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Mortality Rates in Individuals with Schizophrenia: Evaluation of Contributing Factors and Intervention Strategies

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Abstract: Schizophrenia is a serious mental illness with a significantly higher mortality rate than the general population. People with schizophrenia face a greater risk of early death due to comorbidities, lifestyle choices, and side effects from antipsychotic medications. This research explores the factors contributing to this increased risk, emphasizing the impact of cardiovascular disease, diabetes, and respiratory conditions, all worsened by unhealthy lifestyles such as smoking, poor dietary habits, and lack of exercies. The study also examines the role of antipsychotics, particularly second-generation antipsychotics, in increasing metabolic and cardiovascular risk. In addition, socioeconomic status (SES) is recognised as a key social determinant, as people with lower SES experience greater health disparities and less access to healthcare. This study evaluated existing intervention strategies, such as integrated care models and lifestyle interventions, and assessed their effectiveness in reducing mortality risk. By addressing these factors, this study aims to inform healthcare policy and improve care and life expectancy for individuals with schizophrenia.

Keywords: Schizophrenia, Standard Mortality Ratios (SMRs), contributing factors, intervention strategies.

1. Introduction

Schizophrenia is well-known for its high suicide rates [1], but it also puts individuals at greater risk of premature death due to co-morbid physical conditions [2]. The main causes of increased mortality may trigger a range of socio-economic and lifestyle factors that lead to poor physical health, as well as the side effects of antipsychotic medications [3,4].

Recent studies have emphasized the need to address both the mental and physical health of people with schizophrenia. Smoking, poor dietary habits, and lack of exercise are prevalent in this population, increasing the risk of cardiovascular disease and metabolic syndrome [3]. In addition, while second-generation antipsychotics are effective in controlling psychiatric symptoms, they can cause weight gain and metabolic problems, further increasing health risks [3].

Research efforts have been directed towards identifying effective intervention strategies to reduce these risks. Integrated care models that focus on both psychiatric treatment and physical health management have shown promise for improving health outcomes [5]. Lifestyle interventions, including smoking cessation programs and dietary modifications, have also been recommended to address modifiable risk factors [5].

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The aim of this paper is to explore the factors that contribute to increased mortality in patients with schizophrenia and to assess the effectiveness of existing intervention strategies. The study uses a mixed-methods approach, utilizes both quantitative data from epidemiological studies and qualitative insights from healthcare professionals and patients. By understanding these causative factors, this study aims to inform healthcare policy and practice to improve the overall health and longevity of people with schizophrenia.

2. Literature Review

2.1. Overview of Schizophrenia Prevalence

A class of debilitating mental illnesses known as schizophrenia includes symptoms including delusions, hallucinations, disordered communication, poor planning, low motivation, and emotional retardation. The illness is one of the main contributors to the global burden of disease [6], although it has a relatively modest prevalence (median value of 15.2 per 100,000 persons annually) [7]. Two characteristics of schizophrenia are reflected in the high illness burden: (a) the disorder typically manifests in early adulthood; and (b) even with the best care, almost two-thirds of individuals afflicted experience persistent or variable symptoms [8].

The present research presents a comprehensive analysis of the prevalence of schizophrenia. A comprehensive analysis, utilizing solely census and/or community survey data, revealed a total of 18 studies that presented estimations for the prevalence of schizophrenia during a specific period or lifetime. Goldner, et al. presented aggregated estimates of one-year and lifetime prevalence rates, which were found to be 3.4 and 5.5 per 1,000 individuals, respectively [9]. Saha, et al.'s presentation of variability in the data was acknowledged and contended to indicate significant shifts in the global distribution of schizophrenia [10].

