PERCEPTION OF DETERMINANTS OF PSYCHOTIC PATIENTS AND IMPACT OF PSYCHOTIC PATIENTS ON THE FAMILY OF KATHMANDU DISTRICT IN NEPAL

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ABSTRACT

Perception of determinants of psychotic patients and their impacts on the family of Kathmandu district in Nepal aims at finding out the determinants in terms of biological, psychological, and sociological aspects and their impacts in terms of social, financial, emotional, and health. The theoretical method is incorporated for roughly 30 caregivers (the sample size is estimated with the Population Proportion Formula) of psychotic patients in Nepal. Nonclinical data was used for the analysis, with a survey method for quantitative data and an interview method for qualitative data. The questionnaire and interview schedule are used as study instruments. Those instruments are tested through conceptual definitions, operational definitions, design, development, statistical analysis, and thematic content analysis. The analysis of the data for objective number 1 revealed that social determinants had the highest number of occurrences, but these were actually psychosocial and biological determinants. These determinants were directly or indirectly related to psychological or emotional factors and are synchronized with the bio-psychosocial model. (B.P.S.) developed by George Libman Engel of the University of Rochester Medical Center, New York. The results of objective number 2 concluded that the emotional impacts of psychotic patients were the most prominent, followed by social, financial, and health impacts. It is clear that emotional impact comes first, followed by other impacts such as financial, social, and health. These findings will support the fresh data for the urgent need for further in-depth study of the determinants of psychotic patients and their impacts on the family.

KEYWORDS

Biological, Determinants, Emotional, Health, Impacts, Physical well-being, Psychotic Patients, Social Determinants

INTRODUCTION

According to the DSM-IV, the five key symptoms of psychotic disorders are: 1) delusions; 2) hallucinations; 3) disorganized speech; 4) disorganized or catatonic behavior; and 5) negative symptoms. As a result, psychosis is defined as a change in the brain's information processing. It can cause an individual to lose touch with reality. The symptoms, such as auditory and visual hallucinations and delusions, are seen (DSM-5, 2020). In general, major determinants of psychotic patients can be biological, social, psychological, and environmental. The determinants that potentially contributed to the psychotic patients were misguided beliefs about the cause of the mental disorder, low literacy on the symptoms of mental disorders, internalized stigma, financial problems, the long distance to the psychiatric hospital, and the perceived complexity of the bureaucratic system (Marthoenis, Aichberger, & Schouler-ocak, 2021). Psychosis can have a great impact on all family members. Psychosis is accompanied by grief. The stages of grief are shock and denial, learning to cope, and acceptance. Different stages in the grief process can cause conflict. The family members are affected by the stress and grief associated with the illness. Psychosis often has a great impact on marriages and family relationships. Psychosis has a direct impact on development. The main developmental impacts can be difficulty forming an independent identity, learning independent living skills, living independently, finishing education, entering the workforce, identifying a career path, establishing adult peer relationships, sexuality, and starting a family. Every member of the family who is directly affected by psychosis can be affected developmentally (Early Assessment and Support Alliance, 2016).

Significance of the study

The study of the determinants of psychotic patients and their impacts on families can be an initial step in understanding the real situation and suffering of psychotic patients and their families in six districts of Nepal. Because the main aim of this study is to describe the actual conditions and hardships faced by caregivers and patients, it can be a small attempt at ushering awareness of severe mental illness and the plight of their families among the people and government of Nepal. Therefore, the public and government will be able to contribute for the betterment of the psychotic patients and their families. Overall, neuroscience, psychology, and medicine have made advances in identifying potential mechanisms for the development of

psychopathology. But the findings are overlapping, conflicting, and inconsistent (Karver, 2015). Even observational and experimental research showed that biogenic beliefs about mental illness are associated with negative, more stigmatizing attitudes towards the mentally ill. These facts show that the role of caregivers and the impacts of psychosis on families were not sufficiently considered during research and experiments (Lippi, 2016). Nowadays, medical science and psychology accept the importance of the role of caregivers and the impacts of psychotic patients on families in mitigating mental illness. This study will help to enhance the importance of the role of caregivers and the impact of psychoses, shading light on most aspects of determinants and impacts. The result of this study might help prevent caregivers from being hidden patients by encouraging people to provide adequate social support and showing the social impact of psychosis.

