
POVERTY AND MENTAL HEALTH OUTCOMES: EPIDEMIOLOGIC COMORBIDITY LITERATURE REVIEW

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Introduction

Comorbidity between psychiatric illnesses and substance addictions receives continued recognition as a public health concern by the Surgeon General's 1999 report on mental health. This report openly recognizes past achievements in epidemiologic research, especially when studies focus on the general population. At the same time, the report challenges cross-disciplinary research communities to work collaboratively on expanding the knowledge base on how comorbid disparities are distributed across and within racial and ethnic groups as well as socioeconomic positions.

To date, the conceptualization and measurement of psychiatric illnesses have changed greatly. For instance, just in the last quarter century, general population epidemiologic research methodology has advanced by using diagnostic tools with more rigorous standardized symptom detection criteria, incorporating psychosocial factors relevant to complex contemporary lives, employing sophisticated statistical modeling procedures, and by using more inclusive population sampling techniques (Armenian & Shapiro, 1998; Reiger et al., 1998). These advances help frame arguments regarding the under-reporting of psychiatric illnesses and continue to advance investigations on demographic differences (Kessler, 1995, p.140). Before suggesting recommendations on future comorbidity research directions, a closer review of the present state of knowledge is in order.

We know that general population epidemiologic studies frequently report national incidence and prevalence rates on comorbid psychiatric and substance abuse disorders across different age and gender groups (Kessler et al., 1994; Regier et al., 1984). None, however, reach consensus on the magnitude of these differences or explore how comorbid conditions differentially affect ethnic or racial groups. Case identification, symptom determination, and mental health outcome definition represent examples contributing to the disagreement. One key consideration for the ethnic or racial group comparison difficulties is deciphering between an expected healthy response to stressful events – such as perceived discrimination – and a pure mental health symptom.

Further, the extent of comorbidity among the poor receives rare attention in national general population epidemiologic investigations. The clearest idea about mental

health and substance abuse comorbidities among the poor is mainly drawn from in-patient clinical studies. Strong positive associations between major psychiatric disorders (e.g., depression, generalized anxiety) and substance abuse (e.g., cigarette smoking, alcohol intake, marijuana use, cocaine use) have been reported in samples of the homeless (Schilling & El-Bassel, 1998). Schilling and El-Bassel (1998) report that homeless people entering public mental health in-patient treatment facilities have mainly lived in isolation, mistrust service providers, rarely seek public assistance independently, and exhibit problems quite challenging to mental health workers (p.458). In so much as these issues exist, the homeless population represent one fraction of the poor. To advance the epidemiologic literature on comorbidities among the poor, issues regarding differing levels of socioeconomic status (i.e., severely poor, poor [officially], working poor, and non-poor) must also receive research attention.

What makes understanding psychiatric and substance abuse comorbidities important in contemporary society is the increasing complexity with which people must survive. As assessed by Williams (1999), socioeconomic status and race consistently show strong inverse associations with mental health and health outcomes. For example, Williams (1999) notes that household income and ethnicity or race directly affects mental health outcomes. This relationship makes sense given the extreme conditions such as crime-ridden neighborhoods, where many poor ethnic people reside. Living where crime is a daily occurrence increases psychological fear and potentially substance use. Poorly equipped schools fail to evaluate basic reading, writing, and arithmetic skills. These academic skills are necessary to successfully acquire employment and improve overall work opportunities. Finally, experiencing sequential personal losses of family members or friends to untimely deaths or prison sentences, tend to exacerbate the psychological consequences and potentially increase the likelihood for drug use. Aside from studying which ethnic groups experience psychiatric problems at higher or lower rates when compared to whites, no completed study has been conducted to specifically document differences when demographic correlates, such as ethnicity and socioeconomic status, interact.

