Psychiatric Epidemiology in Israel, 2007: Reflections on the Israel National Health Survey

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This is a good time for psychiatric epidemiology in Israel. Ten years exactly after Itzhak Levav and Yaacov Lerner concluded in an editorial in these pages that “[p]sychiatric epidemiology is a growing field of study in Israel” (1), new pertinent data on the mental health of Israelis have emerged, thanks to the Israel National Health Survey (INHS), a collaboration of the Mental Health Services Division at the Ministry of Health, and Israel’s Central Bureau of Statistics. This large scale community-based epidemiological study was run as part of the World Mental Health Survey (WMH) (2) launched by the World Health Organization (WHO) in 27 countries. The collaborative research team of INHS and the agencies that supported it should be congratulated for this impressive and successful undertaking.

INHS was designed to fill imperative gaps in our body of knowledge on the burden of mental health disorders and on care-seeking patterns in the Israeli general adult population (3). Among its many strengths are the use of methods that have become standard in modern psychiatric epidemiology, such as structured, reliable, lay-administered diagnostic assessment tools; use of computer-assisted personal interview (CAPI) to improve consistency and accuracy and reduce missing data; comprehensive interviewer training; fieldwork quality control; and application of sampling strategies to identify nationally representative samples (4). The overall response rate in INHS was good (73%) (3), and comparable to the 71% response rate obtained in the United States National Comorbidity Survey Replication (NCS-R) (5). Despite the reasonable response rate, potential selection bias related to mental illness must be taken into account, due to 27% non-responders. This is true especially when detailed information on the characteristics of non-responders is not available.

Individuals with mental illness are typically more reluctant than others to participate in a mental health survey. In addition, the survey sample did not include institutionalized or imprisoned persons and the homeless. Therefore, to the extent that such selection bias exists, it is likely to make the INHS estimates of the prevalence of mental illness more conservative (6). Selection bias might also threaten the internal validity of some associations observed between the survey variables, if selection is conditioned on both independent (“exposure”) and dependent (“outcome”) variables (7). For example, if individuals with both suicidal behavior and substance use disorder were less likely to participate in the survey, the observed association between the two (8) would be attenuated.

Levinson et al. estimated the 12-month and lifetime prevalence of mood and anxiety disorders, and explored their sociodemographic correlates (9). They found that nearly one in ten Israelis endorse diagnostic criteria of any mood or anxiety DSM disorder (AMAD) during the past year. Curiously, some of the sociodemographic correlates of mood and anxiety disorders consistently found in other mental health surveys, such as female gender, older age group and low income, were not replicated in INHS. Though that might be explained by characteristics unique to the Israeli population that deserve further exploration, it might also raise some concern about the validity of the diagnoses in INHS. Some of the expected associations not found in the whole sample...
did emerge, however, when the sample was stratified on level of severity. For example, respondents in the lowest income quartile had the highest 12 month-prevalence of severe mood and anxiety disorders, and women were significantly more likely to have a more severe form of AMAD. This might suggest misclassification of disease status among participants with milder forms of AMAD. In other words, some participants with less severe AMAD were classified as not having a disorder at all, independent of their sociodemographic characteristics. Such nondifferential misclassification could have biased the results towards the null, i.e., diluted the observable association, attenuating it or making it undetectable.

In a separate paper, Levinson et al. report the 12-month utilization of all types of services for mental health reasons (10). They found that a total of 10.3% of the population received some form of treatment for mental or emotional problems during the past 12 months. Notably, 43% of all those who received services, and one-third of those who received services for AMAD, reported they were treated by a general health professional. The most important and rather alarming finding in this paper is that only about half (52%) of those with past 12-month AMAD, and 43% of those classified as having severe past 12-months AMAD, have received any treatment over that time period. These estimates reflect a universal problem of undertreatment, found also in other developed countries (11). Moreover, treatment delay for those who ever received treatment for AMAD was substantial: Median delay of six years for any mood disorder, and of three years for any anxiety disorder. Such delay might be harmful, especially for persons with depression (12). Failure to make prompt initial contact is a pervasive aspect of unmet needs for mental health care (13). Because treatment delay might be explained in part by low-grade, short-lived, or non-debilitating disorders, as well as by recall failure of lifetime events, further analysis should assess treatment delay across different levels of severity and disability, and relative to recency of disease onset (based on current age and age of onset).

