

## Research Article

# Predictors of Occupational Therapy Services among Adolescents with Substance Use Disorder in Uganda

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## Abstract

**Background:** Substance use remains high among adolescents in Uganda. The use of occupational therapy services has been found to restore cognitive function among individuals with substance use disorder, with limited data in Uganda.

**Objective:** This study assessed the uptake of occupational therapy services and factors associated with the utilization of occupational therapy use among adolescents with substance use disorder.

**Methods:** A cross-sectional study was conducted using consecutive sampling to select 106 adolescents. Data were analyzed using SPSS, reporting descriptive statistics and influencing factors utilizing linear regression.

**Results:** Overall awareness and utilization of occupational therapy services were 54.7% and 67%, respectively. However, the variables of age (aPR=0.48, 95% CI=0.32-1.70), religion (aPR=0.54, 95% CI=0.63-2.52), education (aPR=0.31, 95% CI=0.74-2.63), occupation (aPR=0.86, 95% CI=0.43-2.78), did not show a statistically significant association with the utilization of these services at the multivariate level.

**Conclusion:** The overall awareness and uptake of occupational services among adolescents remain suboptimal. For occupational therapy to effectively address substance use disorder in adolescents, it's crucial to proactively define and deliver innovative services tailored to their needs. Further research should focus on conducting qualitative studies to explore the barriers and facilitators that adolescents encounter in accessing occupational therapy services.

**Keywords:** Associated factors, Adolescents, Occupational therapy, Substance use, Uganda

## Introduction

Substance use still remains high among adolescents. Globally the prevalence of mental health disorders in children and adolescents due to substance use ranges from 6.7% to 13.4% and 41.6% in sub-Saharan Africa by 2016, with the highest rate in central Africa at 55.5%. In Uganda, the prevalence of substance use among youth stands at 26% of which Mbarara City accounts for 5. More studies have looked at adults with substance use disorder, leaving behind the most at-risk group, which is adolescents [1-3].

Continuous use of drug substances causes cognitive impairments among adolescents, such as limiting individual performance of daily activities. Furthermore, It has been demonstrated that individuals with substance use disorders have a restricted sense of themselves as active agents (Davidson & Strauss) and are less autonomous in leisure activities and socialization compared to a non-disabled sample which reduces productivity [4,5].

Occupational therapy services are an important part of substance use rehabilitation programs as they enable clients to restore cognitive function and foster engagement in meaningful occupations a activities.

A historical review of the profession identified its strong foundations in the treatment of mental illness, originating in substance use disorder. Factors such as sociodemographic characteristics, knowledge and awareness have been reported to predict the use of occupational therapy services. A study done in a US psychiatric department identified physical factors like refusal of patients to participate in these activities and social-cultural factors to be associated with poor utilization of occupational therapy among people with mental disorder [6-9].

Mbarara regional referral provides a range of occupational therapy interventions that enable individuals and groups of people to participate in their occupations of self-care, such as brushing teeth or eating, productivity, such as going to work or school, craft making, tailoring and leisure/play such as swimming or soccer. Despite the availability of the services, low attendance is still recorded, and no study has been carried out in the mental health units of Mbarara Regional Referral Hospital to identify the factors influencing the utilization of these occupational therapy services among adolescents with substance use disorders.

Therefore, we determined the factors associated with the

utilisation of occupational therapy services among adolescents with substance use disorder. The findings of this study will inform tailor-made interventions aimed at increasing access to and utilization of occupational therapy among adolescents with substance use in Uganda and other similar sub-Saharan African settings.

## Methods

### Study Design and Setting

This was a quantitative cross-sectional study. The study was conducted at the Mental Health Unit of Mbarara Regional Referral Hospital, situated in Mbarara city in the southwestern region. This hospital, government-owned and serving as both a referral and teaching facility, is affiliated with the Medical School of Mbarara University of Science and Technology. It offers occupational therapy services to around 150 adolescents who are diagnosed with substance use disorder within a period of two months.

