet, and suggested that using DALYs studies of CMS is an useful methodology.

Major comments

First, a larger question is that of the diagnosis of CMS: I believe that the reported CMS cases may be correctly diagnosed as subacute mountain sickness. The reported soldiers were resided in the highland for more than six months; however, more details on length of residence were not clear. Previous studies among Han Chinese immigrants in Tibet has been suggested that CMS requires years of residence at high altitude, healthy Han lowland person can develop CMS during his continuously living at altitudes for 15-20 years, whereas a Tibetan, the period necessary is more than 35-40 years.[1,2] As for Chinese young soldiers, their term of military service is not more than three years. So the time course of altitude residence for developing CMS are shorter in these reported young soldiers.

However, they may be consistent with the Indian young soldiers stationed in the Himalayas, healthy lowland soldiers stationed at extreme altitude between 5800 and 6700 m (mean 6060±281 m) for a mean duration of 4.5 months (note: not more than 1 yr), and diagnosed as subacute mountain sickness. [3,4] Although the “consensus statement on chronic and subacute high altitude diseases”[5] haven’t a definite length of residence for CMS, most findings suggestive of both people native to high altitude and lowlanders resident at high altitude for several years are at risk of developing CMS.

Second, in fact, this is an epidemiological study, risk factors such as higher
residential elevation, more advanced age (in young soldiers will not significantly contribute to the statistical model), longer highland service years, smoking, and heavy exercise performance (Table 1—6) has been reported previously and repeatedly. Higher BP and higher HR are clinical manifestations of CMS only, not a burden of disease.

Finally, the specific magnitude of the study are limited, as the effects felt apply only to this very specific place and population (young soldiers) so no general public health significance. In addition, Even if the authors used a series of statistically analyses, there was no an important innovation of the epidemiology or pathophysiology of subacute mountain sickness or CMS, and that is not publishable.

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