Statement of the problem

The first epidemiological field survey conducted in the Kathmandu Valley was in 1984 A.D. That field survey had estimated the prevalence of mental illness at around 14 percent (Nepal Health Research Council, 2022). The Government of Nepal Health Research Council, the National Mental Health Survey, and Nepal conducted a survey from November 2017 to January 2020. The general objective of the survey was to assess the prevalence of mental disorders in Nepal and find out the help-seeking behavior and barriers to accessing care among people with mental disorders in Nepal. The expected output was to deliver a complete analytical report with a clear national picture of the prevalence of mental disorders. In the report of this project, it is clearly stated that among the adult participants, 10% had a mental disorder in their lifetime (Nepal Health Research Council, 2022). According to the preliminary results of the National Census 2022, the population of Nepal has reached 2,91,92,480 (Central Bureau of Statistics, 2022). Approximately 3% of the 10% of people with mental disorders have psychotic symptoms. It means the population of psychotic patients in Nepal is 87577. Therefore, the prevalence of psychotic patients in Nepal is 0.3%.

Similarly to this, there are 201532 people residing in the Kathmandu district as a whole (Central Bureau of Statistics , 2022). In all of Nepal's districts, it has the most significant population (Central Bureau of Statistics , 2022). Adults in Kathmandu make up about 12% of the city's overall population. The digits are 201753, and 2.4886% of the people in this group have psychotic symptoms (Nepal Health Research Council, 2022). The number is 6025. Similar to Kuala Lumpur in Malaysia, the capital of Nepal is located in the Kathmandu area. The incidence of mental illness was estimated to be approximately 14% in the Kathmandu Valley based on an

epidemiological field survey done in 1984 (Nepal Health Research Council, 2022). It houses the majority of Nepal's biggest hospitals and other medical facilities, making it the district with the most extensive healthcare facilities. According to the Health Facility Registry, Federal Ministry of Health (Goverment of Nepal Ministry of Health, 2015), It has the largest health facilities for treatment out of all the districts in Nepal, with the majority of large hospitals and health-related institutions, including the office of the Department of Health of the Nepal government. The majority of Nepalese seeking treatment for serious health issues travel to the Kathmandu district (Nepal Health Research Council, 2022). This region is therefore appropriate for the purpose of this study.

Despite the high prevalence of mental disorders in Nepal in comparison to other countries in the world, the Nepal government has given little importance to the mentally ill population. Therefore, less than 3% of the national budget is allocated to the health sector, with only 1% of that budget dedicated to mental health (WHO, 2021). The families and caregivers of mentally ill patients are totally ignored by the government (Goverment of Nepal Ministry of Finance, 2022). Thus, the current research is intended to identify the perception of the determinants of psychoses and the impact of psychotic patients on their families, which may provide baseline information on the major issues to be considered when making national policies regarding mental health.

Identifying the determinants of psychotic patients and their impacts on their families is the most important aspect of the management of psychotic patients. Without understanding the determinants of psychotic patients and their impacts on their families, health professionals cannot provide good professional service to psychotic patients. Therefore, they will exclude them from the disease, treatment, and decision-making processes. So they are not able to understand the needs and expectations of their family members (Akbari, Alavi, Irajpour, & Maghsoudi, 2018). Then they can become hidden patients. The outcome of this study will adequately identify the determinants and impacts of mental illness.

