A Review on the Case Studies of Using the Model of Human Occupation

Abstract
This study aims to understand how a commonly used theory among occupational therapists, the Model of Human Occupation (MOHO), is applied to cases since it was developed. This review used the keywords of “Model of Human Occupation” and “case” to search target articles in three databases: PubMed, PsycINFO, and SCOPUS. Studies were included when the MOHO is adopted in a case with case description. This review included 34 articles with 57 cases: 11 articles published in the 1980s, 13 articles in the 1990s, seven articles in the 2000s, and three articles in the 2010s. These case studies were reported from the United States, Sweden, Germany, Ireland, and Hong Kong. There were 25 cases diagnosed as a mental health problem (including learning disabilities, attention deficit hyperactivity disorder, dementia, schizophrenia, borderline personality disorder, obsessive-compulsive disorder, bipolar disorder, depressive disorder, conduct disorder, substance abuse, and atypical dissociative disorder); 22 cases were diagnosed as having physical health problems, including musculoskeletal pain, hemiplegia, hand dysfunction, stroke, diabetes, HIV infection, chronic fatigue syndrome, and brain injury; eight cases were diagnosed as having both physical and mental health problems. Most studies reported a treatment plan and left five cases with a mental health problem, and two with a physical health problem did not report any treatment plan. All studies showed that MOHO can improve the health of the cases and assist them to achieve their goal, except for a case with musculoskeletal problem and two cases with multiple mental disorders. In conclusion, this review showed that MOHO is effective for both physical and mental health problems over the years.

Keywords: Case study, intervention, review, the Model of Human Occupation

Introduction
Occupation-focused practice is effective because it does not only central on impairment reduction but also enables the clients to realize meaningful participation in life occupations.[1] The Model of Human Occupation (MOHO) is the first model proposed to guide occupation-focused practice and has widely used internationally.[1-5] Specifically, MOHO developed by Kielhofner and Burke in 1980 is a concise and coherent model to view the functioning and occupational behaviors of humans.[6]

MOHO aims at addressing motivation for occupation, the routine patterning of occupation, the nature of skilled performance, and the influence of environment on occupation.[7,8] One important feature of human beings is that they have innate desire to explore and master their environment.[9] Therefore, human in this model is envisaged as an open system and characterized by a continuing interaction with the environment,[6,10] while the interaction is considered as occupation.[4] In addition, cycle in the open system is the basic process that underlies changes.[11] To specify, humans constantly receive information including the expectation, intention, action, and the feedback about the results of their behaviors from the environment.[12] This internal process is called throughout which the organization and adaption of these information results in a changed capacity for output.[12] In other words, humans will respond to incoming information in a way that results in new behaviors.[12] The new behaviors will then generate new feedback and lead to further changes in output.

To summarize, the MOHO proposes an intrinsic system consisting of three subsystems (volition, habituation, and performance) that frequently interact with the environment. In addition, there are different components in each subsystem. For volition subsystem, it includes values (how important an occupation is to an individual), interests (how attractiveness an occupation is to an individual), and personal

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causation (to what extent the self-efficacy and self-capacity are for an individual). For habituation subsystem, it includes roles (e.g. mother) and habits (e.g. drinking). For performance subsystem, it includes all the physical and executive functions needed to generate skills.[13]

MOHO includes three subsystems in the original proposal. These subsystems are organized into hierarchy and each of them serve a different purpose.[14] Each subsystem has its own structure and function in which the higher governing the lower.[14] The volition subsystem is the highest level in the subsystems.[14] Volition is the feeling that one has regarding on his or her performance in the environment and what is desirable to them.[15] It guides the system’s choice of action and enacts the behavior.[15] The volitional subsystem is composed of three components mentioned above.[14,15] In detail, personal causation is the individual’s beliefs about the efficacy of action.[14] It guides action according to the belief that a set of action can achieve desired results.[14] Valued goal is the goal or results that one is willing to commit sustained action.[14] Interests are the disposition to engage in actions for oneself because of the desired results.[14]

The habituation subsystem[14,15] maintains action and guides the output of action.[14] It is governed by the choices made in the volition subsystem.[16] It also organizes the skills of the performance subsystem into roles and habits.[16] Roles are perceptions that one occupies particular positions in society and thereby must fulfill certain expectations while habits are routine patterns of behavior or actions done regularly and unconscious and maintained day-to-day behavior.[6,16] A succession of roles over the life span defines one’s career and one’s image of who one is, was, and is becoming. A lack of congruence between life cycle expectations and roles that one occupies results in an irregular timing of events and thus generates role conflicts or stress.[16] Habits are routine patterns of behavior that maintain day-to-day behavior.[16] Habits incorporate skills into patterns of action that can function automatically without the conscious attention of an individual.[14]

