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Abstract

Background: There is little systematic information about health risk behaviours among youth in Middle Eastern countries, leaving public health authorities unprepared to deal with emerging public health threats at a time of major social change.

Aim: The Palestinian Youth Health Risk study investigates patterns of risk behaviours among Palestinian youth, their perceptions of the risks and benefits of such behaviours, and the relationship of exposure to violence with mental health and engagement in risk behaviours.

Methods: We conducted a representative survey among 2500 individuals aged 15–24 years in the West Bank and East Jerusalem, permitting reliable comparison across sex and rural–urban divisions. A stratified 2-stage random sample was drawn from the 2007 population census, with strata formed by crossing the 12 governorates with urban, rural and refugee camp locations. Within strata, 208 survey clusters were sampled with probability proportional to size. Within each cluster, 14 households with youth of the appropriate age were sampled.

Results: Among youth aged 20–24 years, 22.4% of males and 11.6% of females reported trying alcohol; 10.5% of males and 4.3% of females reported trying drugs. Almost one quarter of unmarried youth aged 20–24 years reported any sexual experience. Tobacco use is high, even among younger youth (45.4% of males and 21.2% of females aged 15–19 smoke). Risk behaviours are higher among males, older youth and in urban areas and refugee camps.

Conclusion: While smoking is of particular concern, prevention outreach for all behaviours should be directed at subgroups and areas identified as highest risk.

Keywords: youth, health risk behaviours, Palestine, survey

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Introduction

Relatively little is known about key health risk behaviours among youth in the Middle East and North Africa (MENA), leaving public health authorities in the region unprepared to deal with emerging public health threats at a time of major social changes. Rates of tobacco use among younger adolescents aged 13–15 years, for whom systematic data are available, are higher in the MENA region than in other regions other than Latin America and the Caribbean (1). Although youth-specific data are lacking, the use of injecting drugs has been noted in many countries, including Lebanon, Libya, Morocco, Oman, Saudi Arabia and Tunisia (2), and there is evidence of significant recent increases in the use of amphetamines, opioids and other drugs, particularly in the countries bordering the Persian Gulf (3). With regard to sexual activity among youth, a rising age of marriage throughout the region as well as increases in rates of sexually

transmitted infections (2,4) suggest increasing rates of sexual activity outside of (and before) marriage. In Morocco, 40% of reported sexually transmitted infections are among 15–29-year-olds (5).

Youth in the occupied Palestinian territory of the West Bank, East Jerusalem and Gaza are experiencing similar risks, including particularly high rates of tobacco use (6,7). Drug use, especially in East Jerusalem, is a growing concern (8). Youth unemployment, considered a risk factor for drug use (9,10), is very high (26% and 55% in the West Bank and Gaza, respectively, for those aged 20–24 years) (11). A further potential risk factor facing Palestinian youth is the stress of sustained political conflict and economic hardship. An understanding of the patterns and causes of youth health risk behaviours will enable policymakers to develop and target appropriate prevention programmes (12).

Existing studies of youth in the occupied Palestinian territory and the region have serious drawbacks that limit our understanding of the prevalence and patterns of most risk behaviours. These studies mostly use school-based samples of adolescents rather than representative, random samples of youth that include out of school and older youth, who may be at greatest risk. Existing surveys also typically do not cover many key risk behaviours (in particular sensitive behaviours such as sexual activity), or do so only in terms of perceptions regarding peers, not the youth's own engagement.

The Palestinian Youth Health Risk Study addresses this gap and to our knowledge is the first in the region to collect large scale, representative data on risk behaviours among youth including smoking, alcohol and drug use, sexual activity and interpersonal violence. The study was designed to investigate levels and patterns of these behaviours as well as mental health among Palestinian youth, youths' perceptions of the risks and benefits of such behaviours and their expectations about the future, and the relationship of exposure to violence and conflict to mental health, future orientation and engagement in risk behaviours. This paper presents findings on the prevalence of risk behaviours among youth aged 15–24 years, considering variations by sex, age and location. Location is a potentially important determinant given the differences between rural and urban areas of the occupied Palestinian territory—and between them and refugee camps—with respect to cultural attitudes, access to alcohol and drugs, and economic and political tensions.

Methods

Study population and sampling

The survey targeted a representative sample of 2500 youth aged 15–24 years in the West Bank and East Jerusalem, reflecting the objective of permitting reliable comparisons across sex and

rural–urban divisions. A stratified 2-stage random sample was drawn from the 2007 population census, with strata formed by crossing the 12 governorates with urban, rural and refugee camp location. Within strata, 208 survey clusters (census enumeration areas) were randomly sampled with probability proportional to size. Within each cluster, 14 households with youth in the appropriate age range were sampled using a modified random walk. Implicit stratification ensured equal numbers of male and female youths. Where households had multiple youth, the participant was selected using Kish tables (13). Data collection took place during March–June 2014.

