Original Article

Occupational Therapy Interventions Survey Study Part I: Practices and Types of Interventions Used in Daily Practice by Indian versus Global Occupational Therapists

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Abstract

Background: Global health care is moving toward function, quality of life, and occupation. Occupational therapy (OT) has been the only profession using "occupation" as core intervention since inception. With advancements in intervention techniques, occupational therapists (OTs) need to ensure the continued use of "occupation" as core intervention type. Previous surveys were conducted to analyze the use of specific intervention types: occupation-based interventions (OBIs), creative activities, acute-hospital-based rehabilitation, and different interventions used in pediatric OT practice. However, information on OT practices and types of interventions used by Indian OTs versus global OTs is unavailable. **Objectives:** The objective of this study was to analyze differences, if any, in the OT practices and types of interventions frequently used in daily practice by Indian versus global OTs. **Study Design:** This was an online, survey-based, cross-sectional study. **Methods:** The Google Forms questionnaire link was sent to OTs on E-mail with electronic written informed consent from May 2020 to March 2021 using convenient sampling. The questionnaire included participant's demographics, 17 clinical practice areas, and 9 intervention types and factors influencing OT practice. Total 201 (84 Indian OTs and 117 global OTs) fulfilled the selection criteria: OTs with at least bachelor's degree and minimum 3 years of work experience. **Results:** Indian OT workforce showed significantly more male OTs than global OTs (31 [36.9%] vs. 11 [9.4%]; 95% confidence interval [CI]: [0.0236–0.2964]; $P = 0.0001$) and OTs with master's degree (56 [66.7%] vs. 41 [35.04%]; 95% CI: [0.1852–0.4480]; $P = 0.0001$). Global OTs have more OTs with additional qualifications in non-OT fields (58 [49.57%] vs. 27 [32.10%]; 95% CI: [−0.3088–−0.0406]; $P = 0.013$) and more OTDs (13 [11.11%] vs. 1 [1.23%]; 95% CI: [−0.1641–−0.0335]; $P = 0.006$) than Indian OTs. Indian OTs practiced significantly more in the private sector: clinic and hospital (52 [61.90%] vs. 40 [35.80%]; 95% CI: [0.1273–0.3947]; $P = 0.0001$), whereas global OTs practiced significantly more in the government sector (46 [39.31%] vs. 19 [22.61%]; 95% CI: [−0.2930–−0.0410); $P = 0.0124$). Among the organizational roles, Indian OTs work significantly more as consultants (50 [50.95%] vs. 35 [29.91%]; 95% CI: [0.0751–0.3457]; $P = 0.0001$) while global OTs work significantly more as managers (36 [30.76%] vs. 12 [14.28%]; 95% CI: [−0.2770–−0.0526]; $P = 0.0069$). Among patient population treated, Indian OTs majorly (54.76%) treat children (up to 15 years) but significantly more in "all age groups" (35 [41.67%] vs. 18 [15.38%]; 95% CI: [0.1388–0.3870]; $P = 0.0001$) while global OTs treat significantly more adults (21–65 years) (61 [52.13%] vs. 25 [29.76%]; 95% CI: [−0.3569– −0.0905]; $P = 0.0015$) and geriatric (>65 years) (50 [42.73%] vs. 17 [20.23%]; 95% CI: [−0.3492–0.1008]; $P = 0.0008$). Indian OTs practice significantly more in developmental disability rehabilitation (78 [92.85%] vs. 68 [58.11%]; 95% CI: [0.2424–0.4524]; $P = 0.0001$), ante- and postnatal women's care (15 [17.85%] vs. 3 [2.56%]; 95% CI: [0.0662–0.2396]; $P = 0.00018$), and hemophiliac rehabilitation (14 [16.67%] vs. 2 [1.70%]; 95% CI: [0.0666–0.2328]; $P = 0.00012$) areas of practice than global OTs. Indian OTs practice significantly more in clinic outpatient department (OPD) (62 [73.80%] vs. 55 [47%]; 95% CI: [0.1375–03985]; $P = 0.0001$), hospital OPD (40 [47.61%] vs. 27 [23.07%]; 95% CI: [0.1141–0.3767]; $P = 0.0002$), and inpatient (37 [44.04%] vs. 30 [25.64%]; 95% CI: [0.0516–0.3164]; $P = 0.0006$) while global OTs practice significantly more in natural environment settings (53 [45.29%] vs. 24 [28.57%]; 95% CI: [−0.2994–−0.0350]; $P = 0.016$). Most preferred types of interventions among both groups are relatively the same: client education, counseling, and consultation and interview; therapeutic relationships; and therapeutic use of self. Besides these,

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Indian OTs prefer performance skills training and adaptive interventions, while global OTs prefer activities as therapeutic media and OBIs over other types. Preventive interventions and advocacy were the least preferred types of intervention among each group. Despite these relative preferences, significant differences were found between groups with regard to number of OTs practicing these 5 types of interventions: client education, counseling, and consultation (46 [54.76%] vs. 47 [40.17%]; 95% CI: [0.0073–0.2845]; P = 0.04]; performance skills training (41 [48.80%] vs. 34 [29.05%]; 95% CI: [0.0626–0.3324]; P = 0.004); preventive intervention and health promotion (29 [34.5%] vs. 24 [20.51%]; 95% CI: [0.0148–0.308]; P = 0.026]; adaptive interventions (39 [46.42%] vs. 23 [19.65%]; 95% CI: [0.1390–0.3964]; P = 0.001]; and preparatory interventions: (35 [41.67%] vs. 28 [23.93%]; 95% CI: [0.0467–0.3081]; P = 0.0075). **Conclusion:** The study provides the current stand for preferences and practices of therapeutic interventions by OTs in India versus globally, thus aiding in repositioning of OT practice, focusing on core OT domains as well as providing a baseline for monitoring practice trends over time.

Key Words: Allied Health Occupations, Interventions, Occupational Therapy, Patient Care, Practice Trends, Rehabilitation, Therapeutic Use, Therapy

Introduction

Occupational therapy (OT) has been the only profession with "occupation" at its core, since its inception. Global health care and rehabilitation are moving toward function, quality of life, and occupation. Despite newer modalities and technology use entering practice domains, occupational therapists (OTs) need to ensure the continued use of occupation as intervention. OT practices and types of interventions used by Indian OTs versus the global OTs could vary, due to differences in health-care systems, cultural constructs, reimbursement provisions, etc. Studies have been conducted to understand differences in the use of different interventions: occupational-based interventions (OBIs); creative activities[1,2] in OT practice surveys in different countries: the UK, Sweden, and China;[3-5] or intervention unit/therapy settings in hospital rehabilitation.[6] No study comparing interventions used in Indian OT practice versus global OT practice is currently available. Hence, this study aimed to analyze the differences, if any, between Indian OT practices and global OT practice with regard to types of interventions frequently used in practice.