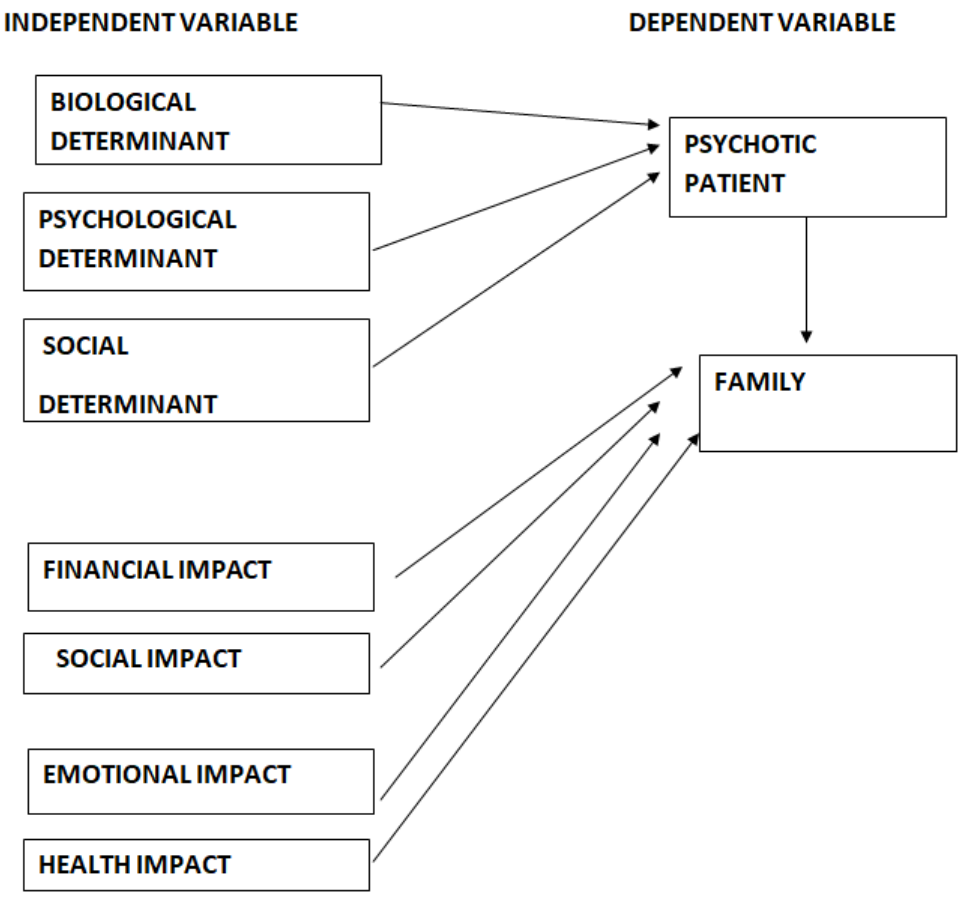
Due to the lack of knowledge and information on the determinants and impacts of psychotic patients, the patients and members of their families immensely suffer, and the patients and their families are constantly affected by the changes resulting from the disease and its treatment (Akbari, 2018). This study will shed light on knowledge and information about the determinants and impacts of psychotic patients for the betterment of people with mental illness.

Objectives of the study

1. To identify the perception of caregivers about the bio-psychosocial determinants of psychotic patients.
2. To assess the impact of psychotic patients on the family in terms of financial, social, emotional, and health factors.

Figure 1

Conceptual framework (Perceived determinants)



The conceptual framework of the study (Figure 1)

Theoretical Framework Determinant 1

The bio-psychosocial model serves as the foundation for the theory underlying

the causes of mental disease (BPS). The bio-psychosocial paradigm was developed by American physician and psychiatrist George Libman Engel (December 10, 1913–November 26, 1999), who worked at the University of Rochester, Medical Center in Rochester, New York (Dowling, 2005). According to this theory, the combination of biological, psychological, and social elements results in mental disease. These elements can operate as risk and protective factors in the emergence of psychological diseases. The majority of illnesses, however, lack a single, clearly defined etiology (Abera et al., 2015).

Mental health issues have a wide range of complex causes. Although they play a part, biological variables are not the only component at play. Additionally important are the social and psychological aspects. Most medical professionals believe that the bio-psychosocial model, which encompasses three key domains, can be taken as a determinant of mental health including psychoses. Biological issues such as genetics, brain chemistry, and brain injury. The social issues are life traumas, pressures, early life experiences, and family relationships. Psychological processes are how an individual interprets events as signifying something negative. The total mental health of an individual is the product of the complex interactions between these variables. The interaction of the factors is summarized in the diagram below. In actuality, it is a vast, intricate network (Delphis Learning, 2019).

Theoretical Framework for Determinant 2

The diagram given in number 2 above is adapted from the article "Modern Understanding of Psychosis: From Brain Disease to Stress Disorder and Some Other Important Aspects of Psychosis," by Johannessen & Joa, which was released in 2021 to justify the independent variables of the study. This theory states that stress from childhood trauma and other reasons has been linked to a wide range of mental illnesses, including psychosis, such as PTSD, sleep issues, anxiety, depression, bipolar disorder, hallucinations, personality disorders, drug abuse, eating disorders, and many more (Johannessen & Joa, 2021).

Theoretical Framework Impact 1

Hans Driesch, Ludwig von Bertalanffy, and William T. Powers developed the ideas of equifinality and multifinality. The pathways that link risk and protective variables to maladaptive and adaptive outcomes are thought to be explained by equifinality and multifinality. Equifinality is the knowledge that several potential routes or risk variables might lead to the same conclusion.

(Brittany Jordan-Arthur,2015).