Extensive formative research, including focus groups and in-depth interviews with youth as well as thorough pre-testing of survey questions, was used to determine culturally appropriate approaches to interviewing and question wording, sequence and response formats. The survey asked questions on a range of other topics before coming to sensitive issues about behaviours, and asked first about behaviours of general peers and close friends of the respondent before asking about their own activities. Substantial efforts were made to develop procedures to ensure that youth were comfortable discussing sensitive topics. Interviewers were strictly instructed to ensure that the youth interview was conducted in a private room or other private area (e.g. the roof of the house). Youth could choose to be interviewed at a local youth centre or other outside location, though few did so. Interviewers were matched to respondents by sex. To accommodate sensitivities, questions on sexual activity were not asked of minors (under 18 years). Field testing of interview procedures, survey logistics and the questionnaire was carried out in an urban area, a rural community, and a camp setting.

As the formative work indicated a lack of comfort or trust with computer assisted self-interview, interviewing was done face-to-face, with one partial exception. Youth initially had the option of taking a self-administered (paper) questionnaire for questions on sexual activity that retained the face-to-face format, but with the answers written rather than spoken aloud and then placed by the youth in a sealed envelope. Soon after the start of the fieldwork, the questionnaire was instead randomly allocated to ascertain if the mode mattered for responses, to be assessed in future work.

Youth consent/assent and (for minors) parental consent was obtained for the interviews. The study was approved by RAND’s Human Subjects Protection Committee. Refusal rates among youth were low, 11% for the survey overall, and that partly reflects a high (about 30%) refusal rate in East Jerusalem.

Data analysis

Analysis of group differences in behaviour by subgroups was done primarily using Pearson

chi-squared tests. Separate analyses by sex were performed using STATA, version 13, and incorporating the 2-stage survey design, in particular to allow correlations of standard errors within sample clusters.

Results

Sample characteristics

Ultimately the sample consisted of 2481 youth with usable data. In keeping with the overall demographic profile of the occupied Palestinian territory, there are more individuals in the younger age group (15–19 years): 1419 (57.2%) vs 1062 aged 20–24 years (42.8%) (Table 1). However, males aged 20–24 years make up only 40.0% of all males, while the older female group accounts for 45.7% of all females. This is likely explained by older male youths being more likely to be living away from home, or if living at home, being unavailable for interview even after several visits. About one quarter of the sample are classified as refugees (Table 2), that is, descendants of individuals who lost land or livelihood during the 1948 or 1967 conflicts. Most refugee families do not actually live in refugee camps, which can be rural or urban.

Youth in camps are less likely to be in school (Table 2), and have lower grade attainment. Among males aged 15–24 years, while 60.4% of urban and 64.1% of rural respondents are in school, only 44.8% of those in camps are (P = 0.019 and 0.006 for comparison of camps with urban and rural areas); the differences for females are smaller and not statistically significant (P = 0.253 and 0.200). Rural respondents are less well-off than urban residents, as indicated by an asset index constructed from data on consumer durables (13) (P = 0.001 and P ≤ 0.001 for males and females respectively). The index appears lowest for camp residents, but the study lacks power for detecting differences between camps and the other areas.

Health risk behaviours

Response rates

Non-response rates (“no answer” or “don’t know”) on individual questions were generally very low, under 1%. Rates were somewhat higher (though under 5%) for questions on current drug use asked of those who indicated that they had tried drugs.

Smoking

Prevalence of all health risk behaviours are shown in Table 3. With respect to tobacco use, 71.5% of older male youth report current smoking (cigarettes or waterpipe) while 45.4% of younger male youth do. Rates are lower for females but still significant: 31.2% for older and 21.6 % for younger females (P ≤ 0.001 for male–female difference for both age groups). Tobacco use is lower in rural compared with urban areas.

There are also age as well as gender differences for use of cigarettes compared with waterpipe (not shown in table). Among youth who use any tobacco, cigarette smoking becomes more important with age. For example, among male youth who smoke, the proportion reporting cigarette use increases from 69% for ages 15–19 years to 83% for ages 20–24 years, while waterpipe use declines from 54% to 42% (the percentages sum to more than 100% since about one-quarter of male smokers in both age groups use both cigarettes and waterpipe). This increase with age in the predominance of cigarette smoking holds for female smokers too, but waterpipe is substantially more common overall for females: even among older female smokers 20–24 years, only 41% smoke cigarettes while 70% use waterpipe.

