Chi squared test versus Fisher's exact test

To the Editor—A recently published article by Chan et al[1] illustrates the problem of using the Chi squared test. If there are more than 20% of cells with an expected value of less than 5 in a contingency table, we should use Fisher's exact test. From Table 3 of their paper, we find some cells with an expected value of less than 5. For example, for the "treatment on health problem", there is a cell with an actual value of 4, its expected value is 2.09. Similar conditions occurred in the table for "Used health hotline before". In these cases, Fisher's exact test should be used instead of the Chi squared test. The former is a more accurate test, which directly calculates the probability of the distribution of the sample appearing in the table by chance. Previously, Fisher's exact test was not commonly used as the calculation procedure was tedious and complicated.[2] The problem has now been overcome by computers.

Interestingly, when P values in Chan et al's paper were computed, I observed that the value in Table 3 was the result obtained using Fisher's exact test and not the Chi squared test. The authors are absolutely correct to compute the P value by Fisher's exact test, but this should be stated as such instead of calling it a Chi squared test P value. The two tests are different. If in doubt about whether the sample size is large enough for the Chi squared test to be valid, use Fisher's exact test.[3]

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Chinese translation of primary glioblastoma

To the Editor—I read with great interest the article in the June issue of the *Hong Kong Medical Journal* on Chinese glioblastoma patients.[1] As the authors pointed out, it is one of the commonest and most lethal brain tumours and current treatment with surgery, radiotherapy and chemotherapy has not dramatically improved the prognosis. With its many well-characterised and unique molecular pathway alterations,[2] it is logical to turn to the rapidly advancing field of molecular medicine. The authors are therefore to be congratulated on confirming the prognostic value of one of the oncogenic molecular changes, viz: methylation at the promoter region of the *MGMT* gene which codes for the DNA repair protein, O^6methylguanine DNA methyltransferase. Although such methylation may silence a tumour suppression process and probably plays a part in the oncogenesis of glioblastoma, yet nevertheless appears to predict a favourable response to chemotherapy with temozolomide.[3]

One question I would like to raise concerns the Chinese translation of the abstract where the term "primary glioblastoma" was translated as "初級膠質母細胞瘤". Usually by "初級" we mean something early, low grade or not advanced, but a primary glioblastoma may not be early and certainly could be rather advanced and of high-grade malignancy. In some Chinese texts on the subject the term "初發性膠質母細胞瘤"[4,5] is used for primary glioblastoma to distinguish it from recurrent glioblastoma, for which they use the term "復發性膠質母細胞瘤". On other occasions they use the term "原發性腦腫瘤"[6]

to denote a primary brain tumour, thus making the terminology fall in line with tumours in other organs, for example, "原發性肺癌" for primary lung cancer.

I would very much appreciate the advice of the Editorial Board and other readers on this subject.

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Response from HKMJ Editorial Department

We thank Dr Leung for drawing attention to the error in the Chinese translation. As pointed out in his letter, the alternative translation is preferable. Accordingly the corrected translation of the abstract appears at http://www.hkmj.org.

Answers to CME Programme
Hong Kong Medical Journal August 2011 issue

Hong Kong Med J 2011;17:261–6

I. A synopsis of current care of thalassaemia major patients in Hong Kong

A	1. True	2. True	3. False	4. True	5. True
B	1. True	2. False	3. True	4. True	5. True
C	1. True	2. True	3. False	4. True	5. True

Hong Kong Med J 2011;17:267–73

II. Urinary symptoms and impaired quality of life in female ketamine users: persistence after cessation of use

A	1. True	2. False	3. False	4. False	5. True
B	1. False	2. True	3. True	4. True	5. False