The performance subsystem is the lowest level in the hierarchy which it produces action.[14] It consists of different skills such as social, cognitive, and physical actions that can organize to desire result.[14] Skill integrates and organizes components (such as cognition) of the organism into pattern of actions that can be applied in any environment or conditions for achieving desirable result.[14] This subsystem also guides and controls the quality of action and giving it that characteristic referred to as skill.[14] However, through the time being, the use of MOHO does not focus on the hierarchy in the three subsystems; instead, the state-of-art use of the MOHO is treating the three subsystems as parallel.

MOHO is a systematic model with a number of developed measures.[17] MOHO has larger evidence base as compare with other occupation-focused models.[1] Therapists, especially those in America, reported that MOHO influenced their practices in client-centered practice, treatment planning and monitoring, and professional identity and practice.[1] MOHO also recognized for forming a solid basis for case analysis because it allows the description of both organized and disorganized occupational behavior and the examination of a continuing process of change.[12] Although MOHO was widely used worldwide, there is a lack of deep investigation of the implication, an intervention of MOHO. Specifically, Lee[17] had reviewed 390 journal articles on MOHO and found that articles related to case studies and intervention were relatively few (55 articles) as compared to concept, instrument, and application (180 articles). Present studies about MOHO were more focused on reporting how the therapists practiced the model on their clients. To the best of our knowledge, Lee’s study[17] is the first study that reviews the research method of MOHO-related articles. However, Lee focused more on comparing the difference between four occupation-focused models. Therefore, there is a lack of effects of MOHO-based intervention in the literature. In other words, importance of the intervention of MOHO is worth to discuss. The present study aimed to review the published case studies using MOHO and to discuss its implication.

Methods

This study aimed to review journal articles which are related to case studies using MOHO. For this review, articles were searched from PubMed, SCOPUS, and PsycINFO databases in March 2019. The following keywords were used: “Model of Human Occupation” and “case”. The inclusion criteria were (1) adopted MOHO in a case, including those adopted part of the MOHO and modified version of MOHO; (2) provided case description individually, e.g., diagnosis, situation they faced, any treatment, or outcome; (3) focused on helping clients; and (4) published in English. In this review, we focused on which types of diagnosis of the clients were (physical/mental/both), whether the study provided treatments, and the treatment effectiveness. The exclusion criterion was using cases to evaluate instrument/examine concepts.

Results

We obtained 93 articles from the three mentioned databases for screening, and eventually, 34 articles met the inclusion criteria [Figure 1]. There were 11 articles published in the 1980s,[9,12,16,18-25] 13 articles in the 1990s,[6,10,26-36] seven articles in the 2000s,[15,37-42] and 3 articles in the 2010s.[13,43,44] These articles are summarized in Table 1. Only one-third of the studies reported the population (ethnicity or region of study) where the case belongs to.[6,13,18,19,22,23,26,27,29,30,33-40,42,44] These case studies were reported from the United States,[18,23,27,30,43] Germany,[33] Spain,[26,40] Ireland,[42] and Hong Kong.[19] As some of the studies involved more than one case, there were 57 cases in the total of 34 articles. We categorized the
Keywords
“Model of Human Occupation” and “case”
PubMed, 23 studies; SCOPUS, 47 studies; PsycINFO, 23 studies

Ninety-three studies for screening
Thirty-nine excluded
Twenty-eight duplicate studies
Thirty-four studies met the inclusion criteria

Figure 1: Process flow and the results of the database search

Clinical diagnosis and other health problems into physical or mental health problem. There were 25 cases diagnosed as mental health problem, 22 cases diagnosed as having physical health problems, and eight cases diagnosed as having both physical and mental health problems. For those cases, mental health problems included eating disorder, learning disabilities, attention deficit hyperactivity disorder, dementia, schizophrenia, borderline personality disorder, obsessive-compulsive disorder, bipolar disorder, depressive disorder, conduct disorder, substance abuse, and atypical dissociative disorder, whereas physical health problems included musculoskeletal pain, hemiplegia, hand dysfunction, stroke, diabetes, HIV infection, chronic fatigue syndrome, and brain injury.