Alcohol use

Among male youth aged 20–24 years, 22.4% reported having tried alcohol; rates in urban areas and camps (around 26% each) are double that in rural areas (13.2%; P = 0.002 and 0.039, for comparison of rural with urban areas and camps) (Table 3). Rates among female youth aged 20–24 years are substantially lower, but with a similar pattern by area (14.6% in urban areas, 12.8% in camps, and 3.5% in rural areas). Among youth aged 15–19 years, 8.0% of males and 3.6% of females reported ever trying alcohol, again with higher shares in urban areas and camps. Slightly less than 10% of older male youth and 3.4% of younger male youth reported current alcohol consumption (the last 30 days), compared with 4.1% of older females and 1.2% of younger females.

Drug use

Among males aged 20–24 years, 10.5% reported having tried any kind of drugs, including marijuana or hashish, pills, inhalants and cocaine or heroin compared with 3.75% for younger male youth (Table 3). Only 4.2% of older female youth and 1.6% of younger female youth reported ever using drugs. As with alcohol, self-reported drug use is markedly higher in urban areas and camps than in rural areas. The most common drugs tried are marijuana/hashish (57%), inhalants (42%) and pills (14%). Among those who had tried drugs, about one-third of both the younger and older male youth said they currently used drugs of some kind; for females who had ever tried drugs, 29.2% of those aged 20–24 years and 9.1% of those aged 15–19 years said they currently use them. This implies that about 3.6% of all older male youth and 1.1% of younger male youth, and 1.2% of older females and 0.2% of younger females currently use drugs.

Sexual activity

Around 25% of older (20–24 years) unmarried male youth and just over 20% of younger non-minor (18–19 years) unmarried male youth reported having had sexual activity, defined as “romantic kissing, touching private body parts, or sexual intercourse” (Table 3). Male–female

differences are not statistically significant (P = 0.432 for younger males vs younger females, 0.288 for older males vs older females). Rural–urban differences appear pronounced for males: for older males, the shares are 27.4% in urban areas, 14.5% in rural areas, and 38.2% in camps (P = 0.030 for urban vs rural; P = 0.292 for urban vs camps for this group).

Experience of sexual intercourse specifically is substantially lower. Among unmarried males, 9.5% of older (20–24 years) youth and 5–6% of younger (18–19 years) youth reported having had sexual intercourse. Corresponding shares are 6.9% for older females and 4.1% for younger females. Male–female differences are not statistically significant, but rates of sexual intercourse experience are markedly lower in rural areas than urban areas and camps.

Phone sex (sexting) and internet sex (defined as interaction with another person, not merely viewing sexual material) among unmarried youth of both sexes is more common than self-reported physical sexual contact: 38.0% of older and 33.3% of younger (18–19 years) males reported having ever engaged in either phone or internet sex; 29.6% of older female youth and 23.4% of those aged 18–19 years reported having done so.

Interpersonal violence

Among youth aged 15–19 years, 56.0% of males and 29.3% of females reported engaging in a physical fight with someone in the last year (Table 3). Among those aged 20–24 years, 38.4% of males and 21.0% of females reported have been in a fight (P ≤ 0.001 for males vs females in both age groups). Among all youth reporting any fighting, 42% report 1 incident in the last year, with most of the rest reporting 2–5 incidents. For both age groups there is higher prevalence in urban areas than rural (P = 0.049 for urban vs rural for younger youth, P ≤ 0.001 for older youth).

Self-reported own behaviours and perceived behaviours of peers' compared

Responses about risk behaviours of close friends as well as general peers (youth of the respondent's age and sex in their communities) suggest higher mean levels of risk behaviour among friends and peers than respondents' own levels of these behaviours, while showing similar patterns across age, sex and location (Table 4). The differences between reported own and general peers' behaviours are especially large. For example, 9.1% of male youth aged 20–24 years say they currently drink (Table 3) compared with their perceptions of 13.0% for friends (P Table 4). For young women in this age group, reported current drinking is 4.1% compared with perceptions of 6.7% and 10.9%

for friends and general peers, respectively. A similar pattern is seen for other risk behaviours.

