Review Article

Importance of the Bio-psychosocial Model of Practice in Health Care Services

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ABSTRACT

Background: Bio-psychosocial approach has been considered a multi-dimensional, holistic aspect of health care services. In developing countries, the biopsychosocial approach has a significant role in minimizing the health care cost of the bio-medical approach by dealing person as a whole rather than as a part of the sum. This model deals with the causative agents and various aspects of the personal life such as preventive aspects, lifestyle & behavior modification, environmental factors, host, genetic factors, culture, financial, and interpersonal relationships.

Objective: The main aim of this paper is to discuss the importance of the bio-psychosocial approach to healthcare practice in the healthcare services in Nepal.

Method: While writing this article, the authors have reviewed the literature through a database and search engine (google scholar, PubMed, and Henari), talked to the patients (face to face interviews), met the family members, and observed the care providers in the hospital and a rehabilitation center.

Result: The authors have found practices of the bio-medical approach in the healthcare setting. Cases one and two showed that patients' health issues were not managed effectively and efficiently only treating them by practicing a biomedical approach. However, both case's issues were properly addressed after shifting to adopting the biopsychosocial approach. The biomedical approach revealed somehow delays in identifying the root cause of health problems and increases dissatisfaction among service receivers toward the service provider.

Conclusion: The need for practicing the bio-psychosocial model for healthcare facilities is imperative to improve the health care outcome, public satisfaction with services, build trust, and minimized the healthcare cost toward health care services in a healthcare setting.

Keywords: Bio-medical model, bio-psychosocial model, hospital service, low resources country

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INTRODUCTION

Human health is influenced by social environment and physical status. The modern knowledge of health was learned and practiced a long way ago.[1] People's health and sickness are intimately linked with belief that they think, feel, and practice.[1-3,5] This is why, they decided to seek treatment, whether from doctors, traditional healers or from alternative medical practitioners.[5] There have unique treatment approaches by doctors, traditional healers, and alternative practitioners. One approach fulfills the limitation of another approach, which play a vital role in the existence of all approach at once.

Despite many approaches, biopsychosocial and biomedical approaches are prominent practices in preventive, promotive, curative, rehabilitative, and palliative health care practices in this contemporary era.[4, 6] The bio-psychosocial model is a scientific model constructed to consider the missing dimensions of the biomedical model.[1, 5, 6] This model of health viewpoint focuses on the causes of illness and injuries due to biological, psychological, and sociocultural aspects. It includes the psychological and socio-cultural needs of the patient in diagnosing, treating, and recovering process, which promoted the speedy healing of the health problems.[2, 5, 6, 7] Health psychology deals with patients' families and friends as a source of social support which is important for their early recovery.[6, 7] The dominant model in the curative aspect is the biomedical model, especially in developing countries. Those who believed in the biomedical model of health practice thought illness and injuries are the results of biological causes and could be treated by administering biomedical drugs.[1, 4]

The bio-psychosocial model is also considered a system theory[2] whose goal is to analyze the causes and treat the illness, the patient's subjective sense of suffering, rather than confining the diagnostic effort. In the hospital, people visited the clinician with varieties of symptoms that might be caused by different sources. The presented symptoms of the disease are not only because of biological reasons, they might be aggravated by related factors such as psychological, environmental, cultural, and financial.[3] In the context of Nepal, bio-medical model is predominately practiced in health care settings like hospitals. This article aims to highlight the importance of the bio-psychosocial approach to healthcare practice in healthcare services in Nepal.

MATERIALS AND METHODS

The observational method was adopted for this study. While writing this article, literatures were accessed through various databases and search engines such as google scholar, PubMed, Hinari, etc. The authors have reviewed the literature, face to face interviews with patients, and family members, and observed the care providers in the hospital and a rehabilitation center. Similarly, observation of the client and their home environment in the community setting. Two case studies were done for the study. The conceptual model of the methodology has been presented in figure 1 in schematic form.

The methodology of this study was based on a theoretical framework as references to the system theory developed by Ludwig Von Bertalanffy's "Hierarchy of Natural System". The details have been presented in Figure 2. The consent was taken from patients and their family members to publish their cases for the study.

RESULT

The bio-psychosocial model considers individuals as well as their health problems and the social context. It recognizes that health, disease, illness, and disability result from complex interactions of biological, emotional, cognitive, social, and environmental factors. The authors presented the two cases respectively.

