



Lost Ethnic Borders in Ethnopharmacological Research

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Ethnopharmacology is defined as "The interdisciplinary exploration of biologically active agents traditionally employed or observed by man"[1]. Currently, available drugs like Aspirin and Metformin are the result of the wisdom of ethnic groups [2] which shows the importance of ethnopharmacological research. Due to the interest of ethnopharmacologists in fascinating the drug discovery process, they have focused mostly on designing projects in which sampling is done according to political and/or regional borders. Such studies are usually conducted on a population living in a particular city or country and do not consider the ethnicity, ancestral, lingual, and historical background of interviewed people [3].

One of the most important criticisms of the results of such ethnopharmacological studies is the non-reproducibility challenge [4]. Accordingly, various studies can be found that have been conducted in a specific area, but the results are not consistent. In general, this incompatibility in studies' findings can be due to the inclusion of scattered data from various ethnic groups living in the same area. As we know, anthropological factors can affect ethnopharmacological outcomes. The presence of expert anthropologists in ethnopharmacological research teams leads to pure sampling from ethnic groups or classifications in societies with mixed cultures which results in the consistency of ethnopharmacological studies [5]. In other words, a specific region may be the resident place of diverse ethnic groups. For instance, a study of the Bojnurd district (North Khorasan Province, Iran) comprising

various ethnic groups (Kormanj, Fars, Tats, Turkmens, and Turks bearing a variety of beliefs, cultures, and languages) [6] may result in heterogeneity of ethnopharmacological data and low Informed Consent Ratio (ICR). For this reason, further accompanying anthropology and ethnopharmacology based on joint research programs may be useful. In an ideal situation, each minority with a common ancestor and mutual language who live in a similar region may be investigated separately according to related ethnic borders for increasing the chance of drug development success.

Figure 1 may clarify our criticism; In figure 1a we have assumed a pure ethnic group from a specific culture in a location without cultural heterogeneity. In such settings, all acquired data are pure and ICR will rise which finally results in an increased chance of a valuable pharmacological agent. On the other hand, based on figure 1b we can assume a location in which different cultures live. This assumed society is the most common type of ethnopharmacological study and has caused scattered results. In current ethnopharmacological researches, ethnopharmacological data have been diluted among people which finally results in lower ICR; low ICR causes lower researchers potential to choose valuable candidates for further drug development studies. Commonly, researchers mainly try to determine and focus on shared ethnopharmacological data which may refer to intersection of A, B and C in figure 1b. Although via this strategy we acquire highly convergent data but may cause losing

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bigger ethnopharmacological data in heterogeneous societies. We believe that considering cultural borders in ethnopharmacological studies sampling can help prevent losing potential agents for further studies.

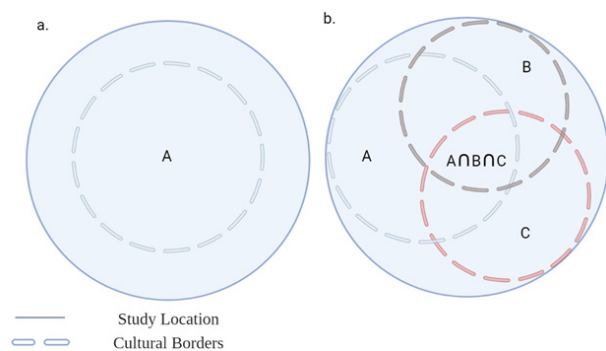


Figure 1. Schematic view on two different assumptive geographical locations in an ethnopharmacological study. a: Homogenous ethnic culture b: Heterogenous ethnic culture

In conclusion, it is possible to achieve more comprehensive and convergent results if the ethnicity of samples is emphasized in ethnopharmacological studies. Therefore, in ethnopharmacological and related studies, priority should be given to classifications based on the ethnicity of individuals and not to merely political and regional borders. This means that considering ethnic borders in classifying data leads to choosing more potential candidates for drug discovery. It seems that special attention to ethnic groups should also be emphasized in the ethnopharmacology defini-

tion. In an ideal situation, to make researchers aware of the ethnic border, a tribal or ethnic index should be included in the ethnopharmacological studies. Consequently, such indices should be considered as one of the quality indicators in ethnopharmacological research design, performance, review, publication, and products.

Conflict of Interests

None.

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