Methods

Study Procedure

An online survey-based cross-sectional study was conducted using Google Forms. Objective-based questionnaire was designed by three authors after a thorough literature review. Items were reviewed for face and content validity by two expert OTs and three authors, and accordingly, revisions were done to obtain the final version of the questionnaire [Appendix A]. The Google Forms link for the questionnaire with electronic written informed consent was sent to prospective OTs using a comprehensive sampling strategy: snowball sampling by posting the link on social media for Indian and global OTs, as well as E-mailing 1280 Indian OTs, the list of which was obtained from All India Occupational Therapists' Association (AIOTA) database, from May 2020 to March 2021. Of the 1280 Indian OTs E-mailed, 61 E-mails bounced, thus population size of 1219 was determined. Considering the length of the survey questionnaire, exhaustive nature of questions, and possible unavailability of OTs during COVID-lockdown situation on their work E-mail-ids, limited sample size was expected. Hence, 10% of population size was planned to be the sample size for the study, as per the 10% condition rule for sampling without replacement.[7] Postsampling, OTs were divided into two groups: Indian and global, based on the OTs' current location of practice. "Indian OTs" was operationally defined for this study as those respondents who are currently practicing OT in India while "global OTs" was defined as those respondents who are currently practicing OT outside India, in any country across the globe. The study was conducted adhering to principles of the "Declaration of Helsinki" version 2013,[8] and survey details are presented according to the checklist for reporting results of Internet e-surveys.[9]

Study Participants

Of the 225 responses received, total sample size n = 201 (n = 84 and n = 117 in India and global group, respectively) fulfilled the selection criteria. Inclusion criteria were as follows: OTs with at least a BACHELOR'S degree from a state/central government and/or AIOTA-recognized institutions; currently working as OTs with clinical responsibilities; serving clients including individuals, organizations, and populations; minimum 3 years of work experience in OT practice (excluding clinical assignment); and worked exclusively (clinicians only) or inclusively (teaching faculty with clinical work responsibilities) in clinical practice roles. Exclusion criteria were: OTs involved exclusively in teaching and/or managerial roles.

Assessment Tools

The survey questionnaire [Appendix A], specifically designed for this study by three authors and face content validated by two OT experts. It was self-explanatory and self-administered, and included demographics, sectors of practices, organizational roles, age groups of patients treated, 17 areas of clinical practice; therapy settings environment, 9 types of interventions used throughout the OT process[10-12] (enlisted as per profession's core principles and "guidelines for practice" established by the American Occupational Therapy Association,[13] professional statements by the AIOTA[14]) and factors influencing OT practice.[1,3,6] These questions had multi-select option and OTs were asked to mark the frequency of use (0%, 1%–20%, 21%–40%, 41%–60%, 61%–80%, and 81%–100%) of each type of intervention in their daily practice. Each intervention was provided with an example to ensure commonality. On average, respondents took 45–60 min to complete the questionnaire. Occupational Therapy Interventions Survey Study Part I (OTISS-I) analyzes only part I of the entire survey

questionnaire. Appendix A includes both Part I and Part II sections of the questionnaire analyzed in the research.

Data Analysis

Data analysis was done using IBM SPSS (Statistical Package for the Social Sciences), Statistics for Windows, Version 23.0, 2015, IBM Corp., Armonk, NY, USA. Descriptive data analysis was performed to find the mean or frequency (f), proportion (p), standard deviation (SD), and 95% confidence interval (95% CI). An inferential data analysis was performed using a difference in proportion Z-ratio test with $P < 0.05$ set as level of significance (two-tailed) to find significant differences between the two groups' responses. Due to the exhaustive nature of data collected, study findings shall be reported in two parts. OTISS Part I reports differences in practices and types of OT interventions frequently used whereas OTISS Part II shall report the different strategies frequently used among each type of interventions, different factors favoring/hindering OBI used by Indian versus global OTs, and the qualitative analysis of their opinions.

Results

The geographical distribution of the 84 Indian and 117 global OT respondents is depicted in Figure 1. Table 1 shows the demographics and knowledge pursuit of Indian versus global participants. Figure 2a and b shows bar graph and data analysis for sectors of OT practice and their current organizational role. Figure 3a and b shows bar graph and data analysis for the age group of clients/patients treated and 17 areas of OT practice. Figure 4 shows bar graph and data analysis on 10 types of intervention units/therapy setting environment. Figure 5 shows bar graph data analysis on nine different types of intervention frequently (>60% of times) used in daily OT practice.

Data analysis of the strategies used in each of nine types of intervention, seven factors influencing the use of OBI as well as qualitative analysis of the OT opinions shall be reported in OTISS Part II.

Discussion

The study aimed at analyzing differences, if any, among OT practices and types of interventions used frequently by Indian versus global OTs. Our study provides the first comprehensive comparative profile of Indian and global OT practice: OT workforce details, their organizational roles, education and pursuit of advanced knowledge, sectors and areas of OT practices, age groups of clients treated, type of intervention unit/therapy setting, and all types of interventions frequently (>60% of times) used in daily practice.

Geographical distribution of Indian OTs could be attributed to the presence of OT colleges in those 11 states and 1 union territory.[15] While global responses were obtained from 24 countries, 80 (68.37%) from English speaking developed countries (DCs): the USA, Canada, the UK, and Australia. Limited responses from other countries could be due to language barrier in non-English speaking countries; use of term "Ergotherapy" instead of "Occupational Therapy" in European countries as well few African and Asian countries still have world federation of occupational therapists approved Diploma-OT as basic requirements for OT practice lincensure[16] thus not fulfilling participation criteria of bachelor's degree.