In psychology, the concept of equifinality describes the finding that, in any open system, a variety of paths can all lead to the same outcome. This is a framework for looking at how a person's behavior is influenced by a variety of different life circumstances (such as their living condition, ethnicity, biology, etc.). The multifinality

notion states that any component of a system may operate differently depending on the structure of the system. Simply expressed, equifinality suggests that many things are related to the same item, but multifinality indicates that one thing can be related to more than one object. The fact that many predictors are related to one outcome and numerous outcomes are tied to a single predictor (Dauchot, 2018) significantly clarifies the situation.

The idea of equifinality emphasizes the likelihood that several background risk **variables** could produce the same outcome. Numerous beginning circumstances, techniques, and ideas result in the same general conclusion. The concept of "multifinality" emphasizes how a **singl**e illness, treatment, concept, or risk factor may manifest itself in a variety of ways over the course of a person's lifetime. According to (Delisi, 2014)), a negative notion typically has detrimental impacts across contexts and in a number of ways.

This study also looked at the relationship between a psychotic patient's family and the impacts on their financial situation, social life, emotional state, and health in the light of the theories of equifinality and multifinality.

METHODOLOGY

The population are the caregivers among the family members of patients with the diagnosis of psychotic symptoms from the Kathmandu district, because Kathmandu district has a total population of 20,17,532 people (Central Bureau of Statistics (CBS), 2022). It has the highest population among all the districts of Nepal (Central Bureau of Statistics (CBS), 2022). The sample is composed of 30 caregivers among the family members of patients with the diagnosis of psychotic symptoms from the Kathmandu district of Nepal, based on purposive sampling. The caregivers are selected based on the diagnosis and medication of psychotic patients by qualified psychiatrists. Only nonclinical data are used for the analysis. In this study, the survey methods are used to collect the quantitative, data and the interview methods are used to collect the qualitative data.

DATA COLLECTION

Only nonclinical data will be used for the analysis. The survey methods are used to collect the quantitative data, and the interview methods are used to collect the qualitative data. In the survey method, questionnaires are used, and in the interview method, interview schedules are used as the study instruments.

DATA ANALYSIS

The collected data are entered into SPSS version 25 for Windows. Descriptive statistics use frequencies to describe variables. So, for objective number 1, descriptive analyses are used. For objective number two, content thematic analyses are used to gain a deeper and clearer understanding of the formation of themes.

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to collect the quantitative data and the interview method are used to collect the qualitative data. In survey method, the questionnaires are used and in interview method the interview schedules are used as the study instruments.

VALIDITY AND RELIABILITY

The content validity of the instruments is established by: 1. Cronbach's alpha scale; 2. inter-rater reliability method; 3. back translation method; and 4. necessary modifications.

LIMITATION OF THE STUDY

This study will be limited only to the caregivers among the family members of patients with psychotic symptoms. Therefore, limitations may occur due to the small and limited sample size.

RESULTS

After gaining the results from SPSS 25, Microsoft Excel was again used for the calculation and analysis to compare and evaluate the results. However, the findings and figures were similar.

Among the 5 scales of the Likert (strongly disagree, disagree, "neither agree nor disagree", agree, and strongly agree), **"agree"** was assigned for the response of the determinant (cause) of psychosis. But according to the respondents, even if they assigned **“agree”** on the cause of psychosis, it may not be the cause in all the psychotic patients. Anyhow, the majority of cases of psychosis may be determined by this cause. Next, "**strongly agree"** is assigned for the universal determinant of psychosis present in all of the psychotic patients.

Demographic Frequency of Background Variables

In this study, a total of 30 caregivers were invited to participate in the study. All 30 caregivers completed the questionnaire and interview schedule, giving a response rate of 100%. All of the respondents were from urban areas. Of those who completed the interviews, 22 (73.33%) were male and 8 (26.66%) were female in terms of the frequency of gender (Table 1).

Table 1

Gender, education, and economic status

Theme	Frequency	%
MALE	22	73.33
FEMALE	8	26.66

ECONOMIC STATUS		
LOW STATUS	0	0
MIDIUM STATUS	26	86.66
HIGH STATUS	4	13.33
ACADEMIC QUALIFICATION		
ILLITERATE	0	
SCHOOL PASS OUT	15	50
UNIVERSITY PASS.	15	50
TOTAL FRQUENCY	79	100

Note. The frequencies of gender, education, and economic status

The first and second highest frequencies of agree and strongly agree

1. DEATH OF A LOVED FAMILY MEMBER. (EMOTIONAL IMPACT) = **23**, (the highest frequency) in the likert scale of AGREE.
2. FAMIY FINANCIAL CRISIS (FINANCIAL IMPACT) = **21** (the second highest frequency) in the likert scale of AGREE
3. NEURO CHAMICAL DISTURBANCE (HEALTH IMPACT) = **11** (the highest frequency) in likert scale of STRONGLY AGREE
4. GENETIC RELATED CAUSE =**8** (the second highest frequency) in likert scale of STRONGLY AGREE.