In a more recent publication, Saha, et al. conducted a systematic review to examine the prevalence of schizophrenia [6]. The study revealed significant variation in the prevalence of schizophrenia across different locations, with a median of 15.2 cases per 100,000 individuals and a quartile range of 7.7 to 43.0 for the 10% to 90% confidence interval. Furthermore, the study revealed that there were notable disparities in the development of schizophrenia between males and females, with a median male: female risk ratio of 1.4. Additionally, immigrants exhibited a higher likelihood of developing schizophrenia compared to native-born individuals, with a median risk ratio of 4.6. Lastly, individuals residing in urban areas demonstrated a greater susceptibility to schizophrenia when compared to those residing in mixed urban/rural areas.

2.2. Mortality Rates

The mortality rates among individuals diagnosed with schizophrenia exhibit a notable disparity when compared to those observed in the broader population. Numerous studies, encompassing a longitudinal analysis of mental patients spanning four decades, have repeatedly revealed this phenomenon of difference. According to the study conducted by Tsuang and Woolson [11], individuals diagnosed with schizophrenia, particularly females, had a significantly increased risk of mortality over the course of the 40-year observation period. Schizophrenic patients exhibited standardised mortality ratios (SMRs) that consistently exceeded those of the general population, suggesting a lack of convergence between mortality rates in this group and the general population over the course of time. The observed enduring elevation in mortality rates stands in stark contrast to other psychiatric disorders such as mania and depression, wherein the heightened risk of mortality was predominantly limited to the initial ten years after admission. The aforementioned results highlight the significant and persistent susceptibility of individuals diagnosed with schizophrenia to

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untimely mortality, hence requiring the implementation of focused intervention approaches to effectively tackle this issue of public health.

3. Contributing Factors to Mortality

3.1. Comorbid Physical Illnesses

People with schizophrenia have higher mortality rate, partially due to common comorbid physical ailments, such as cardiovascular diseases (CVD), diabetes, and respiratory disorders. Cardiovascular illnesses, including coronary heart disease (CHD) and stroke, are particularly prevalent among these patients, who are at much greater risk compared to the general population. The heightened risk is often linked to lifestyle factors such as smoking, inadequate dietary habits, and lack of exercise, which exhibit a higher prevalence among patients diagnosed with schizophrenia. Furthermore, there is a correlation between the administration of antipsychotic drugs, particularly at higher dosages, and an increased likelihood of mortality resulting from cardiovascular-related factors [4]. Diabetes is an additional significant factor, as metabolic syndrome and insulin resistance are significantly more prevalent among individuals in this demographic. These conditions are frequently worsened by the adverse effects associated with antipsychotic therapies [12]. There is an increased mortality risk associated with respiratory disorders, such as chronic obstructive pulmonary disease (COPD) and respiratory malignancies, which can be attributed to the elevated smoking rates observed among those diagnosed with schizophrenia. The collective influence of these coexisting medical conditions highlights the necessity for comprehensive healthcare strategies that encompass both psychological and physiological well-being in order to enhance the rate of survival for patients diagnosed with schizophrenia [4,12].

3.2. Lifestyle Factors

Lifestyle factors significantly affect the health status of people with schizophrenia and contribute to their higher mortality rate. This group often engages in unhealthy behaviors, including poor eating habits, heavy smoking, lack of exercise, and, to a lesser extent, alcohol abuse. These behaviors increase the risk of chronic diseases like CVD, diabetes, and respiratory disease, which are the leading causes of death in this group. A study by Brown et al. [13] found that people with schizophrenia end to consume diets higher in fat and lower in fiber than the general population, raising their risk of heart disease. Additionally, most individuals with schizophrenia exercise little or not at all, which is also a contributing factor to death. High rates of smoking, with many people smoking heavily, often more than 20 cigarettes a day, further exacerbate the risk of respiratory and cardiovascular diseases. These unhealthy lifestyles, combined with the side effects of antipsychotic medication, contribute to the reduced life expectancy in this population, highlighting the need for targeted health promotion and intervention strategies.