CASE 1

"20 years female, having recently broken off with her boyfriend after being diagnosed that she was pregnant. She was forced to abort her baby. She loves him, wants to get married, and starts a new life with her boyfriend. However, her boyfriend doesn't want to marry her because she belongs to a lower caste in society. She was physically, mentally, and socially disturbed. She has been passing through a life crisis. She can't share her problem even with her family because of fear of rejection from family and society, as she was already rejected by her boyfriend. Suddenly, she was unconscious. Her parents bring her to the hospital. After managing her acute problem in the emergency unit, she was given discharged. After 5-6 days she developed hypertension. Every time she visited her

physician, he gave anti-hypertensive drugs in increasing doses.

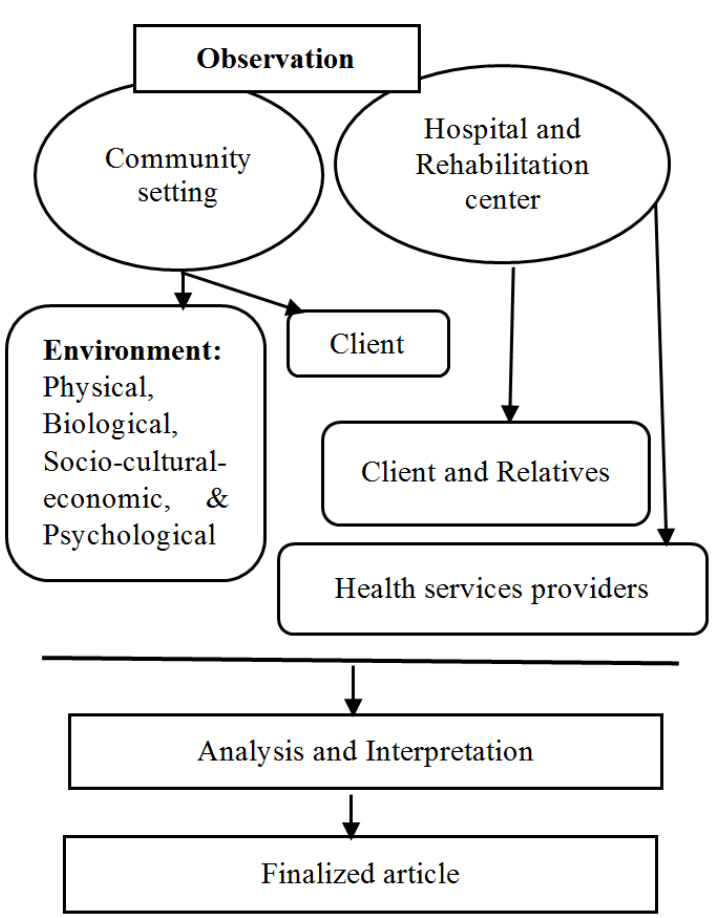

Figure 1. Methodology of thestudy.

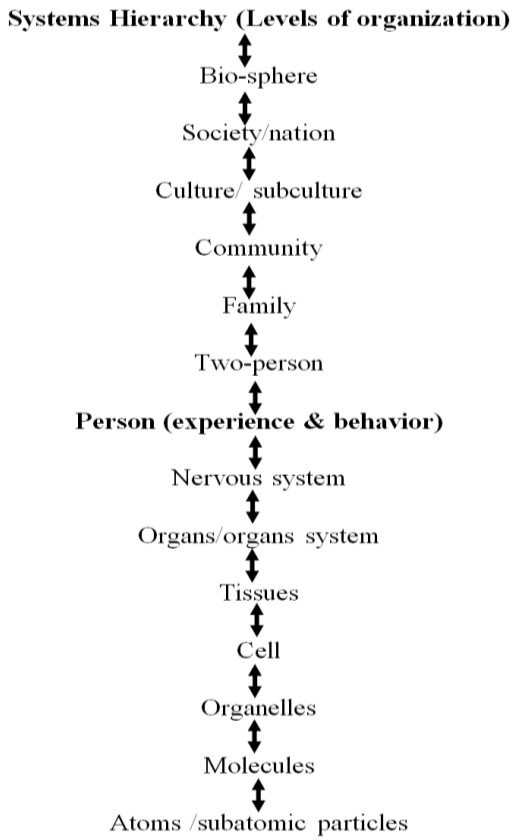

Figure 2. Hierarchy of natural system

The physician has not given more than 5 minutes to her because he had a long list of a patient to be checked. Later on, she developed multiple health problems such as gastritis, insomnia, and generalized pain. She was chronically ill at the age of 22. Finally, her parent decided to visit a psychiatrist. Her psychiatrist knows her relations with her boyfriend and referred her to a psychologist for counseling. After several series of counseling her problem seemed to be reducing. When the psychologist counseled her boyfriend and their family (her family and her boyfriend's family), they decided to accept her. Her physical health problem gradually seemed resolved. She no longer needs to take tranquilizers for sound sleep. The higher doses of medicine were also trapped down. She got married to her boyfriend. After 6 months she was completely recovered."