Table 1: Summary of case studies on the Model of Human of Occupation (MOHO)

| Author(s)         | Number of cases | Population | Diagnosis category (Physical/Mental/Both) | Primary diagnosis | Other health problems | Use of MOHO (Entire/Part/Modified) | Any treatment plan | Treatment result |
|-------------------|-----------------|------------|------------------------------------------|-------------------|-----------------------|------------------------------------|-------------------|-----------------|
| Abelenda & Helfrich (2003) | 2 | White male Female | N/A | Family of mental illness patient | N/A | Entire | Yes | Positive |
| Affleck et al. (1984) | 4 | Female in US Male Caucasian female White female | Both Physical Both Both | Salmonella Poisoning, anxiety & depression Leukemia Anorexia nervosa Chronic pain + depression | Capillary leak syndrome Mitral valve prolapse | Entire | Yes | Positive |
| Baron (1987) | 1 | Black female | Mental | Conduct disorder Hand dysfunction | N/A | Entire | Yes | Positive |
| Baron & Littleton (1999) | 1 | Hispanic female | Both | N/A | Entire | Yes | Positive |
| Barrett et al. (1999) | 1 | African-American female in Chicago | Mental | Depression + substance abuse | N/A | Part & Modified | Yes | Somewhat positive |
| Barris (1986) | 2 | All female | Mental | Eating disorder Depression, frequent mood swing | N/A | Entire | No |
| Bavaro (1991) | 1 | Male | Mental | Obsessive-compulsive disorder | N/A | Entire | Yes | Positive |
| Borell et al. (1992) | 1 | Sweden male | Mental | Alzheimer disease | N/A | Entire | No |
| Burton (1989) | 1 | Male | Physical | Deficits in musculoskeletal component | N/A | Entire | Yes | Unknown |
| Cubie & Kaplan (1982) | 3 | Female Male Female | Mental | Schizophreniform disorder Major depressive disorder Depressive neurosis | N/A | Entire | Yes | Positive |
| Curtin (1991) | 1 | Black male in Midwestern city | Physical | Insulin-dependent diabetes mellitus | N/A | Entire | Yes | Positive |

Contd...
| Author(s)                        | Number of cases | Population | Diagnosis category (Physical/Mental/Both) | Primary diagnosis | Other health problems | Use of MOHO (Entire/Part/Modified) | Any treatment plan | Treatment result |
|--------------------------------|-----------------|------------|------------------------------------------|-------------------|-----------------------|------------------------------------|-------------------|------------------|
| DePoy (1990)                   | 1               | Male       | Physical                                 | Head injury       | Impaired information processing, social disinhibition, poor social judgement | Part                | Yes              | Positive         |
| Froehlich (1992)               | 1               | Female     | Mental                                   | Atypical dissociative disorder | N/A                   | Entire | Yes              | Positive         |
| Gregitis et al. (2010)         | 4               | United States | Mental                              | Learning Disability | N/A                   | Part                | Yes              | Positive         |
| Gruwsved et al. (1996)         | 4               | Sweden female | Physical                             | Musculoskeletal pain | N/A                   | Entire | Yes              | Positive         |
| Gusich (1984)                  | 1               | White male | Physical                                 | Chronic pain      | N/A                   | Entire | Yes              | Positive         |
| Gusich & Silverman (1991)      | 1               | White female | Mental                              | Chronic diagnoses (attention deficit disorder [ADD], bipolar disorder, seizure disorder) | N/A                   | Entire | Yes              | Positive         |
| Knis-Matthews (2005)           | 2               | Asian American female females | Mental | Major depression | Bipolar disorder Impulse control disorder | Entire | Yes              | Positive         |
| Levine (1984)                  | 1               | United States | Physical                            | Left Hemiplegia Brain injury (hemiparesis, severe unilateral neglect, and a left hip flexion deformity) | N/A                   | Entire | Yes              | Positive         |
| Liu & Ng (2008)                | 2               | Hong Kong Male Male | Physical Mental | Schizophrenia Stroke | N/A                   | Entire | Yes              | Positive         |
| Mentrup et al. (1999)          | 1               | German     | Physical                                 | Stroke            | N/A                   | Entire | Yes              | Positive         |
| Misko et al. (2015)            | 3               | White male Black male Black female | Both Physical Mental | HIV HIV HIV | Borderline Personality, depression, pain Transverse myelitis Depression, anxiety, physical pain | Entire | Yes              | Positive         |
| Neville et al. (1985)          | 1               | Female     | Mental                                   | Schizophrenia     | N/A                   | Entire | No               |                  |
| Oakley (1988)                  | 1               | Female     | Mental                                   | Dementia of the Alzheimer’s type | N/A                   | Entire | Yes              | Positive         |
| Pizur-Barnekow & Erickson (2011) | 1       | Latina female | Mental                              | Perinatal Posttraumatic Stress Disorder | N/A                   | Entire | No               |                  |
| Pizzi (1990)                   | 1               | White male | Physical                                 | AIDS              | N/A                   | Entire | Yes              | Positive         |
| Salz (1983)                    | 1               | Female     | Mental                                   | Borderline personality disorder Anxiety | N/A                   | Entire | Yes              | Positive         |
| Scheelar (2002)                | 2               | All male   | Physical                                 | Fracture of L2, 3 & 4 vertebral and other minor injuries | N/A                   | Entire | No               |                  |