### Study Population, Size and Sampling

The study was conducted among adolescents (both male and female) aged 10 to 19, as well as caregivers of adolescents who were unable to provide the necessary information themselves. The Yamane formula (1975) was used to calculate the sample size. The hospital receives an average of 400 people who are diagnosed with mental health illness, and approximately 150 clients are adolescents with substance use disorder who are recorded in a period of two months. Out of the 109 participants sampled and approached, 106 provided informed consent and participated in the study, resulting in a response rate of 97.2%. Only three participants declined to provide informed consent and participate in the study due to their unstable mental status. Because of the limited number of adolescents in the rehabilitation program, we employed consecutive sampling.

### Data Collection Procedure

A semi-structured questionnaire was used to collect data. The questionnaire was developed from the literature. The tool contained items on occupational therapy services, demographic characteristics, awareness of occupational therapy services, and utilization of occupational therapy services. Patients were identified from mental health unit records, the selected ones were taken in a secluded, quiet room to guarantee privacy and confidentiality. A researcher then consented the patient and carried interview. After interview, researcher thanked participants for participating in the study.

### Data Management and Analysis

The data collected was carefully checked for completeness before safety storage. The data collected from the respondents was securely stored in a confidential manner, accessible only to the researcher and their assistants.

Data was entered into MS Excel and then transferred to Statistical Program Statistical Package for Social Sciences Version 20 (SPSS) for analysis. Descriptive statistics were computed and presented as tables and frequencies. The sum score of each outcome was assessed based on Bloom's cut-off point and from the literature. Having a score above

the cut-off point was equated with having high levels of awareness and better utilization of occupational therapy services. Participants' overall awareness was categorized using Bloom's cut-off point, as high if the score is between 75% and 100% (4 points), moderate if the score was between 60% and 74% (2-3 points), and poor if the score was less than 50% (<1 points). (No awareness, 0 points; little awareness, 1 point; moderate awareness, 2 points; high awareness, 3-4 points.

Subsequently, the level of utilization was classified into good utilization (>50%) and poor utilization less than 50%). At bivariate analysis, used descriptive statistics and binary regression analysis, significant variables of p-value <0.05 and CI 95% were considered.

### Ethical Considerations

Ethical approval was secured from the research ethics committee at Bishop Stuart University, with administrative clearance obtained from Mbarara Regional Referral Hospital.

Adolescents were presented with assent forms, empowering them to choose freely whether to participate in the study. They were also assured the right to ask questions, refuse to disclose information, seek clarification, or withdraw from the study at any juncture. Consent was obtained from caretakers of adolescents under 18 years who were not emancipated minors.

Interviews were conducted individually with selected participants in a secluded, quiet room to guarantee privacy and confidentiality. Participant anonymity was maintained by excluding their names from all study documentation.

### Results

The majority of participants were male 87(82.1%) and adolescents aged below 18 years, with a median age of 14 years (60%) and interquartile range of 2.

Most participants (63.2%) had resided in the city for more than 5 years, with a median of 6 years. The majority (77.4%) identified as Christians, with 82 (77.4%) being single, and holding primary (80.0%) or ordinary level certificates (24.5%). In terms of occupation, the majority (81.1%) were engaged in subsistence farming, followed by commercial farming (9.4%) and other occupations (9.4%). Regarding income, most (78.3%) earned a monthly income ranging from 100,000 to 200,000/=, and finally, a majority (58.5%) of participants resided or stayed within 1-5 kilometers of the nearest health facility, with a median distance of 3 kilometers. (Table 1).