Although comorbid disparities by ethnicity/race and socioeconomic status received little historical attention in epidemiology, we know the interaction between the two demographic characteristics is important. In 1999, African Americans represented about 13 percent (35.1 million) of the national population, with approximately 24 percent living at or below the poverty line. Latinos represented nearly 11.7 percent (32 million) of the population with 23 percent of the people earning incomes below the federal poverty line. In contrast, whites represented 82 percent (227 million) of the national population but only 7.7 percent were considered poor. Overall, African Americans marginally outnumbered Latinos in the poor population. The latest poverty estimates have shown that ethnic people account for the majority of the poor and experience poverty for longer periods of time.

Because social scientists continue to struggle with understanding poverty dynamics, the use of epidemiological techniques to grasp the extent of problems helps to advance the field. Therefore, the intent of this article is to provide an overview of where comorbidity research stands when poverty differences and ethnic or racial groups are considered together. This article will first cover mental health issues in poverty research, then review comorbidity investigations, and conclude with epidemiologic research implications for mental health and substance abuse professionals.

Ethnicity and Poverty Issues Overview

The reason socioeconomic disparities are important to include in epidemiologic comorbidity research is evidenced in how the literature documents coping behaviors among people experiencing persistent stressful situations. While poverty is a problem for all people, remaining in poverty for continuous periods of time is known to occur more frequently among African Americans.

Wilson (1996) comments on reasons why Midwestern African Americans remain in poverty longer than any other ethnic group. He suggests that the inability to secure relatively well-paying jobs for men often increases the likelihood for developing drug and alcohol addictions. While he does not directly comment on this plight for women, similar poor work outcomes can be inferred. An extension of Wilson's theory on joblessness supports the notion that mental illnesses may arise from poverty conditions. The extended periods of joblessness may augment experiences with discrimination and in turn, reinforce feelings of helplessness, despair, and powerlessness to change personal circumstances. This situation supports the deleterious effects of persistent poverty and sustains the long-held understanding about the inverse relationship between socioeconomic status and mental health outcomes. An equivalent poverty argument can be made for whites; however, the evidence indicates the periods in poverty are much shorter.

On average, as poverty becomes less severe, the likelihood for better mental health increases (Anderson & Armstead, 1995; Belle, 1990; Bruce, Takeuchi & Leaf, 1991; Dohrenwend, 1987; Neugebauer, Dohrenwend & Dohrenwend, 1980). According to Anderson and Armstead (1995), this inverse relationship is observed whether socioeconomic status is measured by education, income, or occupation (p.213). Neugebauer's (1980) research documented that the poor might experience at least two-and-a-half times more mental illnesses than the non-poor (p.56). Although this study was based on in-patient samples, it highlighted mental health concerns among poor people and motivated other studies that supported the inverse relationship in both treatment and community surveys (Kessler, Price & Wortman, 1985, p.560).

Some caveats concerning the early research are in order. Because the poor frequently

have many issues impinging on their lives, it is possible that normal, everyday troubles may be misinterpreted as signs of mental illness. For example, Kutchins and Kirk (1997) suggest restlessness, weight gain, lacking empathy for others, often losing one's temper, or being continually frustrated are common behaviors reported in poverty research. Yet, each of these behaviors are explicitly considered mental health symptoms. These behaviors support a cautionary stance when conducting mental health research among the poor because these behaviors make it easy to pathologize everyday behavior as symptoms of disorder (Kutchins & Kirk, 1997). Other examples of behavior that often get pathologized may include hearing "spiritual voices" or "seeing" a recently deceased family member. To improve both research fields covering poverty disparities and mental health outcomes, data interpretations must better assess what circumstances and under what conditions behaviors truly reflect personal decline.

The returned attention toward understanding personal decline among the poor has been partly driven by the 1996 welfare reform legislation which mandated welfare recipients to work and instituted time limits on eligibility for benefits. Also included in the 1996 act is a work exemption clause. However, upon enforcing the clause, there was little evidence that states could use to justify who among welfare recipients should be exempted from work requirements. When drug use is considered, the law denies benefits to those who have been convicted of drug offenses, but leaves it to the states to decide how to deal with substance-abusing recipients.

