

## Methodological Considerations in Studying Sexual Behaviors of Young People in Iran

In recent years, there has been increasing number of studies about young people's sexual behavior and its correlates in Iran (1-5). These findings will hopefully sensitize health policy makers to sexual risks (HIV, STIs, pregnancy, and abortion) among young people in general population and inform appropriate programs and interventions to protect young people from associated risks. However, some of these studies have important limitations that make the interpretation and generalization of the finding difficult, particularly at national level and will provide some biased results on this highly sensitive topic. Some of these methodological limitations are as follows:

Some studies have assessed sexual behaviors of a specific sample of college students in a particular city, while explicitly or implicitly generalize the findings to Iranian youth. For instance, in the title and the main text, they tend to use Iranian youth instead of focusing on the study population which are college students in the particular city (3). College students in metropolitan cities tend to be more vanguard to new ideas and are more likely to be liberal in sexual attitudes and behaviors. Generally, unless we have a national representative sample, the rates cannot be generalized to the general population of young people. Moreover, the investigators need to acknowledge the heterogeneity between cities in the country in interpretation of the finding.

Another issue is special features related to researches of sensitive subjects such as sexual behavior. Some studies which fail to get official consent from the institutions (schools or universities), they tend to interview students who are volunteers and volunteers tend to be more sexually curious and likely to be more interested to know about the topic or even might be more sexually experienced. They might see their participation as an opportunity to receive some information from the questionnaire or the interviewer (1), hence, researchers need to make sure that students who reject to participate are not different from volunteers. Similarly, the investigators need to make sure that respondents with missing data on sensitive questions are not different with those who responded.

Obtaining a non-representative sample is another important limitation. If applying random sampling is not possible, using proportional probability to size (PPS) can be helpful. Because the sample comprises of different subgroups, for instance, students of government and private universities, or men and women, the proportion of these subgroups within the sample might be different with the proportion in the study population. Hence, if researchers failed to use PPS based on important subgroups; need to give appropriate weight to different subcategories at the analysis stage. This becomes more important when sexual behaviors of these subcategories are different and lack of weighting lead to biased results. For instance, studies showed that students in government universities are significantly more conservative in sexual attitudes and behaviors compared to students from private universities (1, 6). Hence, if a representative sample of students (both private and government) universities is considered, the same proportion of each type of university need to be selected in the sample as their proportion in the population, if these proportions are different, weighting is needed. There is little evidence of weighted sample in many of published papers (3, 4). Hence, samples which over-represent private students, will over estimate the sexuality of college students.

One important issue is that studies of sexual behavior among unmarried youth in Iran showed that a considerable proportion of sexually experienced youth, particularly females do not practice vaginal intercourse and because of importance of virginity, they might involve in non-penetrative sex or even non-vaginal intercourse. These are named by young people as "incomplete sex" versus "complete sex" (1). Even some unmarried females refer "complete sex" as only "vaginal sex" and all other type of sex as "incomplete sex". If other non- vaginal penetrative sex is not considered as sexual intercourse, because of significant risks associated with these types of sex in terms of sexually transmitted diseases and HIV, this creates an underestimation in high risk sexual behavior. Qualitative studies will add more in-depth knowledge in this regard to the quantitative data. Some of these studies in Iran have not identified which exact term or phrase was used in the questionnaire for sexual experiences (sexual intercourse, or "*Nazdiki Jeni*" vs. sexual contact or "*Tamas-e-Jensi*"). Details about type of sex always are difficult to be asked in the questionnaire, but they are preferred, however, if it was not possible, at least they need to be acknowledged as a limitation. Some young people consider touching sex organ or sex by touch as sexual contact and report it as sexual experience. Studies should consider this important issue when conducting research on sexuality in societies like Iran which virginity and physical hymen is important for women.

Management of data collection is another issue that needs to be clarified carefully. For instance, sometimes studies conducted among both men and women in a class (cluster), while, it is unclear how the investigator managed the data collection when both men and women were present in the class (3). Anonymity and confidentiality issue is another important methodological consideration which is needed to be emphasized. Critics always doubt that students in an institution tell the truth and report their sexual experiences without fear from the consequences for their position in the university. The investigators need to explain what strategies they applied to minimize this threat.

Gender disparity in sexual attitude and behaviors is required to be taken into account. Although, sexual behavior among young people is subject to change by time, but it is unlikely that nearly similar percentages of females and males college students report premarital sex (39% and 41%, respectively), the rates were reported by a recent study among college students in a city in north Iran (3). I believe, it is a biased rate. Gender double standard in Iran is responsible for

different sexual behaviors among men and women like many other societies. In a representative sample of female college students in Tehran, the capital of Iran, all types of sexual contact including intercourse was approximately 24% while only 11% was intercourse (1). The rate among male college students was also about 34% (6). Even the rate of vaginal intercourse among unmarried female college students in Tehran in 2005-6 was only 6.8% (1) and among male college students was about 20% (6).

Despite that sexual attitude and practice have changed over the past century around the world (7), it was shown that still there is diversity between countries towards younger age at sex (8), while due to postponement of marriage, the proportion of young people who practice premarital sex is increasing. Environmental factors are responsible for such variation. Factors such as social norms, family and marriage still have important roles in preventing young people from premarital intercourse in Iran (9, 10). In developing countries in Asia, between 2-11% of females and 24-75% of males experience premarital sex before the age of 18 (11), based on studies among college students in selected metropolitan cities of Iran and taking into account the heterogeneity in the country, it seems that overall between 10-15% of females and about 20% of males get involved in premarital sexual intercourse before marriage. Even the corresponding rate among general young population is expected to be lower. However, significant minorities of young people are involved in premarital sex and this wills appropriate attention because there is no formal education on sexual health for unmarried people and they will be exposed to several health risks.

Finally, recent interests on this topic among young scholars in Iran should be acknowledged. These methodological considerations need to be addressed carefully. Studies with robust methodology can help to provide scientific evidences on the level and determinants of high risk sexual behaviors among young people, to inform current programs to meet young people's need in sexual and reproductive health.

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**Farideh Khalajabadi Farahani\*, Ph.D.**  
**Associate Editor of the Journal**

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\* Department of Population, Health and Family Planning, National Institute for Population Research, Tehran, Iran