### Awareness of Occupational Therapy Services (Univariate)

Recognizing that prior the awareness of occupational therapy is crucial for its utilization, we asked participants to define it and identify the services they were aware of, along with the sources of this knowledge. The majority, 58 (54.7%) of the participants, were familiar with the definition of occupational therapy services, and a significant portion (88%) knew more than one service. Notably, the dressing was recognized by 55 (51.9%) participants, followed by self-care/hygiene with 42 (39.6%), tailoring with 41 (38.7%), the development of morning/evening routines with 36 (34.0%), craft-making with 28

**Table 1:** Demographic characteristics of participants.

Variable	Category	N (%)
Age	9-12	29 (27.4)
	13-15	60 (56.6)
	16-18	17 (16.0)
Gender	Male	87 (82.1)
	Female	19 (17.9)
Marital status	Not married	82 (77.4)
	Married	24 (22.6)
Religion	Catholic	32 (30.2)
	Anglican	41 (38.7)
	Pentecost	31 (29.2)
	Moslem	2 (1.9)
Occupation	Subsistence farming	86 (81.1)
	Commercial farming	10 (9.4)
	Any other	10 (9.4)
Salary (UGX)	0-100000	83 (78.3)
	100000-200000	7 (6.6)
	above 200000	16 (15.1)
Education	None	51 (48.1)
	Primary	29 (27.4)
	Ordinary	14 (13.2)
	Advanced level	7 (6.6)
	Tertially	5 (4.7)

UGX- Uganda Shillings

**Table 2:** Awareness of occupational therapy services.

Variable	N%
<b>Occupational therapy services definition</b>	
YES	58 (54.7)
NO	48 (45.3)
<b>Services</b>	
Self-care/Hygiene	42 (39.6)
Dressing	55 (51.9)
Development of morning/evening routines	36 (34.0)
Tailoring	41 (38.7)
Craft making	28 (26.4)
Any other	21 (19.8)
<b>Source of information</b>	
Health worker	102 (96.2)
Media/TV	3 (2.8)
Any other	1 (1.0)

(26.4%), and other services with 21 (19.8%). Furthermore, majority 102(96.2%) had gained awareness of occupational therapy services from healthcare workers (Table 2).

### Utilization of Occupational Therapy Services

The findings indicate that most participants in this study, 71 (67.0%), had utilized one or more occupational therapy services within a one-year period. The most commonly used service was dressing, with 55 participants (51.9%) reporting its use, followed by self-care/hygiene with 42 participants (39.6%), tailoring with 41

participants (38.7%), development of morning/evening routines with 36 participants (34.0%), craft making with 28 participants (26.4%), and any other service with 21 participants (19.8%), Majority, 105 (99.1%), did not incur any expenses for occupational therapy services when they utilized them (Table 3).

### Factors Associated with the Awareness of Occupational Therapy Services

In the bivariate analysis, the results reveal that Occupation ( $p<0.001$ ), marital status ( $p<0.001$ ), age of the participants ( $p<0.001$ ), level of income ( $p<0.001$ ), education ( $p<0.001$ ), and gender ( $p=0.000$ ) are statistically significantly associated with awareness of occupational therapy services, unlike religion ( $p=0.924$ ) (Table 4).

**Table 3:** Occupational therapy service.

Utilization of each occupational therapy service	
Variable	N%
<b>Have you ever used occupational therapy services</b>	
YES	71 (67)
NO	25 (33)
Self-care/hygiene	33 (30.0)
Tailoring	23 (24.0)
Dressing	41 (37.0)
Craft making	19 (17.9)
Development of morning/evening routines	21 (19.8)
Any other	18 (17.0)
<b>Source of information</b>	
Mbarara Regional Referral Hospital	106 (100)
<b>Pay for services</b>	
YES	1 (0.9)
NO	105 (99.1)