With the popular conviction that work serves as a desirable treatment strategy for improving poverty conditions, scientific research on effective and supportive options for impaired workers becomes more important. This means understanding the extent of mental health and drug abuse problems, not just among welfare recipients, but also among the wider population of working poor people. Furthermore, we need to know the extent of comorbid disparities among ethnic and racial groups.

Comorbidity Literature Review

A broad consensus in the comorbidity literature is that as many as one-half of the people with psychiatric illnesses also have alcohol or drug abuse problems (U.S. Department of Health and Human Services, 1999). Further, any particular theory or theoretical framework explaining comorbid psychiatric illness is unclear. This is true whether the theoretical propositions are generated from a biological, psychosocial, or economic perspective. Without an agreed upon theoretical basis for comorbidity occurrences, the field remains open to its development.

Current estimates on the prevalence of comorbid psychiatric illnesses and substance addictions range from as low as 1 percent to more than 53 percent (Kessler et al.,

1994). Variability in prevalence rates can be attributed to inconsistencies in research treatment facilities (e.g., hospital, mental health center), measurement instruments (e.g., DIS¹, CIDI², UM-CIDI³), and sampled population (e.g., hospital patients, agency clients, general population). While understanding that social circumstances may lead to comorbid mental health problems, it is also important to gain a sense of how the literature defines the term comorbidity.

Comorbidity Description. Terms such as co-occurrence, double troubled, dual diagnosis, co-occurring addictive and mental disabilities share conceptually similar definitions with what is known as comorbidity. Each term defines a person with two or more simultaneous disabilities. The disabilities may include psychiatric diagnosis and/or a physical disorder in the broadest sense. For the purpose of this article, the term comorbidity is used to describe persons with a mental health and substance dependence addiction. Substance dependence globally represents addiction to alcohol, cigarettes, cocaine, and marijuana. Most research in the literature covers comorbidity of mental disabilities with alcohol (Badger & Rand, 1998, p.73).

An evidential summary of clinical and general population comorbid research shows that persons experiencing both substance dependence and a psychiatric illness occur most frequently in treatment than in non-treatment samples (Helzer & Pryzbeck, 1988). Of course, findings from treatment samples make comorbidity issues easier to detect since clinicians are able to make judgments. Details as to whether the evidence remains consistent for general population research requires additional investigations. The goal for general population studies is to document comorbid occurrences without specific clinical input; therefore, more reliance on trained lay interviewers and the diagnostic accuracy of survey instruments. Neither the Epidemiological Catchment Area (ECA) nor National Comorbidity Study (NCS) provide much assistance in clarifying this epidemiological controversy. Despite these differences, comorbidity between substance dependence and mental disabilities remain important because of the changing nature in today's society as well as the public service delivery system. Other important factors contributing to comorbidities include persistent poverty, social isolation, unstable housing situations, exposure to personal injury and frequent neighborhood crimes (Edin & Lein, 1997; Jargowsky & Bane, 1991).

From the outset, research documenting the prevalence of comorbidity among the poor and persons of color is scant. The best information the literature supports is

¹ Diagnostic Interview Schedule

² Composite International Diagnostic Interview

³ University of Michigan-CIDI (modified CIDI survey instrument)

scattered across disciplines. For example, early empirical studies on the extent of comorbidities in the population used the 1980's Epidemiologic Catchment Area (ECA) data. Christie's research team (1988) used logistic regression on 5,000 18 to 30 years old ECA respondents and found 22 percent abused alcohol, various drugs, or both. Also, about 4,000 respondents started using these substances before 20 years of age. The emerging comorbidity pattern suggested that the median age of onset for anxiety was 15 years followed by substance abuse at 19 years (with alcohol abuse around 21 years). Depression presented later at 24 years old with the substance abuse problem. The authors found that the probability of alcoholism did not increase if depression or anxiety previously existed. However, when depression was the sole preexisting condition, the likelihood of a co-occurring substance abuse doubled (Christie et al., 1988, p. 140). No racial or income differences were reported.