Discussion

Levels of risk behaviour in international perspective

This study is the first to collect population-based data on Palestinian—and perhaps any Middle Eastern—youth on a comprehensive range of health risk behaviours. Comparisons with studies from other regions are therefore of particular interest. These comparisons, discussed in detail elsewhere (13), show the prevalence of most self-reported risk behaviours in our sample of youth to be at the low end of the range of findings from countries in other regions, likely reflecting the conservative social context of this study. In the United States of America (USA), self-reported drinking was 34% for boys and 36% for girls aged 13–18 years (14), and 41% and 30% in South Africa for boys and girls aged 14–18 years (15) compared with 3.4% of boys and 1.2% of girls aged 15–19 years in our sample. More in line with our findings, in Tehran (Islamic Republic of Iran) 17% of boys aged 13–18 years reported trying alcohol (16) (8% of males in our sample aged 15–19 years reported doing so). Comparisons for drug use and sexual activity reveal a similar pattern of relatively low rates in the occupied Palestinian territory (10).

However, Palestinian youth show comparatively very high levels of smoking. Even among younger youth aged 15–19 years, 45% of males and 22% of females aged 15–19 years reported smoking in our survey. Tobacco use among young Palestinians is well above the average for countries in the Eastern Mediterranean Region based on cross-country Global Youth Tobacco Surveys of 13–15-year-olds (17), and has aptly been characterized as an epidemic (6). Levels of interpersonal violence also appear high, comparable to findings among South African secondary students, of whom 39% of boys and 25% of girls reported being in a fight in the last 6 months (15); our findings for male and female youth aged 15–19 years over a reference period that is twice as long, are 56% and 29%, respectively. In the USA participation in fighting is lower: 30.2% for males and 19.2% for females among secondary students during the last 12 months (14).

Assessment of validity of self-reports

The survey relies on what youth report to interviewers about their behaviours, not objective measures of these behaviours. Despite efforts to ensure that respondents felt comfortable answering sensitive questions, under-reporting of risk behaviours in this conservative environment remains an important potential limitation of this study. In this regard, it is noteworthy that, as seen earlier, responses about peers, especially general peers, suggest mean levels of risk behaviour substantially higher than implied by responses about the respondent's own behaviour. Studies from the USA and elsewhere find similar disparities between descriptive peer norms and self-reported alcohol and drug use (18–20). This divergence is due either to underreporting of one's own behaviour or overestimating (or over-reporting) peers' engagement, or both. The fact that respondents' estimates of close

friends' engagement in risk behaviours, which they should know fairly accurately, are lower than their estimates for general peers suggests that general peers' engagement may be overestimated. However, youth may also understate friends' behaviour (as with their own) if they believe socially undesirable behaviour of friends reflects badly on them. Research using biomarkers suggests underreporting of own drug use in the USA (21).

Since the potential bias in self-reported behaviour will likely be downward, and any bias with respect to peers' activities is expected to be upward, these 2 estimates likely bound the true prevalence of a behaviour. This range suggests that prevalence of most health risk behaviours is still modest but not trivial (and is high for smoking and engaging in violent behaviour).

Patterns across subgroups

Engagement in risk behaviours is consistently higher for male youth, for older youth and in urban areas and refugee camps (compared with rural areas). Rural location may inhibit engagement because drugs and alcohol are less available, cultural stigma is higher and it is harder to be discrete or anonymous in a village setting. Although the study was not powered to detect variation across urban areas, the data suggest substantial variation here as well; in particular, Jerusalem stands out for its high prevalence of youth alcohol use, drug use and sexual activity (13). This governorate consists of J1 area (East Jerusalem), annexed by Israel in 1980, and J2, mostly urban areas that formally remain in the West Bank. In addition to close access to drugs or alcohol from Israel, several factors may contribute to the high levels of risk behaviours in these areas. East Jerusalem is marked by economic depression, poor social services and significant social and political tensions while many parts of J2 are essentially not covered by either Israeli or Palestinian law enforcement authorities, permitting the development of a thriving drug trade (22,23).

Regarding sexual activity, while experience of sexual intercourse among unmarried youth seems rare, sexual activity overall is not. Phone and internet sex are fairly common for both sexes and among both older and younger youth. These forms of interaction pose no direct health risk; the question is whether they are a substitute for actual sexual contact, which is harder for young people to arrange discreetly, or a complement to (or a determinant of) physical sexual relations. For both young men and young women, there is a statistically significant positive association of sexting/internet sex with having had intercourse. Future research will attempt to assess whether this relationship is causal.

Conclusion

The experience of the Palestinian Youth Health Risk study demonstrates that it is possible to carry out population-based surveys of youth on highly sensitive behaviours in conservative

contexts of the Middle East. Given the lack of systematic information on these behaviours in the region, similar surveys should be carried out elsewhere, both to understand current prevalence and monitor changes over time.