**Table 4:** Association of Demographics with Awareness of Occupational therapy services.

Variable	Poor awareness (<49) (n=count, % of total)	Good awareness (>50) n (%)	Asymp. sig. (2 sided)	Unadjusted prevalence ratios (uPRs)
<b>Occupation</b>	48 (45.3)	58 (54.7)	0.060	1.00 0.998 (0.056-0.000)
Subsistence farming	48 (45.3)	38 (35.8)		
Commercial farming	0 (0.0)	10 (9.4)		
Any other	0 (0.0)	10 (9.4)		
<b>Age</b>	48 (45.3)	58 (54.7)	0.000	1.00 0.582 (0.514-3.275)
12-17	38 (35.8)	22 (20.8)		
18-24	10 (9.4)	11 (10.4)		
>24	0 (0.0)	25 (23.6)		
<b>Religion</b>	48 (45.3)	58 (54.7)	0.924	1.00 0.910 (0.078-0.000)
Christians	47 (44.4)	57 (53.8)		
Others	1 (0.9)	1 (0.9)		
<b>Education</b>	48 (45.3)	58 (54.7)	0.000	1.00 0.003 (0.113-0.641)
Primary and <	48 (45.3)	32 (30.2)		
Secondary and >	0 (0.0)	26 (24.5)		

Table 5: Relationship of demographics and use of occupational therapy services.

Relationship of demographics and use of occupational therapy services				Unadjusted prevalence ratios ( <i>u</i> PRs)
Variable	1 and + (Yes) (n=count, % of total)	No service (No) (%)	Asymp. sig. (2 sided)	<i>u</i> PRs (95% CI)
<b>Gender</b>	71 (67.0)	35 (33.0)	.493	1.00 0.769 (0.563-2.664)
Male	57 (53.8)	30 (28.3)		
Female	14 (13.2)	5 (4.7)		
<b>Occupation</b>	71 (67.0)	35 (33.0)	.624	
Subsistence	56 (52.8.)	30 (28.3)		1.00 0.862 (0.425-2.779)
Commercial	8 (7.5)	2 (1.9)		
Any other	7 (6.6)	3 (2.8)		
<b>Age</b>	71 (67.0)	35 (33.0)	0.000*	
12-17	39 (36.8)	21 (19.8)		1.00 0.485 (0.325-1.704)
18-24	15 (14.2)	6 (5.7)		
>24	17 (16.0)	8 (7.5)		
<b>Religion</b>	35 (33.0)	71 (66.6)	.003*	1.00 0.547 (0.637-2.528)
Christians	34 (32.1)	70 (65.7)		
Others	1 (0.9)	1 (0.9)		
<b>Education</b>	71 (66.9)	35 (33.1)	.002*	
Primary and <	53 (50.0)	27 (22.5)		1.00 0.311 (0.735-2.628)
Secondary and >	18 (16.9)	8 (7.6)		

### Factors Associated with the Utilization of Occupational Therapy Services

Factors age (p-value 0.00), education, (p-value 0.02, religion (0.03) were not statistically significant at multivariate level (Table 5).

All the factors that were statistically significant at bivariate analysis were not significant at multivariate analysis.

### Discussion

This study investigated factors that influence the utilization of occupational therapy services among adolescents with substance use disorder attending Mbarara regional referral hospital in south western Uganda. While previous studies have looked at use of occupational therapy use in adults, this study addressed factors influencing use of occupational therapy services among adolescents with substance use disorder.

Findings of this survey suggest awareness about occupational therapy services among the majority of the adolescents was above average (54.7%).

The overall use of occupational therapy service was 67% and most utilized services by adolescents in rehabilitation, dressing (37%), hand hygiene/self-care (30%) and tailoring (24%).

Findings of this study suggest that awareness and utilisation of occupational therapy services among the majority of the adolescents was above average (54.7%,67%), its high compared to studies conducted in Jordan, Australia and Hong Kong which ranged from 35-45.4% [10]. The reasons for higher a warenesss of occupational

therapy services in this study was attributed to the fact that most adolescents attained services from Mbarara regional referral hospital and thus most had got enough information about occupational therapy services, secondly the availability of various of occupational therapies contributed to their awareness since they could get access to be introduced to them while in rehabilitation. This can relate to the reasons for poor awareness and utilisation in other countries where by poor awareness among adolescents in other countries was due to poor accessibility of occupational therapy services, inadequate physicians trained for occupational therapy services and community perceptions.