Comorbidity dispersion figures most frequently cited are generated from the National Comorbidity Study (NCS). The NCS findings indicated that one-sixth of the population experienced comorbid psychiatric disorders in a lifetime and 29 percent of the NCS population met both diagnostic criteria in the past year (Kessler et al., 1994; Kessler et al., 1996). Further, among people with a lifetime history of one disorder, 27 percent had two or more disorders and 23 percent experienced at least two disorders in the past 12 months (Kessler et al., 1994). Interpreting these figures in a life-course perspective means that initially untreated symptoms and subsequent dual mental disorder episodes are more severe, debilitating, and increasingly reduce individual help seeking. Among the unemployed or sporadically working poor, this reduced capacity to seek help nearly ensured compromised skills associated with obtaining work.

More specifically, the comorbidity between major depression and alcohol consumption in Helzer and Pryzbeck's (1988) examination of the ECA data revealed the combined conditions occur almost two times more frequently in the population than any other comorbidities (p.221). Moreover, Helzer and Pryzbeck (1988) contend that alcoholism in men tend to precede depression and in women, the conditions appear reversed. Ten years later, Badger (1998) reported similar comorbidity findings among a general non-racially or ethnically specific population (p.72). Kessler and colleagues (1996) indicated 28 percent of the 8,098 NCS respondents with alcohol dependence in the past year also reported experiencing major depression during the same period (p.19). Nearly an equal percentage (28.4) of the drug dependent respondents also reported having at least one major depressive episode in the same year (p. 20). Each of the above reports used analysis procedures that in no way clarify the causal order of psychiatric disorders.

In response to the dearth of general population epidemiological studies exploring differences in poverty status as well as demographic correlates such as ethnicity, age,

and gender, Hastings (2000) analyzed the National Household Survey on Drug Abuse datasets. On her analysis of major depression and alcohol dependence, less than one percent of the population across income categories experienced both conditions. Although the literature cites the comorbidity between depression and alcohol dependence among the more frequent combinations, only 183 persons from a sample totaling more than 26,000 experiencing this comorbidity were enumerated. African Americans experienced this comorbidity at a rate of 0.1 percent, Hispanics at 0.2 percent and Caucasians at 0.4 percent. The prevalence differences, though not statistically significant, suggests that African Americans and Hispanics may evaluate depression and alcohol dependence symptoms in manners other than what appears in the diagnostic survey section. Bivariate probit analysis revealed no significant differences between poverty populations (severely poor, poor, working poor, and non-poor).

As stated earlier, documenting comorbid conditions in the general population is difficult. What Hastings' (2000) findings indicate is the function of using strict diagnostic criteria. There may be more people in the population that experience both conditions but do not meet diagnostic criteria. Another reason for the relatively few comorbidity cases may be associated with the survey instrument, particularly with exclusionary questions. The survey instrument, it appears, undermines what we know about the interactive nature of the social environment for different socioeconomic circumstances and racial or ethnic groups.

Also reported in Hastings' (2000) study were report conditions found to increase the probability of the depression and alcohol dependence comorbidity. The factors were poor personal health assessment, widower or widowhood, and the number of workdays missed due to self-defined personal injury. One variable thought to decrease the probability for the depression and alcohol dependence comorbidity was the number of people in the household. As the number of people in the household increased, the probability of this association declined. This particular social resource factor represented additional supports respondents may need to deal with stressful circumstances.

Conclusions drawn from this study indicate a telling story. The argument that poorer people should experience worse health was not supported. Instead the findings raise questions about the combined and interactive impact of social stressors and support variables. The findings also show how ethnicity or race has an effect on this particular comorbidity, though the analysis did not reveal statistically significant differences. Further, suggestions extending from this work point to the protectiveness of cultural factors. One's cultural beliefs, such as with African Americans and Hispanics, may help to decrease poor mental health outcomes.