Contd...
Most of the studies reported a treatment plan. Only five cases with a mental health problem and two cases with a physical health problem did not report any treatment plan. Fortunately, there were other case studies that reported the treatment plan on the same clinical diagnosis, e.g. schizophrenia and Alzheimer’s disease. Although Barris discussed general treatment direction on eating disorder, there was no discussion about the treatment for the two mentioned cases. Yet, Affleck et al., provided a treatment plan for anorexia nervosa which resulted in positive effect. We found that three cases remain unclear about the treatment, two cases were related to work-related injury whereas another case was perinatal posttraumatic stress disorder. All studies which reported treatment showed improvement and met the goal, except a case with musculoskeletal issue and two cases with multiple mental disorders.

In addition, some case studies used specific intervention program which was developed from the concept of MOHO. For example, a dual approach combined MOHO and emotional recovery from abuse in previous life experiences, has been found to be effective in a case of atypical dissociative disorder. A 6-week newspaper treatment group, which the goals were related to volition, habituation, and performance, was found to be effective for adolescent with conduct disorder. Furthermore, vocational training program and self-determination program were able to help people with musculoskeletal pain and learning disabilities, respectively.

**Discussion**

This study reviewed 35 published case study articles. This review aimed to review the published case study using MOHO and to discuss its clinical implication and future...
direction. All the reviewed case study articles had provided the evidence of its promising effects on the clients using MOHO. Our review found that MOHO is able to help in both physical and mental health problems. These articles covered a wide range of health problems, and the number of cases among physical and mental health problems was similar. Thus, we considered that MOHO was equally effective regardless of the type of health problem.

In Lee’s study,[17] she had compared four models of occupation-based model. She concluded that MOHO is the only model that had developed number of systematic measures.[17] There are twenty MOHO-based assessments developed for different target groups (e.g., interviews, self-report measures, and observational assessments).[17] However, the focus of present studies mainly focused on the concept of MOHO itself, while the MOHO-based intervention program in case studies is receiving less attention. There are 17 articles that studied the MOHO-based program and intervention used in a wide range of populations such as mental health problems and stroke in different settings such as hospitals and nursing homes.[17] However, clients are unique in their own situations and characteristics; therefore, their interventions and recovery progresses should also be different. The studies cannot provide an in-depth investigation of the clients. Because a case study allows the exploration and understanding of complex issues,[43] MOHO seems to be a solid basis and appropriate theory to work on the case studies. Specifically, MOHO allows the description of both organized and disorganized occupational behaviors and the examination of a continuing process of change;[12] thus, therapists can follow the guidance in MOHO to design their treatment plans.

For the future direction of MOHO, case studies of the MOHO intervention program are needed as mentioned. Moreover, given that the existing studies are more focused on the MOHO concept itself, it is important to have an in-depth investigation on each client, which can provide detailed evidence of how the MOHO intervention program functions. Then, the use of MOHO can become a reliable reference (or protocol) for other therapists’ use.

In addition, it is important to review or to investigate whether MOHO maintains its effectiveness. The world changed a lot from 1980 to nowadays, including culture, knowledge, and technology. For instance, most of our working environments changed from literally paperwork to the Internet and digital format; hence, skill requirement also changed. Thus, it will be meaningful if MOHO can be proved to be effective throughout the decades. Apart from society changes, our understanding on illness changes from time to time. For example, the diagnoses for patients with psychiatric illnesses change over time. The American Psychiatric Association has developed a classification system in psychiatric disorders: The Diagnostic and Statistical Manual (DSM).[46] The first version of DSM was created in 1952 for setting up a common language to use when diagnosing individuals with mental disorders.[47] Afterward, the DSM was revised several time, and the latest version was DSM-5 which published in 2013.[47] That is, the diagnosis criteria, discipline, and practice of psychiatric disorders kept changing though not frequently.[46]

Nevertheless, knowledge changes over time, and this applies perfectly to the MOHO. Although many evidence showed that MOHO is effective, it was developed in 1980 and rarely updated or revised like the DSM. Therefore, such phenomenon may partly explain why the articles on MOHO decreased after 2003–2004. In order to maximize the benefits of using MOHO in treatment, it is important and necessary to review the MOHO, revise the MOHO, and reevaluate the MOHO.