Other studies have indicated that unsustainable public and private health care spending growth, an increased prevalence of chronic health conditions, and rising demand for health care services because of the aging of the population and the expected growth in the number of people with health insurance interferes with occupational therapy services among adolescents with substance use disorder due to competition for the scarce services (Roberts, Farmer, Lamb, Muir, & Siebert, 2014). Although the overall awareness utilisation on use of occupational therapy services among adolescents with substance use disorder in this study is above average, gaps still exist that require increasing accessibility of occupational therapy services among adolescents with substance use disorder and address community perceptions about people who use occupational therapy services (Roberts et al., 2014). So more training of occupational therapists is highly needed and more education programs about occupational therapy services should be implemented to increase awareness [11].

In addition, this study found out most 102(96.2%) participants had got information about occupational therapy use from health workers, a small pertange 3(2.8%) had got information from the TV/ media. This is because TV requires subscription and most practiced subsistence farming where they earned less 27.7 USD. Thus they could not manage to pay subscription and so were unable to get information from the media. Government should try to increase sensitization among the public to increase awareness of occupational therapy use among the general population to increase utilization of these services since most can't afford to watch TV and listen to media.

On utilization of occupational therapy services, this study found out uptake of occupational therapy was 67% and the most used utilized services by adolescents in rehabilitation were dressing (37%), hand hygiene/self-care (30%) tailoring (24%) and 1(1.0%). This was high compared to a study done in Germany. Utilization of single services corresponds to what is in literature where by the most utilized occupational therapies include Self-care/hygiene with percentage of 41%, dressing 34%, development of morning /evening routines27% and, shopping, tailoring, use of assistive devices at 13% [8].

On the same ground , our results do not differ from findings of the study done in USA among children with bell's palsy were dressing and self-care were the most occupational therapy services utilized by retired soldiers (Shah, Hawks, Walker, & Egede, 2024) [12]. These services are key in effective restoring of individual cognitive processes who have got cognitive impairment as a result of substance use disorder. In reducing substance use in adolescents, Welty et al. (2019) recommends school-based interventions such as

(yoga, animal-assisted therapy, and skills-building), 12-step programs, self-driven virtual interventions, motivational interviewing and multidimensional family therapy have also been found effective in restoring cognitive impairment [12]. A less percentage 1(1.0%) had used other occupational services like swimming which the hospitals did not provide, others reported bricklaying, of which were not in the rehabilitation center. So such activities which can be carried at home should be emphasized to keep these adolescents with substance use disorder active in order to restore cognitive function faster, more so patients will not incur transport to travel to hospital for the services since they can access them from their homes. This will improve service delivery and utilization of occupational therapy services.

### **Association of Demographics with Awareness of Occupational Therapy**

Findings of this study indicate that awareness of occupational therapy services was highly linked with Age, education, and religion. Participants who had acquired a secondary or above level of education were more likely to have good awareness of occupational therapy services compared to those who had accomplished primary or no education at all. On a contrary, participant's occupation, gender marital status had no influence on occupation therapy service awareness. This is in line with the study done in Eastern Cape that assessed factors affecting utilisation of occupational therapy services among people with mental illness, that found out awareness and uptake of the occupational therapy services was high in patients who were educated compared to those who were not educated. Education raises awareness of the occupational therapy and the benefits of the services. This could be the reason why uptake was high in educated patients. So more sensitization among the community should be done to increase awareness among adolescents with substance use disorder to increase uptake of the occupational therapy services.

In addition, Age group of 12-17 was highly associated with awareness of occupational therapy services, this is because in this stage, most children miss use drugs and end up getting mental problems and thus are enrolled in rehabilitation for occupational therapy services where they got to know the services from. Also they were able to listen to their care takers when it came to time for review and attending sessions for occupational therapy services which increased their awareness. This is supported by NIDA report 2014 that points out high substance use and increasing occupational therapy use in adolescents and Alzheimer patients.