Outreach and risk prevention programmes for Palestinian youth are relatively undeveloped, as they are in the region generally (24). Our findings provide some guidance as to where such programmes should be targeted. Male youth, especially older ones, are the most likely to engage in health risk activities. Programmes should therefore make particular efforts to engage male youth, but should not ignore female youth, who also engage in these behaviours, if to a lesser extent. Urban youth and those in camps (many of which are essentially low-income urban neighbourhoods) are clearly at greater risk for these behaviours and this should be reflected in outreach efforts. Of particular concern for programming for all groups of youth are high levels of tobacco use, which has clear long-term health implications. Interpersonal violence also appears high and should be of concern to policymakers; in addition to direct health impacts through injury, it may lead to significant negative emotional outcomes. The data also confirm the need to address waterpipe use among younger Palestinian youth. Waterpipe smoking, which has been rising sharply in the region in the last several decades, is associated with a range of diseases and may act as a gateway to cigarette smoking (25).

Regarding the kinds of prevention programmes that would be most effective, currently there are few models from the region of programmes that have been rigorously tested and/or scaled up. With careful consideration of the specific MENA context—including high levels of stigma and the need to reach older youth who have left school—experience from industrialized nations and other regions can provide guidance (26,27). For example, with regard to tobacco use, in addition to education, price increases as well as advertising bans have been shown to reduce youth smoking in other contexts (28,29). Further, a substantial body of global research shows that behavioural smoking cessation interventions increase the likelihood of quitting and long-term smoking abstinence, including among youth (30,31). However, there have been few rigorously tested applications in the region. In the area of sexual and reproductive health programming for youth, some programmes have been introduced in MENA countries. These include peer (youth-to-youth) education programmes such as the Youth Peer Education Network implemented in Tunisia and other countries; anonymous telephone hotlines to make information readily accessible confidentially; and the use of social media for youth-friendly discussion and education (4,24). Each of these has the potential, among other benefits, to be able to reach out-of-school youth.

Evaluation of a range of prevention approaches to youth risk behaviour in the occupied Palestinian territory and elsewhere in the region are needed, as is more effort to monitor risk behaviours, which can inform these efforts. Future work with the present data will investigate the determinants of risk behaviours, including for example exposure to violence, mental health and

assessment of risks, and thus provide additional guidance to the development of prevention programmes for Palestinian youth.

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Comportements à risque pour la santé chez les jeunes palestiniens : résultats d'une étude représentative

Résumé

Contexte : Il existe peu de données systématiques sur les comportements à risque pour la santé chez les jeunes au Moyen-Orient. Les autorités de santé publique ne sont donc pas préparées aux menaces de santé publique émergentes en période de changement social majeur.

Objectif : L'Étude des risques sanitaires chez les jeunes palestiniens examine les schémas comportementaux à risque parmi les jeunes palestiniens, leurs perceptions des risques et des bénéfices tirés de tels comportements, la relation entre l'exposition à la violence et la santé mentale, et l'adoption de comportements à risque.

Méthodes : Nous avons réalisé une enquête représentative auprès de 2500 individus âgés de 15 à 24 ans en Cisjordanie et à Jérusalem-Est, ce qui nous a permis de procéder à une comparaison fiable en fonction du sexe ainsi qu'entre zones rurale et zones urbaines. Un échantillon aléatoire stratifié à deux niveaux a été prélevé dans le recensement de population de 2007, avec des strates formées en sélectionnant les zones urbaines, rurales, et les camps de réfugiés au sein des 12 gouvernorats. Dans les strates, 208 foyers d'étude ont été échantillonnés, avec une probabilité proportionnelle à la taille. Au sein de chaque foyer, 14 ménages comptant des jeunes ayant l'âge approprié ont été échantillonnés.

Résultats : Parmi les jeunes âgés de 20 à 24 ans, 22,4 % des garçons et 11,6 % des filles ont rapporté avoir déjà essayé l'alcool, et 10,5 % des garçons et 4,3 % des filles ont signalé avoir déjà essayé les drogues. Près d'un quart des jeunes célibataires âgés de 20 à 24 ans ont rapporté n'avoir eu aucune expérience sexuelle. Le tabagisme est très élevé, même chez les plus jeunes (45,4 % des garçons et 21,2 % des jeunes filles âgés de 15 à 19 ans fument). Les comportements à risque sont plus élevés parmi les garçons, chez les jeunes plus âgés, dans les zones urbaines et dans les camps de réfugiés.

Conclusion : Si le tabagisme est particulièrement préoccupant, des activités de prévention pour l'ensemble des comportements devraient être menées dans les sous-groupes et les zones identifiés à haut risque.

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