The INHS findings support previous estimates that approximately one-third to one-half of the cases of major depression in primary care settings are undetected, despite the substantial burden, morbidity and mortality associated with depression, and the availability of well-established diagnostic criteria, screening instruments, and effective treatment options (14). A growing body of evidence suggests that similar problems exist also with anxiety disorders (15, 16). Modifiable factors such as health care policy, health service organization, socio-cultural factors, and health provider training and attitudes, may all play a role in recognition and management of depression and anxiety. This applies directly to the current developments in the Israeli health care system. Under Israeli law all citizens are medically insured. Medical services are delivered primarily by four public HMO-like organizations (so-called sick funds). Up until now, mental health services were excluded from this arrangement and these have been delivered directly by the Ministry of Health. According to the planned mental health reform, the Ministry of Health will be transferring responsibility for mental health services to the four sick funds. The shift in responsibility and change in service sector is likely to increase the number of patients with depression, including those with more severe forms of depression, that primary care physicians will be expected to diagnose and manage (17). Additionally, during times of national crisis, such as terrorism and war, it is likely that a considerable proportion of those with depressive, anxiety and stress related psychological symptoms will present to primary care settings rather than to mental health services (18, 19), taxing the mental health diagnostic and therapeutic skills and capacity of general practitioners. The INHS data suggest that concerted effort is required to increase access to and demand for treatment, and improve awareness, recognition and management of depression and anxiety in primary care and general medical settings.

Suicide is one of the leading causes of death worldwide, and suicide prevention is one of the most important and urgent public health issues in psychiatry (20, 21). Although only a small fraction of suicide attempters eventually complete suicide, suicide attempts are significant predictors of subsequent completed suicide, as well as important indicators of extreme psychological stress (22). Levinson et al. found that 5.5% of the adult Israeli population report ever having suicidal ideation; 1.9% ever planning; and 1.4% ever attempting suicide (8). These figures
likely underestimate the true lifetime prevalence, due mostly to underreporting, a major problem and obstacle in suicide research. Efforts to achieve complete national ascertainment of serious suicide attempts and suicide using rigorous epidemiological methods should be given top priority. It is curious that the authors of this article did not use the ample data available from INHS to test potential associations between suicidal behavior and several theoretically compelling sociodemographic (e.g., income, religion) and clinical (e.g., chronic medical condition) characteristics. An interesting observation in this paper is that lifetime prevalence of suicidal behavior was significantly more common among the youngest age cohort. Such apparent cohort effect (lifetime prevalence increases with age per its definition) also observed in anxiety and mood disorders (9) and in alcohol use disorder (23), reflects increased prevalence of suicide behavior among the younger Israeli generations. The societal and cultural factors which give rise to that increase should be explored by multidisciplinary teams of psychiatric epidemiologists.

Building upon its past achievements, psychiatric epidemiology is well positioned for a concentrated search for causes of mental disorders (24). Risk factors methods should be fully exploited in this endeavor, applying a broad conceptual framework, an integrative approach appropriate for studying pathophysiological, genetic, psychological, and societal causes and pathways of disorders. Some of the analyses presented in the INHS papers help illustrate the public health importance of conceptualizing and investigating multiple levels in psychiatric epidemiological research: In addition to the individual level, we should adopt strategies to incorporate macro-level factors, such as societal and contextual variables that plausibly play a salient role in the etiology, course, help seeking, and provision of services; and micro-level factors, the cellular and molecular processes (e.g., gene alleles) that generate disease and impact disease course and outcome (24). Inclusion of macro-level variables, some of which are quite readily available to researchers, for example community-level socioeconomic status and unemployment rate (25) in the comparison between Israeli Arabs and Israeli Jews (Israel born or pre-1990 immigrants) (26), might help shed more light on this complex issue. In this paper Levav et al. found that despite higher emotional distress, as expressed by higher mean scores on the 12-item General Health Questionnaire (GHQ-12); lower self-appraisal of mental health; and higher 12-month prevalence of affective disorders (8.2% vs. 5.9%), Israeli Arabs were less likely to seek help from specialized health services. Unfortunately, the actual use of services by Arabs and Jews was not reported. These results are supported by previous research showing higher emotional distress scores among older Israeli Arabs (27), and are most likely explained by the compound, chronic minority stress experienced by Arabs in Israel. The authors entertained the idea of cultural response style as a possible explanation, i.e., that Israeli Arabs “more readily express and amplify complaints,” but this proposition does not seem to be supported by published empirical data. Further analysis of the INHS data, as well as future studies, should attempt to elucidate reasons for the low help seeking, and arguably lower availability and actual use of mental health services for Israeli Arabs.