### **Association of Demographics with Utilization of OTS**

In this study, Age, Occupation, Education, Level of income, length of stay negatively influenced use of occupational therapy services. Our study differs with the previous studies. For example study done in North America which was done to assess factors influencing occupational therapy use among adolescents with substance use disorder found out age and education were associated with use of occupational therapy services [13].

#### **Age**

In our study, age did not predict the use of occupational therapy

services. This differs to a study in Jordan among adolescents to identify factors associated with uptake of occupational therapy services that found out adolescence stage [12-17] was highly linked to substance use and thus more clients were under rehabilitation getting occupational therapy services [11,12]. We attributed reasons for age not being associated with occupational therapy use, because most adolescents who were interviewed were living with grandparents who could not force them to cover for the services at the hospitals. In related study done in England rehabilitation centers offering occupational therapy services found out adults above 60 years were more likely to stick to the treatment and services compared to men who were middle aged and young. This can be associated with many factors like low income, community perceptions and others that interfere with use of occupational therapy services among this age group [11]. We also thought that because these adolescents were young and thus did not have money for transport to attend the services.

#### **Education**

Unlike our study, education was found associated with use of occupational therapy in a study conducted in Jordan to assess factors associated with utilisation of occupational therapy services among adolescents with substance use disorder and people with Alzheimer's disease found out that patients who were not educated were less likely to continue with treatment after first appointment of treatment [14]. This is because education provides knowledge and importance of using occupational therapy services in restoring cognitive function of which uneducated people don't have time and thus mind less in participating in these occupational therapy rehabilitation programs. So continuous sensitisation is needed to address the adolescents and the public on importance of occupational therapy services in line to increase uptake of occupational therapy services. In our study most participants were not educated but most had used the occupational services since they often visited hospital.

#### **Occupation**

Unlike other studies, our study found out occupation was not associated with use of occupational therapy services. This was explained in a way that since most were mentally unstable and thus were receiving free services. This differs with other studies like a study done in USA among patients with Alzheimer's disease that assessed factors influencing utilisation of occupational therapy services among Alzheimer patients which found out occupation, level of education affected adherence of occupational therapy services among these patients. Patients who had occupations that earned less could not return to rehabilitation centres for occupational therapy services [15]. Occupational therapy services should be improved and increased in government facilities to make it easily accessible by patients who are under rehabilitation.

#### **Length of Stay in an Area**

Staying in a city for more years was not associated with use of occupational therapy services among adolescents. This is because in city most adolescents live in peer groups in town and thus we think their age mates could not convince them to come for the services

since they don't have knowledge on those services. However this factor was not mentioned in the previous studies that assessed factors influencing utilisation of occupational therapy. Awareness of people on occupational therapy and more occupational services should be provided in mental health units caring adolescents with substance use disorder and should train peers who can identify adolescents who have substance use disorder to recruit them for treatment

### Strength and Limitations

This study sheds light on the use of occupational therapy services at regional referral hospital among adolescents with substance use disorder unlike the previous studies. Therefore, the findings of the study can be integrated to lower district health facilities with mental health units to improve occupational therapy use among adolescents with substance use disorder.

The sample size obtained was reduced compared to what was formally calculated, this was because most patients were discharged from the unit and others were to come for review after 3 months. Secondly, some care takers didn't give accurate information we needed from their children. Further research should consider to do the study in more than two facilities to get accurate sample size

### Implications for Future Research

This was a mixed study which was predominantly quantitative, further research should aim on doing qualitative studies to explore adolescent's barriers and facilitators on use of occupational therapy services.