The authors thoroughly analyzed the data using person-environment-occupational performance (PEOP) model lens to understand and enlist determinants influencing OT practice:

1. Person determinants: participants and their education and

Figure 1: Geographical Distribution of the Responses Received: Indian versus Global Occupational Therapists

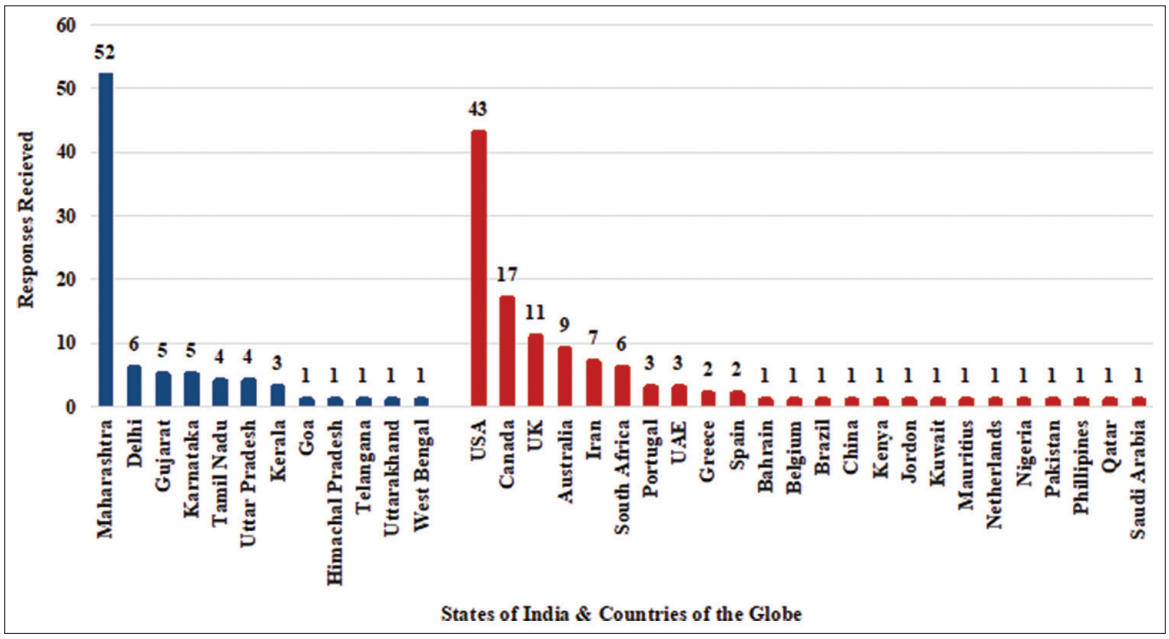


Table 1: Demographics: Indian Versus Global Participants' Responses

Question	Groups	Range	Mean±SD	95% CI (pI–pG) (LL–UL)	*t*-statistic	*P*
Age	India	24–70 years	35.11±9.34	4.6670, 10.9730	4.891	<0.0001***
	Global	25–69 years	42.93±12.33			
Work experience	India	3–47 years	11.10±9.21	4.0809, 10.1591	4.620	<0.0001***
	Global	3–48 years	18.22±11.77			
Question	**Response option**	**Groups**	**Frequency (%)**	**Proportion±SD**	**95% CI (pI–pG) (LL–UL)**	***Z***	***P***
Gender	Male	India (*n*=84)	31 (36.9)	0.3690±0.4825	0.0236, 0.2964	4.7303	<0.00001***
		Global (*n*=117)	11 (9.4)	0.0940±0.2919			
	Female	India	53 (63.1)	0.6310±0.4825	−0.3909, −0.1591	−4.7303	<0.00001***
		Global	106 (90.6)	0.9060±0.2919			
Highest qualifications	Bachelors (BOTh/BOT/BScOT)	India	24 (28.6)	0.2860±0.4518	−0.3498, −0.0856	−3.104	0.00194**
		Global	59 (50.37)	0.5037±0.50			
	Masters (MOTh/MOT/MScOT)	India	56 (66.7)	0.6670±0.4714	0.1852, 0.4480	4.4253	<0.00001***
		Global	41 (35.04)	0.3504±0.4771			
	PhD in OT	India	3 (3.60)	0.0360±0.1856	−0.0491, 0.0529	0.0582	0.95216*
		Global	4 (3.41)	0.0341±0.1817			
	Postprofessional doctoral (OTD)	India	1 (1.23)	0.0123±0.1085	−0.1641, −0.0335	−2.7251	0.00634***
		Global	13 (11.11)	0.1111±0.3143			
Additional qualifications	Yes	India	27 (32.10)	0.3210±0.4670	−0.3088, −0.0406	−2.4671	0.01352**
		Global	58 (49.57)	0.4957±0.50			
	No	India	57 (67.90)	0.6790±0.4670	0.0407, 0.3089	2.4671	0.01352**
		Global	59 (50.42)	0.50.42±0.50			
Fellowship certified	Yes, as delegates	India	28 (33.33)	0.3333±0.4714	0.0730, 0.3036	3.1543	0.00164***
		Global	17 (14.50)	0.1450±0.3524			
	Yes, as faculty	India	11 (13.1)	0.131±0.3373	−0.0504, 0.1244	0.8272	0.40654*
		Global	11 (9.4)	0.094±0.2919			
	Yes, as both	India	2 (2.4)	0.024±0.1525	−0.0060, 0.0540	1.6774	0.09296*
		Global	0	00			
	None	India	43 (51.2)	0.512±0.4999	−0.3778, −0.1202	−3.6638	0.00026***
		Global	89 (76.1)	0.761±0.4267			
Council registration	Yes	India	61 (72.61)	0.7261±0.4459	−0.2473, −0.0265	−2.4235	0.01552**
		Global	101 (86.30)	0.8630±0.3436			
Memberships of association	Yes	India	70 (83.33)	0.8333±0.3727	−0.1033, 0.1033	−0.0807	0.93624*
		Global	98 (83.33)	0.8333±0.3688			
COTEs attended: Workshop	Yes	India	75 (89.28)	0.8928±0.3093	−0.0168, 0.1786	1.5661	0.11642*
		Global	95 (81.19)	0.8119±0.3907			
Conferences attended	Yes	India	74 (88.09)	0.8809±0.3238	−0.0305, 0.1685	1.3185	0.1868*
		Global	95 (81.19)	0.8119±0.3907			
Symposium attended	Yes	India	53 (63.09)	0.6309±0.4825	0.0111, 0.2857	1.5466	0.72114*
		Global	61 (52.14)	0.5214±0.4995			
Seminar attended	Yes	India	70 (83.33)	0.8333±0.3727	0.3422, 0.5790	1.2495	0.2113*
		Global	89 (76.06)	0.7606±0.4267			
Presentations done	None	India	11 (13.1)	0.131±0.3373	−0.7820, −0.5798	1.3185	0.1868*
		Global	9 (7.7)	0.8119±0.3907			
	1–5	India	74 (88.09)	0.8809±0.3238	−0.0301, 0.1681	1.3185	0.1868*
		Global	95 (81.19)	0.8119±0.3907			
	>5	India	35 (41.66)	0.4166±0.4930	−0.2860, −0.0090	−2.0619	0.0394**
		Global	66 (56.41)	0.5641±0.4959			
Research published	None	India	20 (23.8)	0.238±0.4259	−0.2562, −0.0038	−1.9509	0.05118*
		Global	43 (36.8)	0.368±0.4821			
	1–5	India	53 (63.1)	0.631±0.4825	−0.0193, 0.2553	1.665	0.09492*
		Global	60 (51.3)	0.513±0.4998			
	>5	India	11 (13.09)	0.1309±0.3373	−0.0721, 0.1117	0.4279	0.6672*
		Global	13 (11.11)	0.1111±0.3143			