The paper by Neumark et al. (23) also helps illustrate the need for investigating macro- and micro-level factors. To quote Neumark: “collection of biological samples would enhance scientific value of national epidemiologic surveys.” When people emigrate from one area of the world to another, they bring their histories, attitudes and behaviors from their country of origin. If a wave of immigration is large and cohesive enough, and if the original and receiving country differ enough, as is the case with immigrants of people of Jewish ancestry from Russia and other former Soviet Union republics to Israel, then the immigrants and their offspring will often form a distinctive population subgroup in the new country. Using proper study design, comparison groups and statistical methods, research can take advantage of such migrations to better understand the interaction of genetic and environmental effects on disorders and health-related behaviors, such as alcohol dependence and heavy drinking (28). Neumark’s finding that the lifetime prevalence of alcohol abuse in Israel is identical to other European countries (though according to Neumark the former is possibly artificially inflated due to wording of the translated Hebrew version of the abuse criteria), taken together with the finding that drinking levels of Is-
raelis are considerably lower, suggests biological-genetic sensitivity operating jointly with socio-cultural factors.

Levav et al. (29) tested the non-genetic trans-generational transmission of trauma hypothesis in adult offspring of Holocaust survivors. This paper did not find statistically significant differences in a variety of psychopathological measures (such as AMAD, GHQ-12 score, smoking, major medical disorders and services use) between offspring of Holocaust survivors and offspring of European-born parents who did not reside in Nazi-occupied countries. A closer look at the results, however, does show a 70% higher likelihood of AMAD among Holocaust survivors (odds ratio: 1.7; 95% confidence interval: 0.9–3.1). Though not nominally significant at the conventional 5% significance level, this finding nevertheless probably calls for some further exploration and discussion. Levav suggests that the research agenda should shift to exploring resilience, rather than vulnerability in this population. This calling is timely. In this age of war, terror and other adversity, psychiatric epidemiologists should focus on family, community, society and cultural factors that enable withstanding and overcoming extremely stressful life events (30).

One of the intriguing observations of INHS, reported also in other WMH sites, is that a majority (51% in INHS) of service consumers for emotional or mental health were not classified as suffering from mood or anxiety disorders (10). This observation could be attributed in part to the fact that the WMH-CIDI did not assess all DSM-IV disorders. Therefore, some respondents in treatment, classified as not having a disorder and not captured by employment limitation categories, may have actually had a disorder not assessed, such as social phobia, simple phobias, schizophrenia or personality disorder. Another possible explanation for this observation is that many people with subthreshold syndromes are receiving treatment. The fact that many people with subthreshold disorders are treated while many of those with a CIDI diagnosis are not suggests that unmet need for treatment among individuals with more serious conditions is not merely a consequence of limited treatment resources, but also a result of treatment resources allocation (31).

The INHS data suggest several directions for future policy and research. I will mention two salient directions here. First, because most people with mental disorders do not receive treatment, efforts are needed to increase access to and demand for treatment. For example, the lower treatment rate among the traditionally disadvantaged, underserved Israeli Arab population (32) and the more severe form of AMAD among those with lowest income both call for special initiative (33). Second, take advantage of this unique opportunity to use the cohort established by INHS to design a longitudinal study with multiple measurements and cross linkage to national registries and databases to explore the stability and trajectory of psychopathology and of services use in changing circumstances, investigate how multiple risk factors interact over time (34–36), and explore shared risk factors and pathways of mental and physical health.

We are at a pivotal moment in psychiatric epidemiology, the central science of public mental health (24). Thanks in large part to the findings from research in psychiatric epidemiology, mental disorders are now understood to be important to public health and a leading contributor to the global burden of disease in societies of all kinds (37). Determining the general population prevalence of mental disorders is useful from both scientific and policy perspective. Psychiatric epidemiology informs policy makers and public health practitioners in areas related to the appropriate distribution of mental health resources and care (38). Of special interest in the INHS, and typically lacking in mental health surveys, are data collected on medical conditions. Such data could help further elucidate the intricate relationship between physical and psychiatric disorders, and its effect on service utilization in Israel.

The corpus of research in psychiatric epidemiology in Israel has been growing steadily over the last three decades (1, 39, 40). In their 1997 editorial Levav and Lerner expressed hope for “[s]tudies that will throw light on issues of interest to both those involved in service delivery and...etiologic answers.” Ten years later, the seven articles published in this special issue provide fresh and essential data for both.

Levav and Lerner have also expressed hope that “[n]ew cohorts of mental health professionals become involved in this exciting field.” This is conceiv-
ably our most important mission: to attract our peers, residents and students to pursue the pertinent, burning and challenging questions that could be answered by psychiatric epidemiology.

References