Limitations
There were some limitations in this study. First, we only reviewed case studies and did not review experimental studies. Thus, the internal validity and the evidence in the MOHO effectiveness are low as we do not ensure the causal relationship. Second, due to the diversity of the cases, the external validity is also questionable. Third, the searched databases were not extensive as we only searched three databases. With more articles from databases related to allied health, e.g., OTseeker, MEDLINE, and ProQuest, additional information may be provided to our review.

Conclusion
In conclusion, MOHO is a promising theory to treat patients with different kinds of health needs (including physical and mental health). However, effectiveness on some health problems remains unclear. For example, a case study on perinatal posttraumatic stress disorder did not mention any treatment offered to the patient.[13] More case report with more details, e.g. treatment plan, in the future may provide better understanding on how well the MOHO can be applied to a specific disorder.

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There are no conflicts of interest.

References
1. Lee SW, Taylor R, Kielhofner G, Fisher G. Theory use in practice: A national survey of therapists who use the model of human occupation. Am J Occup Ther 2008;62:106-17.
2. Brown GT, Rodger S, Brown A, Roever C. A comparison of Canadian and Australian paediatric occupational therapists. Occup Ther Int 2005;12:137-61.
3. Lee SW, Kielhofner G, Morley M, Heasman D, Garnham M, Willis S, et al. Impact of using the model of human occupation: A survey of occupational therapy mental health practitioners’ perceptions. Scand J Occup Ther 2012;19:450-6.
4. National Board for Certification in Occupational Therapy.
A practice analysis study of entry-level occupational therapist registered and certified occupational therapy assistant practice. OTJR Occup Particip Health 2004;24:S1-31.

5. Wikeby M, Pierre BL, Archenholz B. Occupational therapists’ reflection on practice within psychiatric care: A Delphi study. Res Pharm Occup Ther 2006;13:151-9.

6. Pizzi M. The model of human occupation and adults with HIV infection and AIDS. Am J Occup Ther 1990;44:257-64.

7. Kielhofner G. Conceptual Foundations of Occupational Therapy. 3rd ed. Philadelphia, PA: F.A. Davis Company; 2004.

8. Shinohara K, Yamada T, Kobayashi N, Forsyth K. The model of human occupation-based intervention for patients with stroke: A randomised trial. Hong Kong J Occup Ther 2012;22:60-9.

9. Sholle-Martin S. Application of the model of human occupation: Assessment in child and adolescent psychiatry. Occup Ther Ment Health 1987;7:3-22.

10. Series C. The long-term needs of people with head injury: A role for the community occupational therapist? Br J Occup Ther 1992;55:94-8.

11. Kielhofner G. A model of human occupation, part 3, benign and vicious cycles. Am J Occup Ther 1980;34:731-7.

12. Cubie SH, Kaplan K. A case analysis method for the model of human occupation. Am J Occup Ther 1982;36:645-56.

13. Pizur-Barneckow K, Erickson S. Perinatal posttraumatic stress disorder: Implications for occupational therapy in early intervention practice. Occup Ther Ment Health 2011;27:126-39.

14. Kielhofner G, Burke JP, Igi CH. A model of human occupation, part 4. Assessment and intervention. Am J Occup Ther 1980;34:777-88.

15. Scheelaar JF. A return to the worker role after injury: Firefighters seriously injured on the job and the decision to return to high-risk work. Work 2002;19:181-4.

16. Neville A, Kreisberg A, Kielhofner G. Temporal dysfunction in schizophrenia. Occup Ther Ment Health 1985;5:1-19.

17. Lee J. Achieving best practice: A review of evidence linked to occupation-focused practice models. Occup Ther Health Care 2010;24:206-22.

18. Affleck A, Bianchi E, Creckley M, Donaldson K, McCormack G, Polon J. Stress management as a component of occupational therapy in acute care settings. Occup Ther Health Care 1984;1:17-41.