Percentage and Frequency of "Agree" in Hierarchical Order

1. Death of a loved family member = Sociological determinants **23 (76.7%)** (Lead to psychological and emotional distress as grief, sorrow, anxiety, regret, resentment, and depression).
2. Family financial crises = Social determinants **21 (70%)** (Lead to psychological distress as stress, anxiety, and depression).
3. Academic failure = Social determinants **21 (70%)** (Lead to emotional turmoil as sadness, and anxiety).
4. Conflictual marriage = Social determinants **20 (66.7)** (Lead to mental or psychological pain, sorrow, stress, and envy)
5. Substance use = Biological determinants **20 (66.7)** (Usually, substances are abused for pleasure and psychedelic experiences but may result in mental or psychological distress due to adverse conditions in life and impaired relationships).
6. Physical and sexual abuse =Biological determinants **18 (60%)** = (Lead to physical

and psychological pain as remorse, regret, and shame.)

Percentage and Frequency of "Strongly Agree" Hierarchical Order

1. Neuro-chemical disturbance (Biological determinant) = 11 (36.7%), the highest frequency of the Likert scale of "strongly agree"). The imbalances in neuro-transmitter have direct effects on the fluctuation of emotions).
2. Genetic-related cause (Biological determinant) =8 (26.7), the second highest frequency in the Likert scale of 'strongly agree". The genetic-related causes are also biological determinants. But the results of the studies show that the major cause of neuro-chemical imbalances might be due to genetic-related causes. It shows that there is a close relation between "Genetic related cause" and "Neuro-chemical imbalance".
3. Substance use= (Biological determinant) = 7 (23.3%). As mentioned above, usually, substances are abused for pleasure and psychedelic experiences, but it could lead to extreme mental or psychological distress due to adverse conditions in life and impaired relationships).
4. Physical and sexual abuse = (Biological determinant) 5 (16.7%) Though it is related to biological problems, (it may lead to unbearable physical wounds and mental pain, remorse, regret, and shame).

Objective number 2

First, the responses were entered precisely with the words and sentences of the respondents in Microsoft Excel. Then themes were created and divided into four parts according to the independent variables of objective number two. Then the codes were generated on the basis of the themes for the analysis. Six Microsoft Excel sheets were used to enter the data for six research questions. After entering all the data for themes and codes, frequencies and cumulative percentages were calculated. Sum, mean, median mode, and standard deviation were calculated based on frequencies and cumulative percentages.

Table 2
Frequency

Frequency of Financial Impact	Frequency of Social Impact	Frequency of Emotional Impact	Frequency of Health Impact
16	21	25	16
30	9	4	1
5	30	18	0
2	14	30	3

4		7	11	23
10		23	19	10
Mean	11.16666667	17.33333333	17.83333333	8.833333333
Median	7.5	17.5	18.5	6.5
Sum	67	104	107	53

The highest frequency among four variable is emotional impact = 107. The second highest frequency among four variables is social impact = 104. The third highest frequency among four variables is financial impact =67. The lowest frequency among four variable is health impact =5 (Table 2).

Table 3
Cumulative Percentage

Emotional Impact (%)	Social Impact (%)	Financial Impact (%)	Health Impact (%)
20.66	26.58	32.91	20.25
68.18	20.45	9.09	2.27
11.11	55.55	33.33	0
4.08	28.57	61.22	6.12
8.88	15.55	24.44	51.11
16.129	37.097	30.645	16.129
Mean 21.5065	30.63283333	31.93916667	15.979
Median 13.6195	27.575	31.7775	11.1245
Sum 129.039	183.797	191.635	95.879

The highest cumulative percentage among four variable is financial impact = 191. 635%. The second highest cumulative percentage among four variables is social impact = 183.797%. The third highest cumulative percentage among four variables is emotional impact =129.039%. The lowest cumulative percentage among four variable is health impact =95.879%. The results were totally synchronized between the data of frequency and the data of cumulative percentage including mean, median, mode, standard deviation and sum (Table 3).