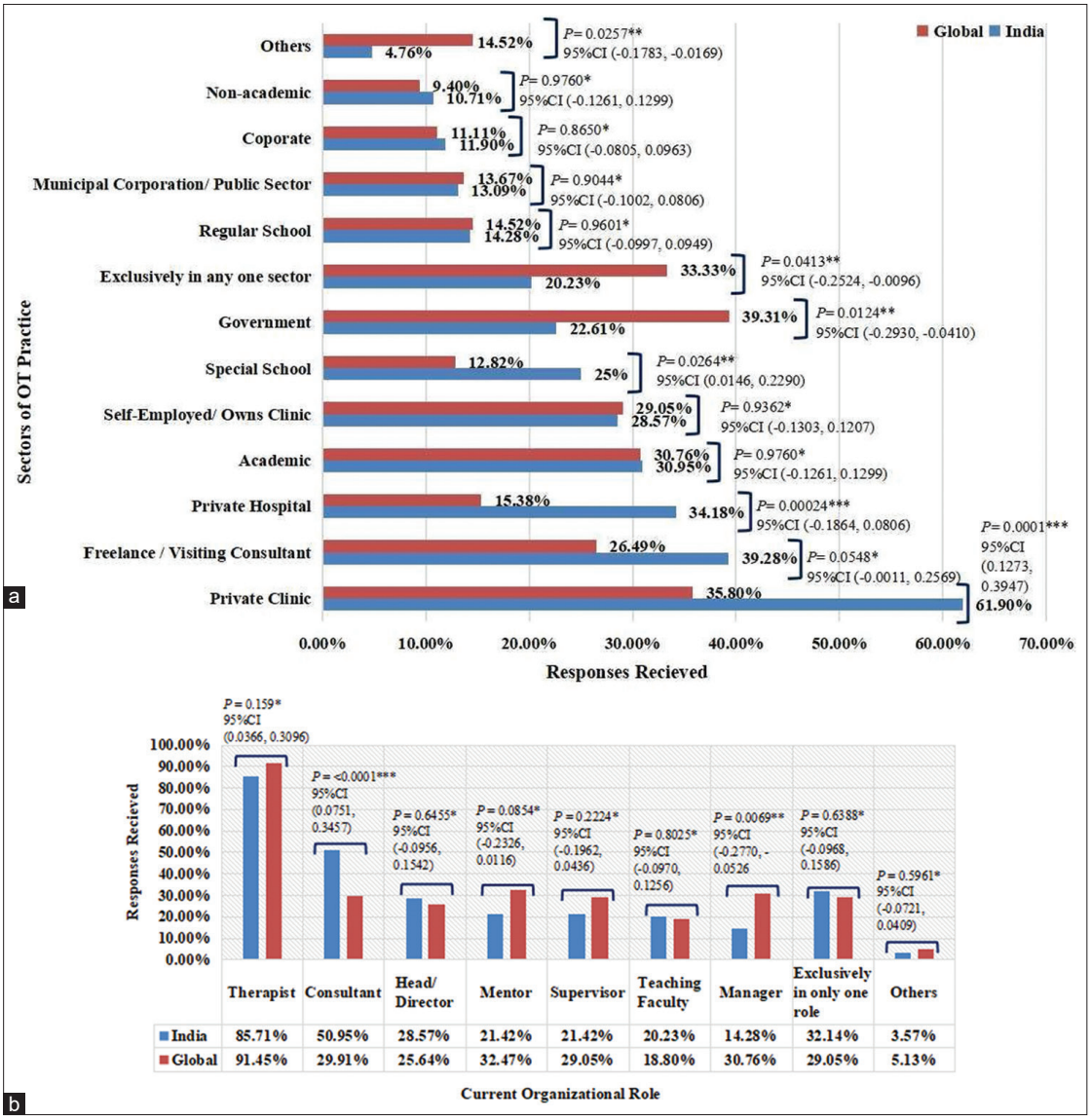
Contd...

Table 1: Contd...

Question	Groups	Range	Frequency (%)	Proportion±SD	95% CI (pI–pG) (LL–UL)	*Z*	*P*
Certifications	None	India	14 (16.7)	0.167±0.3727	−0.0712, 0.1312	0.587	0.5552*
		Global	16 (13.7)	0.137±0.3436			
	1–5	India	57 (67.9)	0.679±0.4670	−0.0857, 0.1797	0.6765	0.4965*
		Global	74 (63.2)	0.632±0.4821			
	>5	India	13 (15.47)	0.1547±0.3617	−0.1847, 0.0327	−1.3312	0.1835*
		Global	27 (23.07)	0.2307±0.4213			

*Nonsignificant, *P*>0.05, **Significant, *P*<0.05, ***Highly significant, *P*<0.01. *Z*: *Z*-ratio (statistic test), *P*: Probability, SD: Standard deviation, CI: Confidence interval, pI: *P* value (India), pG: *P* value (Global), LL: Lower limit, UL: Upper limit, COTEs: Continuing occupational therapy educations

Figure 2: (a) Sectors of OT Practice: Indian versus Global Participants' Responses, (b) Current Organizational Role: Indian versus Global Participants' Responses