19. Baron KB. The model of human occupation: A newspaper treatment group for adolescents with a diagnosis of conduct disorder. Occup Ther Ment Health 1987;7:89-104.

20. Barris R. Occupational dysfunction and eating disorders: Theory and approach to treatment. Occup Ther Ment Health 1986;6:27-45.

21. Burton JE. The model of human occupation and occupational therapy practice with elderly patients part 2: Application. Br J Occup Ther 1989;52:219-21.

22. Gusich RL. Occupational therapy for chronic pain: A clinical application of the model of human occupation. Occup Ther Ment Health 1984;4:59-73.

23. Levine RE. The cultural aspects of home care delivery. Am J Occup Ther 1984;38:734-8.

24. Oakley F. Clinical application of the model of human occupation in dementia of the Alzheimer’s type. Occup Ther Ment Health 1988;7:37-50.

25. Saiz C. A theoretical approach to the treatment of work difficulties in borderline personalities. Occup Ther Ment Health 1983;3:53-46.

26. Baron KB, Littleton MJ. The model of human occupation: A return to work case study. Work 1999;12:3-12.

27. Barrett L, Beer D, Kielhofner G. The importance of volitional narrative in treatment: An ethnographic case study in a work program. Work 1999;12:79-92.

28. Bavaro SM. Occupational therapy and obsessive-compulsive disorder. Am J Occup Ther 1991;45:456-8.

29. Borell L, Sandman PO, Kielhofner G. Clinical decision making in Alzheimer’s disease. Occup Ther Ment Health 1992;11:11-24.

30. Curt C. Psychosocial intervention with an adolescent with diabetes using the model of human occupation. Occup Ther Ment Health 1991;11:23-36.

31. Depoy E. The TBIIIM: An intervention model for the treatment of individuals with traumatic brain injury. Occup Ther Health Care 1990;7:55-67.

32. Froeohlich J. Occupational therapy interventions with survivors of sexual abuse. Occup Ther Health Care 1992;8:1-25.

33. Gruwsvsd A, Söderback I, Fernholm C. Evaluation of a vocational training programme in primary health care rehabilitation: A case study. Work 1996;7:47-61.

34. Gusich RL, Silverman AL. Basava day clinic: The model of human occupation as applied to psychiatric day hospitalization. Occup Ther Ment Health 1991;11:113-34.

35. Mentrup C, Niehaus A, Kielhofner G. Applying the model of human occupation in work-focused rehabilitation: A case illustration. Work 1999;12:61-70.

36. Tham K, Borell L. Motivation for training: A case study of four persons with unilateral neglect. Occup Ther Health Care 1996;10:65-79.

37. Abeleenda J, Helfrich CA. Family resilience and mental illness: The role of occupational therapy. Occup Ther Ment Health 2003;19:25-39.

38. Knis-Matthews L, Richard L, Marquez L, Mevawala N. Implementation of occupational therapy services for an adolescent residence program. Occup Ther Ment Health 2005;21:57-72.

39. Liu KP, Ng BF. Usefulness of the model of human occupation in the Hong Kong Chinese context. Occup Ther Health Care 2008;22:25-36.

40. Schultz-Krohn W, Drnek S, Powell K. Occupational therapy intervention to foster goal setting skills for homeless mothers. Occup Ther Health Care 2006;20:49-66.

41. Stevens H, Redfearn S, Tse S. Occupational therapy for people with dual diagnosis: A single case study. Br J Ther Rehabil 2003;10:166-73.

42. Taylor RR, Kielhofner GW. An occupational therapy approach to persons with chronic fatigue syndrome: Part two, assessment and intervention. Occup Ther Health Care 2005;17:63-87.

43. Gregitis S, Gelpi T, Moore B, Dees M. Self-determination skills of adolescents enrolled in special education: An analysis of four cases. Occup Ther Ment Health 2010;26:67-84.

44. Misko AN, Nelson DL, Duggan JM. Three case studies of community occupational therapy for individuals with human immunodeficiency virus. Occup Ther Health Care 2015;29:11-26.

45. Zainal Z. Case study as a research method. J Kemanus 2007;9:1-6.

46. Kawa S, Giordano J. A brief historicity of the diagnostic and statistical manual of mental disorders: Issues and implications for the future of psychiatric canon and practice. Philos Ethics Humanit Med 2012;7:2.

47. Blashfield RK, Keeley JW, Flanagan EH, Miles SR. The cycle of classification: DSM-I through DSM-5. Annu Rev Clin Psychol 2014;10:25-51.