### Conclusion

The overall awareness and uptake of occupational services among adolescents remains suboptimal. If occupational therapy is to successfully work in adolescents with substance use disorder, we will need to proactively define and deliver innovative services that match the needs of the adolescents. Further research should aim on doing qualitative studies to explore adolescent's barriers and facilitators on use of occupational therapy services.

Community need to become involved in the reform of health care and to advocate assertively for Occupational therapy services in their community as there's much perception among people who use occupational therapy services. Finally, and perhaps most importantly, health workers will need to build coalitions with other professionals and with consumers and their families to foster better mental health practices and policies that last longer because of their broad base of support.

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### References

1. Flisher AJ, Parry CD, Evans J, Muller M, Lombard C (2003) Substance use by adolescents in Cape Town: Prevalence and correlates. *Journal of Adolescent Health* 32(1): 58-65. [crossref]

2. Hale D, Viner R (2013) Trends in the prevalence of multiple substance use in adolescents in England, 1998–2009. *Journal of Public Health* 35(3): 367-374. [crossref]
3. Bonar EE, Ashrafioun L, Ilgen MA (2014) Synthetic cannabinoid use among patients in residential substance use disorder treatment: prevalence, motives, and correlates. *Drug and Alcohol Dependence* 143, 268-271. [crossref]
4. Cox C (2012) *The efficacy of an interdisciplinary Allen cognitive approach in the care of nursing home residents with cognitive deficits*. Capella University,
5. Robinson LD, Deane FP (2022) Substance Use Disorder and Anxiety, Depression, Eating Disorder, PTSD, and Phobia Comorbidities Among Individuals Attending Residential Substance Use Treatment Settings. *J Dual Diagn* 18(3): 165-176. [crossref]
6. Evans E, Padwa H, Li L, Lin V, Hser YI (2015) Heterogeneity of Mental Health Service Utilization and High Mental Health Service Use Among Women Eight Years After Initiating Substance Use Disorder Treatment. *J Subst Abuse Treat* 59: 10-19. [crossref]
7. Agbese E, Stein BD, Druss BG, Dick AW, Pacula RL, et al. (2022) Mental Health Conditions and Substance Use Disorders Among Youth Subsequently Diagnosed With Opioid Use Disorder or Opioid Poisoning. *J Addict Med* 16(3): 357-359. [crossref]
8. Rommel A, Hintzpetter B, Urbanski D (2018) Utilization of physical therapy, speech therapy and occupational therapy by children and adolescents in Germany: Results of the cross-sectional KiGGS Wave 2 study and trends. *J Health Monit* 3(4): 20-34. [crossref]
9. Islam MI, Khanam R, Kabir E (2020) The use of mental health services by Australian adolescents with mental disorders and suicidality: Findings from a nationwide cross-sectional survey. *PLoS One* 15(4): e0231180. [crossref]
10. Carlsson A (2018) occupational performance in adults with substance use disorder.
11. Roberts P, Farmer ME, Lamb AJ, Muir S, Siebert C (2014) The role of occupational therapy in primary care. *AJOT: American Journal of Occupational Therapy* 68(S3): S25-S25.
12. Shah H, Hawks L, Walker RJ, Egede LE (2024) Substance Use Disorders, Mental Illness, and Health Care Utilization Among Adults With Recent Criminal Legal Involvement. *Psychiatr Serv* 75(3). [crossref]
13. Lewicki EL, Smith SL, Cash SH, Madigan MJ, Simons DF (2019) Factors influencing practice area preference in occupational therapy. *Occupational Therapy in Mental Health* 14(4): 1-19.
14. Ahmed AO, Marino BA, Rosenthal E, Buckner A, Hunter KM, et al. (2016) Recovery in schizophrenia: what consumers know and do not know. *Psychiatric Clinics* 39(2): 313-330.
15. Reitz SM, Scaffa ME, Dorsey J (2020) Occupational Therapy in the Promotion of Health and Well-Being. *American Journal of Occupational Therapy* 74(3). [crossref]

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