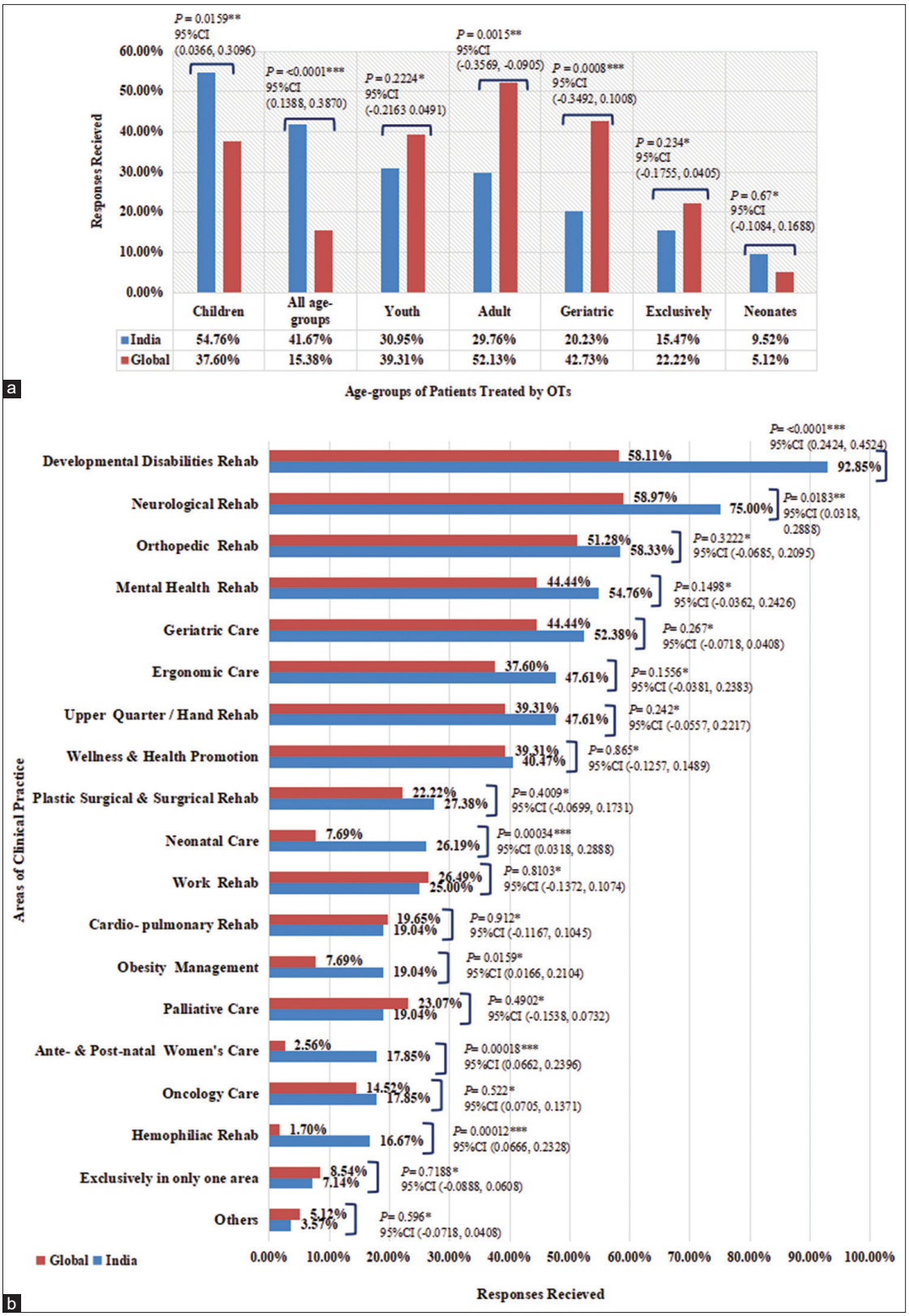


P: probability; CI: confidence interval; OT: occupational therapy, *Nonsignificant, $P > 0.05$, **Significant, $P < 0.05$, ***Highly significant, $P < 0.01$

pursuit of advanced knowledge

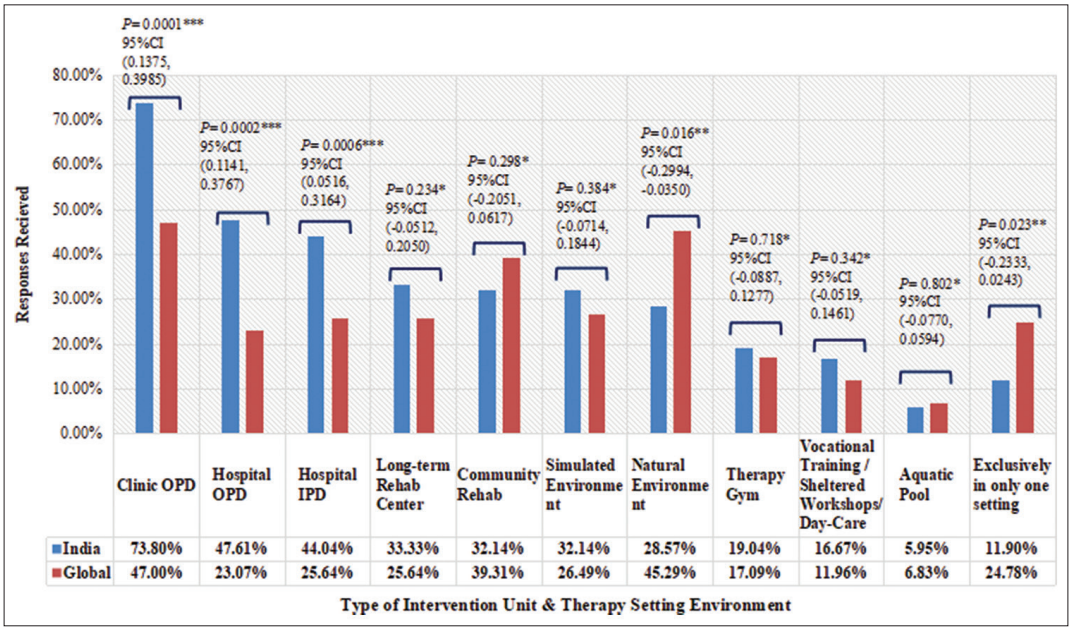
2. Environmental determinants: six country-based OT influencers (COTIS): dominance of health-care sector; reimbursement type; health-care model; sociocultural differences; therapy settings environment; and national body, council, and licensure practices in the country
3. Occupational performance: type of OT intervention used frequently in daily practice.

Figure 3: (a) Age Groups of Patients Treated by OTs: Indian versus Global Participants' Responses, (b): Areas of Clinical Practice by OTs: Indian versus Global Participants' Responses