3.3. Medication and Mortality

Antipsychotic drugs are indispensable for the treatment of schizophrenia, but they also significantly contribute to the higher mortality rate in patients due to their long-term side effects. Both first-generation (FGAs) and second-generation antipsychotics (SGAs) can lead to various negative side effects, especially on metabolic health. SGAs like clozapine and olanzapine, although effective at controlling psychotic symptoms, are notorious for inducing weight gain, dyslipidemia and dysglycemia, which increase the risk of metabolic syndrome. Metabolic syndrome, which includes several cardiovascular risk factors, greatly increases the likelihood of heart disease, diabetes and stroke, leading causes of death among people with schizophrenia [14].

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Long-term use of antipsychotic medication is also linked to other serious health problems, including hyperprolactinemia and its associated complications such as osteoporosis and increased risk of fractures. Evidence also suggests that prolonged use of antipsychotics may be associated with reduced brain volume, as observed in some neuroimaging studies. This potential neurotoxicity, although not yet definitively proven, raises concerns about cognitive decline and dysfunction [15]. In addition, the risk of sudden cardiac death, particularly at higher antipsychotic doses, is a key concern that further exacerbates the mortality gap between individuals with schizophrenia and the general population [16].

Goff et al. [15] highlight the need for carefully consideration of long-term antipsychotics use, advocating for personalized treatment strategies that balance the benefits of symptom control with the potential risk of serious side effects. Clinicians should rigorously monitor metabolic parameters and consider the use of the lowest effective dose to minimize these risks while ensuring effective control of psychotic symptoms.

3.4. Social and Environmental Factors

Socioeconomic status (SES) is a key factor affecting the health outcomes of individuals diagnosed with schizophrenia, leading to an increased risk of mortality within this group. There is a well-established link between lower SES and a greater incidence of schizophrenia, which can be understood through theories such as social causation and social selection. According to the social causation perspective, the stressors associated with low socioeconomic status, such as financial instability, unemployment, and substandard living conditions, induce or exacerbate the development of schizophrenia. Individuals from lower socio-economic backgrounds tend to face greater chronic stress, which can worsen mental health and makes them more susceptible to schizophrenia [17]. Furthermore, after being diagnosed, those affected by schizophrenia commonly undergo a downward spiral of social mobility, with a further decline in their socio-economic status due to the debilitating effects of schizophrenia. This downward mobility can lead to a cycle of poverty and social disadvantage, which in turn can exacerbate health disparities, such as insufficient medical care, poor nutrition, and substandard living conditions. These conditions not only exacerbate the symptoms of schizophrenia, but also lead to higher mortality rates among people with schizophrenia, as people with schizophrenia are more likely to have comorbid physical illnesses in lower socio-economic groups, and less likely to have access to the healthcare services needed to effectively manage these illnesses [17].

4. Conclusion

In conclusion, the elevated mortality rates among individuals with schizophrenia are influenced by a complex interplay of physical comorbidities, lifestyle factors, and the adverse effects of antipsychotic medications, exacerbated by socioeconomic disparities. Cardiovascular disease, diabetes, and respiratory illnesses, driven by unhealthy behaviors such as smoking, poor diet, and physical inactivity, significantly contribute to early mortality in this population. Antipsychotic medications, while crucial for managing psychotic symptoms, also heighten metabolic and cardiovascular risks, necessitating careful monitoring and personalized treatment strategies.

This research has highlighted effective intervention strategies, including integrated care models that address both psychiatric and physical health, and lifestyle interventions such as smoking cessation programs and dietary modifications. However, several limitations remain. Many existing studies rely on observational data, which limits the ability to draw causal inferences. Additionally, healthcare disparities and access issues can hinder the widespread implementation of these interventions, particularly for individuals in lower socioeconomic groups. To improve outcomes,

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future research should focus on more longitudinal studies to establish clearer cause-and-effect relationships between schizophrenia, comorbidities, and mortality risks.

Furthermore, enhancing access to healthcare for marginalized populations is essential. Expanding mental health services to include comprehensive physical health monitoring can help mitigate the risks posed by lifestyle factors and medication side effects. With improvements in integrated care and policy changes, it is predicted that mortality rates in individuals with schizophrenia can be significantly reduced, leading to improved life expectancy and quality of life for this vulnerable population.

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