CASE 2

"A 40 years old male, sustained spinal cord injury (SCI) following a motor vehicle accident. He was a married man and earned the living for five members. The injury led him to be physically disabled. He lost sensation below the umbilicus region and couldn't move his bilateral limbs. After acute and rehabilitative management, he survived but was going to be confined in a wheelchair for the rest of his life. It was very hard for himself and his family to accept this fact. During rehabilitation, he was informed about living actively in a wheelchair and performing bladder, bowel, and skincare independently. Moreover, he was now unable to continue his job as a truck driver. So, he remained at home jobless. His wife started to do some local work and earn some money that was not enough for their family.

After a few months, he was readmitted to the rehabilitation center with a fourth-grade pressure ulcer over the sacrum. The rehabilitation team analyzed his wound and was immediately referred for surgical management. Since the wife could not afford the treatment, the center provided full charity for pressure ulcer management. In a month, the pressure ulcer was

healed. The rehabilitation team re-educated the family and the patient about pressure ulcer prevention, focusing on nutrition and physical environment modification at home. A peer counselor contacted him for a follow-up and found that he again developed a pressure ulcer in the same area of the sacrum after three weeks. The rehabilitation team discussed this case and planned to find out the real cause behind the recurrent pressure ulcer. A nurse and a peer counselor conducted a home visit. They performed a survey to assess his nutritional status, psychological condition, and need for home modification.

The prominent finding was that he had a severe depression level. Upon further interviewing the family members, the team found that he had no interest in self-care and had very less interaction with his family members. He lived in an isolated room in the house. His nutritional status was very poor. The wife said that since her husband is no longer able to earn any money, she has to go to work every day. So, she was busy with her work, and taking care of children, and had no time to take care of her husband. He used to lie on his bed most of the time and did not care about the possibility of pressure ulcers. It seemed that he did not want to live anymore and the family lost hope in him. Upon returning from the home visit, the team planned to readmit the patient for pressure ulcer management and involve him in vocational training after his recovery. This time also he was operated with financial support from the center. The patient participated in a four-month "pickle-making" training. After completing the training, he opened a small shop at his home. He used the vegetables from the kitchen garden to make pickles at home and sell them. Slowly his wife started to participate in his business. She realized that her husband could still live a productive life. After a year, their business was growing enough to raise their family. He had feelings of self-worth and an increase in self-esteem. He does not have any pressure ulcers now. His depression level is mild on the follow-up survey. The lesson learned from the rehabilitation team was that if they had focused on his psychological and vocational aspects on his first visit, the client would not suffer from pressure ulcers and they need not spend on his pressure ulcer management twice. He lived better quality of life in the futures

Cases 1 and 2 figure out not only the effects of the bio-medical model but also explored the limitation of this model in the health care setting. The biomedical model just emphasizes on cause and effect linear relationship between health and illness. However, the bio-psychosocial approach theory emphasizes biological, psychological, and sociological approaches as a whole. The biopsychosocial model was developed as an alternative to a reductionistic biomedical model that had sprung from a traditional mind-body division and the need to understand patients' somatic symptoms.[10, 11] An implication of the bio-psychosocial model in the health setting reduces the financial burden of the family, society as well as the nation. Though the approaches focused on the holistic aspect of the patients to fit their entire environment which seems like a double-strand target with a single strategy. The role of the service provider is to support the growth of the client system, a perspective that allows the clinician to work at multiple levels that address the person in the environment.