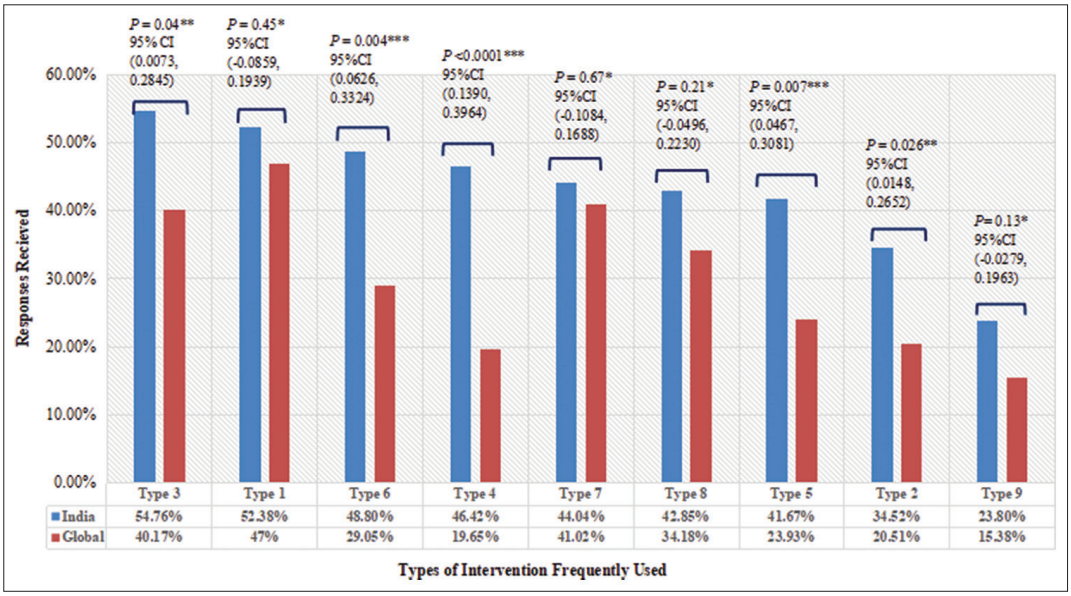
P: probability; CI: confidence interval; OTs: occupational therapists. *Nonsignificant, $P > 0.05$, **Significant, $P < 0.05$, ***Highly significant, $P < 0.01$

Figure 4: Type of Intervention Unit and Therapy Setting Environment: Indian versus Global Participants' Responses



P: Probability, CI: Confidence interval, OPD: Outpatient department, IPD: Inpatient department. *Nonsignificant, $P > 0.05$, **Significant, $P < 0.05$, ***Highly significant, $P < 0.01$

Figure 5: Types of Intervention Frequently (i.e., More Than 60% of Times) Used in the Daily OT Practice: Indian versus Global Participants' Responses



OT: Occupational therapy; Type 1: Interview, therapeutic relationship, and therapeutic use of self; Type 2: Preventive interventions and health promotion; Type 3: Client education, counseling, and consultation; Type 4: Adaptive interventions; Type 5: Preparatory interventions addressing body structures and functions; Type 6: Performance skills training [enabling activities/occupation as means]; Type 7: Activities as therapeutic medium [purposeful activities/occupation as ends]; Type 8: OBIs and participation in occupational roles guided by client environment and context; Type 9: Advocacy. *P*: Probability, CI: Confidence interval, OBI: Occupation-based intervention. *Nonsignificant, $P > 0.05$, **Significant, $P < 0.05$, ***Highly significant, $P < 0.01$

Person Determinants

Participants: OT Workforce, OT Education, and Pursuit of Advanced Knowledge

The mean age of global OTs was significantly higher than Indian OTs (42.93 ± 12.33 vs. 35.11 ± 9.34 years; 95% confidence interval [CI]: [4.667–10.973]; $P = 0.0001$) supporting the findings of significantly higher clinical work experience among global OTs than Indian OTs (18.22 ± 11.77 vs. 11.1 ± 9.21 years; 95% CI: [4.0809–10.1591]; $P = 0.0001$).

Across the globe, OT has traditionally attracted female OTs more than male OTs possibly due to career requirements of caring for sick and old, nurturing children; being patient and

empathic; use of crafts and arts media.[17] However, male OTs in India are significantly more than across the globe (31 [36.9%] vs. 11 [9.4%]; 95% CI: [0.0236–0.2964]; P = 0.0001), possibly due to sociocultural and work culture differences; however, it is lower than previous Indian study (48%).[18] Indian female OTs (63%) are lesser than other countries' statistics: Iran: 71% (2019),[4] China: 77% (2016),[5] Canada: 88% (2019),[19] current study global female OTs (90.6%), the USA: 92% (2010),[20] and Sweden: 94.2% (2016).[2] The pattern is suggestive of lesser female OTs among Asian countries such as China and India than Western countries: the USA, Canada, and Sweden. The current study showed that 23 (11.44%) OTs (22 females and 1 male) among the global OT group are Indian origin, did basic OT academics in India, and went abroad (across 8 countries, with 11 [48%] OTs to the USA) for further studies/employment/postmarriage, resulting brain drain. Whereas, among Indian OT group, only 5 (6%) OTs (3 females and 2 males) returned to India and are currently working in India. There are no studies which could support these findings of brain-drain India suffers in OT profession.

Indian OT respondents reported significantly more master's degrees (66.7%) than global OT respondents (35.04%) and more than respondents in Iran OT study (42.7%).[4] Global OT respondents reported significantly more OTs with bachelor's degree (50.37%) than Indian OTs (28.6%) and Iran OTs (49.2%).[4] However, global OT group had more OTs with additional qualifications in non-OT fields (49.57%) and occupational therapy doctorate (OTD) (11.11%), than Indian OT group (32.10% and 1.23% respectively), thus accounting for lesser OTs with masters in global group. Indian OT group has marginal (1.23%) OTs with OTD, probably due to the absence of OTD courses in India. Both Indian and Global OT respondents have 3.50% PhD holders, which is lesser than Iran OTs (8.1%).[4]

Environmental Determinants: Six Country-based OT Influencers

Dominance of Health-care Sector in the Country: Private Versus Government/Public Sector

Historically, OT practice globally started in government/public hospitals. Over time, influenced by the dominant health-care sector of the country, i.e. private sector (87%) [21], OT practices in India leaned toward the private sector, as evident by: Indian OTs working significantly more than global OTs in private clinics (52 [61.90%] vs. 40 [35.80%]; 95% CI: [0.1273–0.3947]; P = 0.0001) and private hospitals (32 [34.18%] vs. 18 [15.38%]; 95% CI: [−0.1864–0.0806]; P = 0.00024). While, global OTs still work in the government sector significantly more than Indian OTs (46 [39.31%] vs. 19 [22.61%]; 95% CI: [0.0410–0.2930]; P = 0.0124), probably as majority (68.37%) of the global OTs are from DCs where the health-care sector is predominantly public. Furthermore, these DCs have higher GDPs (9.91%–16.77%) allotted to public health care versus 3.01% GDP in India.[22] Furthermore, in India, >2/3rd of GDP allocated to public sector is utilized for primary health-care centers,[23] while OT services in India in the public sector are mainly in tertiary health-care centers, i.e., hospitals, thus resulting in India's higher out-of-pocket health-care expenditure (54.78%) vs. mere 11%–17% among the DCs.[24] These DCs have uniform national public insurance covering services for geriatric population and individuals with disabilities since decades;[25] while India launched Ayushman Bharat (Health for All): Pradhan Mantri Jan Arogya Yojana in 2018, to achieve universal health coverage with free or minimal medical care costs in public hospitals and private hospitals empaneled, for medical and surgical procedures,[26] but no specifications given for allied health or rehab service charges coverage during hospital stay in these hospitals. Furthermore, inclusion of OTs in multidisciplinary teams at ground level among the state-run health-care and out-reach programs could contribute to global OTs (14.52%) working in nursing facilities, CBR, and NGOs significantly more than Indian OTs (4.72%), which could explain significantly more global OTs working as manager (36 [30.76%] vs. 12 [14.28%]; 95% CI: [0.0526–0.2770]; P = 0.0069].