The result were found totally synchronized between descriptive analysis of

SPSS 25 and the analysis of thematic content analysis of Microsoft Excel sheet and formulas including frequency, cumulative percentage, mean, median, mode, standard deviation, and sum of objective number 1. The results of objective number 1 and 2 are totally synchronized even though the data of objective number 1 were computed with descriptive analysis using SPSS 25 and the data of objective number 2 were computed with thematic content analysis using Microsoft excel sheet and formulas. Interestingly, the results were also synchronized with established theories and principles. It will be explained in detail in discussion and conclusion section.

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DISCUSSION

The findings of this study are synchronized with established theories and principles, as in the examples following below. This study supports that the main and prime perception of determinants in psychotic patients is the interaction of biological, sociological, and psychological determinants, as mentioned in the bio-psychosocial model (BPS) of George Libman Engel, and that the bio-psychosocial model provides the theoretical underpinnings for the theory underlying the etiology of mental illness. The findings also explain that mental illness is the result of the interaction between biological, psychological, and social factors (Dowling, 2005). Thus, the combination of biological, psychological, and social elements results in mental disease, and these elements could also operate as risk and protective factors in the onset of psychological diseases (Abera et al., 2015).

The psychological or emotional determinants might be both **cause** and **effec**t (result) of negative or positive human behaviors such as social, biological, and financial behaviors (social and biological determinants). As stated in the article by Dolan "Emotion is central to the quality and range of everyday human experience", (DOLAN, 2002).

The result of this study also showed that the psychological determinants (stress), social determinants (caused by financial burden), and biological determinants (neurotransmitters and chemical disturbances) were directly related to psychosis, as mentioned in the "theory of Johannessen and Joa" (Johannessen & Joa, 2021).

The findings also obviously showed as in the result of the paper in 2019 by Fekadu, Mihiretu, Craig, and Fekadu, that emotional impact comes first, then other impacts (financial, social, and physical) follow after any negative or positive event or incident in human behavior (Fekadu, Mihiretu, Craig, & Fekadu, 2019).

The results also showed that the fact that many predictors are related to one outcome and numerous outcomes are tied to a single predictor (Dauchot, 2018) significantly clarifies the situation. Thus, as the concepts of the theory of equifinality and multifinality stated, this study also supports the fact that four impacts such as biological, financial, social, and physical impacts could change the equilibrium of the

family of psychotic patients, and the equilibrium of the family of psychotic patients could also change the conditions and intensity of the financial impact, social impact, emotional impact, and health impact. Although impacts stand for predictors and family stands for outcome in equifinality, impacts stand for outcomes and family stands for path or predictor in multifinality. These conclusions were backed by the responses to six research questions in the study.

CONCLUSIONS

The findings of objective number 1 proved that the social determinants had the highest number of occurrences. However, those occurrences were, in fact, psychosocial determinants. All those determinants were directly or indirectly related to psychological or emotional factors, even though they seemed to be social determinants at first glance. The second-highest determinants were biological. These determinants were also directly or indirectly connected with psychological factors. For example, the determinant of substance use seems to be biological. However, in fact, it is a somatopsychic determinant. Because, usually, substances are abused for pleasure and psychedelic experiences but may result in mental or psychological distress due to adverse conditions in life and impaired relationships, the biological determinant of physical and sexual abuse is also a somatopsychic determinant. Thus, it also leads to psychological pain such as remorse, regret, and shame, along with physical pain. In the light of this study, psychological factors are inseparably related to other factors such as social and biological factors.

The conclusion of objective number 2 explicitly concluded that the emotional impacts of psychotic patients were the most prominent impacts on the family among the other three impacts: social impact, financial impact, and health impact. It is also obvious that emotional impact comes first, and other impacts (financial, social, and physical) follow any negative or positive event or incident in human behavior.

The findings additionally indicate that the relationship between several predictors and one outcome, as well as between many outcomes and one predictor, considerably simplifies the issue. As a result, in line with the ideas behind the theories of equifinality and multifinality, this study also supports the idea that four impacts—biological, financial, social, and physical—could alter the equilibrium of the family of psychotic patients and that this equilibrium could alter the circumstances and intensity of the financial impact, social impact, emotional impact, and health impact. In multifinality, effects stand for outcomes and family for route or predictor, even if impacts stand for predictors and family for result in equifinality. These conclusions were supported by the responses to six research questions in the study.

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