An individual is the unit of the hierarchy of natural system[1] that nature is ordered as a hierarchically arranged continuum, with its larger units superordinate to the less complex, smaller units. It is represented schematically by a vertical stacking to emphasize the hierarchy that is, the person in the highest level of the organismic hierarchy and at the same time the lowest unit of the social hierarchy.[4] The disturbances that occur anywhere in the hierarchy of the natural system cause illness. So, before starting the treatment one should know the hierarchy and its disturbances. Bio-psychosocial approaches help the care providers to find out the causes of the problems and the disturbances easily and guide them to provide the care accordingly. While comparing the above case to this hierarchy of natural systems the result has been presented below in figure 3.

System Hierarchy (Level of Organization)	
Case 1	
Society/nation	: Unmarried pregnancy/unacceptable
Culture/subculture	: Secret abortion, attitude toward unmarried abortion
Community	: Reaction of the health profession, neighborhood, social groups, etc
Family	: Disrupted by loss, acute grief, roles, and tasks
Two-person	: Changing relationship
Person (experience and behavior)	: Self-image, expectation, goals, needs, concerns all in flux, insomnia, heartburn, headache due to hypertension, depression, anxiety.
Nervous system	: Flight and fight response, compensation, reintegration
Organs/system	: Compensation for the cardiovascular and gastrointestinal system
Tissues	: Disturbed, hypertension
Cell	: Gastric cells injured, abnormal changes
Case 2	
Society/nation	: Spinal cord injury, unable to move/person with a disability
Culture/subculture	: Attitude toward the person with a disability/unable to take the family role and earn for the family
Community	: Reaction of the health profession, neighborhood, social groups, etc
Family	: Disrupted by loss, acute grief, roles, and tasks
Two-person	: Changing relationship (head of the family becomes dependent person)
Person (experience and behavior)	: Self-image, expectation, goals, needs, depression, anxiety, insomnia, self-neglected, non-adherence, to treatment,/rehabilitation, gross depression in mobility resulting in pressure sore
Nervous system	: Flight and fight response, compensation, reintegration
Organs/system	: Compensation for the cardiovascular, gastrointestinal, musculoskeletal, and integumentary system
Tissues	: Disturbed, pressure sore occurrence/reoccurrence
Cell	: Abnormal changes

Figure 3. Cases of hypertensive and pressure ulcers in the hierarchy of the natural system model

DISCUSSION

The biopsychosocial model constructs human health as a product of the reciprocal influences of biological, psychological, interpersonal, and macro-system contextual dynamics that unfold over personal and historical time. While talking about both cases, biopsychosocial approaches seem to address their issues effectively, and efficient way. The importance of these approaches directly influences both cases for their unique improvement.[5] Likewise, the bio-psychosocial model is an imperative step in medical care as it broadens the scope with which health and illness can be examined in clinical practice.[5, 6]

Cases one and two were interviewed with unconditional regard, to develop trust between the authors, patient, and their family members. This leads to the patient being interviewed as a person with an individual lifestyle and not simply as a patient with a disease that has deviated them from normal functioning.[6, 8] Case one suggested to the clinician for the many dimensions to explore before they make their diagnosis. The interactions among biological and psychosocial components of illnesses improve clinical outcomes for chronic diseases and functional illnesses seen in primary care.[6-8, 12]

The biopsychosocial model can also be used to frame the risk factors like in case two and develop interventions specific to a certain geographical area.[9] This will provide preventative information to the patient about how they may adjust their lifestyle to have a better quality of life.[7, 10, 12] In this regard, it will minimize the lack of practice of the bio-psychosocial approach in the hospital while providing healthcare services to the patient, and the domination of the bio-medical approach among care providers. This also leads to high satisfaction among service receivers from

the service provider by bridging the gap between them. This model also responds to the epidemic, pandemic, [13] and post-acute services to plan rehabilitation[14] pathways in many communicable diseases as well as in chronic pain.[15, 16] Likes in cases one and two bio-psychosocial approaches of healthcare reduce the healthcare expenditure[2, 10] of the person, community, and nation. In using minimal resources (human & material) the solution to health issues has been obtained through holistic means.

Conclusion

The need for practicing the bio-psychosocial model for clinical services is very essential to improve general satisfaction, build trust, and minimized the healthcare cost of the patient and relatives toward health care services in a healthcare setting. It has to be concluded that the bio-psychosocial model needs to be practiced in healthcare facilities, to improve the quality of health care services and to make care receivers satisfied with the hospital service, especially in developing countries like Nepal. In order to practice this approach, there should be provision for continuous in-service education, training, work-shop, and continuous professional education. It would be recommended that further qualitative and quantitative research be done for the further exploration and generalization of finding.

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