More global OTs (33.33%) practice exclusively in one sector than Indian OTs (20.23%), higher than UK study (14%)[3] done 20 years ago, suggesting a gradual trend of working exclusively in one sector among DCs. These findings are supported by US Bureau of Labor Statistics data showing OT employment growth projection of 17% from 2020 to 2030[27], suggesting increase in OT demands. While, in India, OTs still working in multiple sectors could be due to lack of OT awareness, struggle with professional identity, lack of full-time job opportunities in one sector or to bolster financial stability.

Reimbursement Type for Occupational Therapy Services: Client-paid Versus Insurance Coverage

Indian OTs practice significantly more than global OTs in developmental disability rehabilitation (78 [92.85%] vs. 68 [58.11%]; 95% CI: [0.2424–0.4524]; P = 0.0001], ante- and postnatal women's care (15 [17.85%] vs. 3 [2.56%]; 95% CI: [0.0662–0.2396]; P = 0.00018), hemophiliac rehabilitation (14 [16.67%] vs. 2 [1.70%]; 95% CI: [0.0666–0.2328]; P = 0.00012), and neonatal care (22 [26.19%] vs. 9 [7.69%]; 95% CI: [0.0318–0.2888]; P = 0.00034). These significant differences could be influenced by the confluence of six COTIs leading to diversification in areas of practice and client population. Furthermore, out-of-pocket services does not mandate referral practices promoting independent and direct practice, while insurance-covered services mandate referrals to intervene limiting independent and direct practice. Also, Client-paid service promotes client-centered practice across all phases of diagnosis and rehab process as well as aid in professional growth, opening new avenues of OT practices and facilitates use of different types of interventions in conjunction as surveyed in the study. While, insurance-covered service has clear demarcation for OT practice in diagnostic and rehab phases in which OT interventions are reimbursed, which limits OT practice in certain clinical areas (especially preventive healthcare) and hinders the use of different types of interventions in conjunction.

Different types of interventions are used in conjunction or in continuum by OTs during the OT process, depending on: client, therapist, environmental, and sociocultural factors, but are guided by evidence-based practice norms, certification boards, and hospital's standard of practice.

On calculating the average of the cumulative use of the interventions across both the groups, it showed that more Indian OTs (43.25%) use all types of therapeutic interventions in conjunction than global OTs (30.09%).

Health-care Model Practiced by the Country: Medical Model Versus Social Disability Model

India's health-care model is dominantly medical model, with emphasis on "symptom recovery" and working in hospital/clinic settings.[28] This influenced OT practices and academics, as observed in OT's inception in medical colleges and significantly more Indian OTs practicing in clinics (62 [73.8%] vs. 55 [47%]; 95% CI: [0.1375–0.3985]; P = 0.00014), hospital inpatient department (IPD) (37 [44.04%] vs. 30 [25.64%]; 95% CI: [0.0516–0.3164]; P = 0.0063), and hospital outpatient department (OPD) (40 [47.61%] vs. 27 [23.07%]; 95% CI: [0.1141–0.3767]; P = 0.00028) and as consultants (50 [50.95%] vs. 35 [29.91%]; 95%CI: [0.0751–0.3457]; P = 0.0001) than global OTs. On the other hand, global admissions to OT courses are via both arts and science stream,[16] with social disability model being the dominant health-care model[28] emphasizing on "functional recovery," working in communities, not primarily involved with medical facilities, and outside the constraints of the medical model.[28]

Due to differences in health-care model of the country, the organizational roles of OTs also vary, wherein global OTs are observed to have more organizational roles in the clinical practice such as supervisor, mentor, rehab coordinator, program developer, preceptor, capacity builder, and chief operating officer in addition to therapist/consultant/head than Indian OTs, though not statistically significant. The global OTs work in roles of supervisor and mentor 8%–11% more than Indian OTs. The concept of supervisor/mentor and mentorship culture: "Each one, teach one" in OT practice needs to be cultivated in India. Mentors, being role models, can enhance implicit knowledge regarding professionalism, ethics, values, and the art of OT which cannot be learned from the texts.[29] This eventually help in professional development and profession's identity.

Sociocultural Differences: Co-dependence Versus Independence

India is a multilingual, multicultural, and multiethnic country where a joint family system with co-dependence over family members and the community at large is considered norm. While in DCs, sociocultural and family constructs revolve around single-family systems and independent living is considered norm. This influenced the OT practice in India versus global countries, where global OTs practiced significantly more than Indian OTs with adults (61 [52.13%] vs. 25 [29.76%]; 95% CI: (0.0905–0.3569); P = 0.0015) and geriatric age groups (50 [42.73%] vs. 17 [20.23%]; 95% CI: [−0.1008–0.3492]; P = 0.00084], while significantly more Indian OTs treat children (46 [54.76%] vs. 44 [37.60%]; 95% CI: [0.0366–0.3096]; P = 0.0159) and all age groups (35 [41.67%] vs. 18 [15.38%]; 95% CI: [0.1388–0.3870]; P = 0.0001). Significantly higher OTs in India practice in areas of developmental disabilities (78 [92.85%] vs. 68 [58.11%]; 95% CI: [0.2424–0.4524]; P = 0.0001), neonatal care (22 [26.19%] vs. 9 [7.69%]; 95% CI: [0.0318, 0.2888]; P = 0.00034), and ante- and postnatal women's care (15 [17.85%] vs. 3 [2.56%]; 95% CI: [0.0662–0.2396]; P = 0.00018) than global OTs, probably as importance to child's education and development is prioritized.

Adults and geriatric OT practice in India could be affected due to the least prioritized goal of "independence" after an illness/injury, due to co-dependent social construct and focus on "symptom recovery" than "functional recovery."

The average life expectancy (2018) of Indians (69 years) is less than DCs (79–81 years).[30] Furthermore, these older adults live with and are cared for by family in India, whereas globally, they live alone or in care facilities. Hence, geriatric population seeking OT services is lesser in India vs. global. Furthermore, significantly more Indian OTs practice neurological rehabilitation (63 [75%] vs. 69 [58.97%]; 95% CI: [0.0318, 0.2888]; P = 0.0183) and obesity and weight management (16 [19.04%] vs. 9 [7.69%]; 95% CI: [0.0166–0.2104]; P = 0.01596).