Contrasting with the mental health literature is the research knowledge generated by the substance dependence and anxiety comorbidities. Of the patients studied by

Brown's research team (1992), 82 percent had at least one additional diagnosis with alcohol abuse. Regier and his collaborators (1990) report similar findings from an analysis of the ECA data – among those respondents using drugs other than alcohol or marijuana, anxiety illnesses affected about one-third of the sample. Analysis of the NCS data by Wittchen, Zhao, Kessler and Eaton (1994) revealed that 66.3 percent of those with current GAD reported at least one other disorder (p.359). In addition, 11.6 percent of the NCS respondents with past year alcohol dependence also reported experiencing a generalized anxiety episode (Kessler et al., 1996). However, less than 6 percent report being both drug dependent and experiencing generalized anxiety in the same year (p.20). What makes investigating this comorbidity interesting to poverty research is that poor people generally worry about the same symptoms defining GAD. Attempts to avoid emotional anxiety, such as drinking alcohol or smoking marijuana, may confound any findings given current illustrations about poverty circumstances.

Comorbidity Summary. Research in the fields of poverty, mental health, and substance abuse have expanded the knowledge base for developing prevention and intervention programs, relevant social policy,⁴ and discovery of illness etiology. Yet for nearly 20 years, this research showing that health-related illnesses and mental diagnosis coincide with substance use rarely specifically focus on populations most in need of services (Badger & Rand, 1998). Three factors support this claim. For one, poor people are eligible for Medicaid, but within the public health system exists hurdles to successful treatment. Medicaid only covers a small number of treatment appointments per year. Secondly, the reimbursement process for providers is inefficient such that the length for treatment necessary to reach full recovery is significantly reduced; and thirdly, untreated persons may discount symptoms until impairment interferes with daily functioning. Therefore, it is almost no coincidence that early comorbidity research documenting psychiatric illness (i.e., depression) and substance use (i.e., alcoholism, smoking, and prescription drugs) was generated by interest in symptoms manifested in hospitalized patients. Hospitalized patients represent a confined non-random sampling group that has entered facility for care. In contrast, a general population sample is not structurally confined and remains affected by personal, social and environmental contexts.

Research Implications for Mental Health and Substance Abuse Professionals. On the basis of the literature reviewed in this article, the research implications for social

⁴ California's Proposition 36 illustrates a recently enacted policy that channels nonviolent drug users into treatment programs rather than into jails or prisons. The measure redefines drug offenses as being composed of both mental health and drug problems worthy of public support.

service practitioners are clear. The goal for most interventions is to diminish or eliminate personally destructive behavioral patterns. For interventions to be successful, an agreement between targeted problem and client difficulty must be achieved. Therefore, practitioners may use comorbidity prevalence rates to understand the extent of community problems, the affected population, and to provide a numerical background for decisions about treatment modalities.

Practitioners working with clients suffering from substance dependence and mental illness know there are dual processes impinging on behavior. For example, substance dependence behaviors are sensitive to social tolerance toward drug use, community availability, changing modes of in-take administration, and market value. At the same time, mental illness behavioral expressions are influenced by learned coping responses, social mores toward mental illness, stressors, and access to institutional social resources. Together, these dual forces affect prevalence rate patterns. Therefore, the more epidemiological research methodologies are used to capture specific demographic differences, the more likely traditional methodologies providing inconsistent prevalence rates will need to be improved.

With the growing persistence, complexity, and geographic concentration of poverty, future roles for service providers require redefinition and rapid expansion in community agencies. For example, in the field of social work, the exodus of welfare recipients from public assistance will leave a large and very different clientele to work with – those hardest to employ (Hasenfeld, 2000b). As the TANF time limits become enforced, those left on aid will most likely have mental health problems as well as substance addictions. Hasenfeld (2000a) asserts that the clientele will drive welfare agencies to transform, and public social service agencies to incorporate a complex set of interactions between practice competencies and community resources. Therefore, the relationship between epidemiologic research findings and service practitioners become more important. Binding the two is the challenge to document dually affected people, identify populations with specific needs, and facilitate community and culturally relevant responses. To date, the evidence suggests ethnic and poor people are likely to emerge as those experiencing worse physical and mental health problems (Dohrenwend, 1987; Thoits, 1995). The starting point for both epidemiologists and service practitioners is to build the comorbidity knowledge base for the 21st century.

Conclusion

In closing, the overall literature reveals several evident observations about what is known in comorbidity research when the poor and racial or ethnic groups are centrally focused upon. The most evident fact is that relatively few investigations exist on these topics. Besides comparing African Americans, Latinos, and whites, scien-

tific knowledge on varying national comorbidity distributions within specific cultural groups is limited. We know that rates of lifetime and past year prevalence rates are slightly higher for African Americans and Latinos than whites. The slight difference may be observed due to diversity among each ethnic or racial group. For example, variations in comorbidities may occur because of migration experience, language, family patterns, history with American society, and/or socioeconomic status. The research evidence currently suggests that African Americans and Latinos are disproportionately located among the poor and are expected to incur an increased risk for experiencing comorbid conditions.

Research evidence is less certain on the validity of existing general population survey instruments identifying psychiatric and substance addiction conditions. The DIS, CIDI, and UM-CIDI represent the best assessment instruments to date. Nevertheless, completed investigations have rarely used them to test whether or not culture-bound symptoms influence conditions. Some African Americans, for illustrative purposes, have been reported to experience syndromes like *brain fog* or problems concentrating and thinking, and are often associated with symptoms like head and neck pain or blurred vision. Another instance is feeling hexed (Paniagua, 2000, p.141). When one feels hexed it usually is based in believing that someone else has conjured up evil spirits to attack a person's spirit. The associated mental health problems may be hearing voices, feeling "bad vibes," or experiencing somatic pains (Paniagua, 2000). Although the examples are limited in number, they do represent the cultural factors unaccounted for when conducting epidemiological research and provide evidence for thinking more seriously about cultural factors influencing outward behavior. This uncertainty regarding the influence of culture signals more research is needed to examine the extent to which the diagnostic criteria in the surveys are sensitive to cultural variations and whether or not the psychiatric and substance dependence symptoms signify equivalent interpretations across cultures.

Given the dearth of comorbidity research among the poor, two interesting points emerge. One, if the poor are expected to work and evidence exists that people suffer from on-going mental health and substance abuse problems, what supports are needed to help continue labor force attachment? The second point focuses on race or ethnicity and gender. What are the disparities in the mental health and substance abuse comorbidity among racial groups? If reports are reliable about African Americans experiencing fewer depression episodes and higher anxiety disorder illnesses as they participate in drug usage, the implications for future research are significant (National Institute on Drug Abuse, 1998). Again, this is an area receiving very little attention, yet has a significant impact on how social policy addresses labor market participation by poor people.

Comorbidity research in epidemiology is a critical research activity because it is the

primary method to document the dispersion of mental disorders, which, in turn, signal areas of concern for treatment. The evidence reviewed suggests the importance for preparation that a growing number in the population will have symptoms that cross treatment sectors and affect their ability to work. Poverty relief policies center on enhancing the earning capacity of individuals through providing job referrals, training, and supports such as low-cost childcare to encourage employment. This “work first” strategy ignores some experiences poor people have which diminish their capacity to enter and maintain employment.

Since part of expanding current wisdom regarding the poor is documenting what is not reported in the poverty figures, much can be gained from focusing on mental health concerns. This is especially true when poverty circumstances include both mental health and substance dependence components. Finally, as more poverty policy attention returns to enhancing the employability of the poor, the necessity for understanding the extent of mental health problems and substance dependencies becomes more important for the public and private sectors.

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