Exclusive practice in a particular age group in India (15.47%) is lesser than global OTs (22.22%), and significantly more Indian OTs treat clients of all-age groups than global OTs (35 [41.67%] vs. 18 [15.38%]; 95% CI: [0.1388,0.3870]; P = 0.0001), suggesting more specific age group practices among global OTs.

Feasibility to Therapy Setting/Therapeutic Environment: Clinic/Outpatient Department Versus Natural Settings

Indian OTs are able to cater to all age groups, varied diagnoses, and in varied areas of clinical practice possibly due to combined factors: significantly higher use of therapeutic setting of clinic OPD, practicing in private sector and majorly as consultants. As a result, Indian OTs are able to provide OT services to any patient/client seeking OT services, belonging to any age group, in area of interest for the therapist and with the freedom to choose any type of intervention as per therapist's competency.

Physical environment has been considered an important part of effective therapy as acknowledged by various OT theories such as PEOP model and model of human occupation (MOHO).[10-12] The study has shown that the type of OT intervention available and chosen is influenced by the therapeutic setting environment.[6]

Indian OTs significantly use more clinic OPD settings (62 [73.80%] vs. 55 [47%]; 95% CI: [0.1375–0.3985]; P = 0.00014), hospital IPD (37 [44%] vs. 30 [25.64%]; 95% CI: [0.0236–0.2964]; P = 0.0001), and hospital OPD (40 [47.61%] vs. 27 [23.07%]; 95% CI: [0.1141–0.3767];

P = 0.00028) in accordance with its leaning to medical model, while global OTs are observed to work in natural environments (home, school, playground, cafeteria, etc.) significantly more than Indian OTs (53 [45.29%] vs. 24 [28.57%]; 95% CI: [0.0350–0.2994]; P = 0.0001), probably due to adherence to social disability model as discussed above. Furthermore, it was found that global OTs tend to work exclusively in one setting significantly more than Indian OTs (29 [24.78%] vs. 10 [11.90%]; 95% CI: [−0.0243–0.2333]; P = 0.0226).

Environment influences the type of intervention used,[1] which could justify the findings of top four frequently used types of intervention by Indian OTs: "client education, counseling, and consultation;" "interview, therapeutic relationship, and therapeutic use of self;" "performance skills training;" and "adaptive interventions."

National Body, Council, and Licensure Practices in the Country

The study found significantly more global OTs having council registration than Indian OTs (101 [86.30%] vs. 61 [72.61%]; 95% CI: [0.0265–0.2473]; P = 0.01552), as in India, only Delhi, Maharashtra, and recently Odisha states have state council and mandate council registration. Participants from these two states constitute 69% in this study. However, India has a national body for OT practitioners with voluntary membership, and the study showed that 83.33% of Indian OT respondents have membership. However, the practice guidelines in India are undefined, open to interpretation regarding domains or areas of practice and OT professionals work to the best of their knowledge acquired during clinical training and experience. The National Commission for Allied and Healthcare Professions Act, 2021 is the ray of hope for the profession's development and advancement, its awareness and standing among other medical professionals, official autonomy for independent practice (without the need for referrals), uniformity in implementation of practice guidelines, etc. This is in contrast to some DCs where national board certification is required for practice and mandatory adherence to certain practice protocols and guidelines established to maintain a uniform umbrella health-care system. On the flip side, Indian OTs' growth and diversification probably predominate private practices due to the possible advantage of the absence of a uniform umbrella health-care system.

Occupational Performance: Types of Interventions Frequently (>60% of the Times) Used in Daily Practice

"Interview, therapeutic relationship, and therapeutic use of self" is an integral part of OT practice with half of the OTs in both groups using it frequently in daily practice. This is in concurrence to previous study findings that 80% of USA OTs and 83% of UK OTs believe it to be critical for client's occupational engagement.[31]

The World Health Organization (2017) prioritized the need to up-scale rehabilitation with preventive intervention to meet population health needs and reduce the growing burden of chronic conditions and disabilities.[32] However, "preventive intervention and health promotion" is one of the least used interventions by both the groups, though Indian OTs use it significantly more than global OTs (29 [34.52%] vs. 24 [20.51%]; 95% CI: [0.0148–0.2652]; P = 0.026), probably as OT intervention is sought after an injury/illness and/or being referred by other medical professionals.

Indian OTs practice "client education, counseling, and consultation" significantly more than global OTs (46 [54.76%] vs. 47 [40.17%]; 95% CI: [0.0073–0.2845]; P = 0.04), probably as Indian OTs work as consultants more than global OTs (51% vs. 30%). Professional qualification, years of work experience, pursuit of knowledge, and evidence-based practice build competence to effectively use this intervention. Consultation and counseling, being one-to-one, requires perceived competence of the therapist[4] as well as "scientific and communication skills" competency.[33]

Indian OTs use "adaptive interventions" significantly more than global OTs (39 [46.42%] vs. 23 [19.65%]; 95% CI: [0.1390–0.3964]; P = 0.004), while Beijing OTs rarely use them,[5] possibly due to out-of-pocket reimbursement of OT services in India, making long-term intervention costlier and "quick-fix" interventions demanded by clients. Furthermore, certain adaptations and adaptive devices are not easily accessible/available in India (e.g., reachers, dressing sticks, sock aids, wheelchair accessibility aids, transfer boards, etc.); thus, Indian OTs tend to design, device, and locally source handmade low-cost adaptive items.

Indian OT respondents use "preparatory interventions addressing body structures and functions" significantly more than global OTs (35 [41.67%] vs. 28 [23.93%]; 95% CI: [0.0467,0.2230]; P = 0.00758), due to the combination of COTIs (as discussed above) and preference of clients and referring medical professionals for "symptom recovery" over "functional recovery" in India.

Indian OT respondents use "performance skills training" significantly more than global OTs (41 [48.80%] vs. 34 [29.05%]; 95% CI: [0.0626–0.3324]; P = 0.00424) but less than Beijing (55.8%) OTs.[5] Both India and Beijing OTs are influenced by countries' predominant medical model (bottom-up approach) and evidently high OT practice in hospital and clinic settings. While, a social disability model (top-down approach) could have facilitated higher use of natural environment settings by global OTs (45.29% vs. 28.57%). Natural environments would provide appropriate space to practice ADL/IADL facilitating direct participation and engagement in occupations, while hospital IPD settings would limit direct participation in occupations but encourage interventions for "symptom recovery" via improving performance components.[6]

"Purposeful activities/occupations as ends" are goal-directed meaningful tasks or behaviors requiring active voluntary participation leading to sense of self-competence of an individual.[10-12] This study showed all (100%) OTs in both groups use purposeful activities and 41%–44% using it

frequently in daily practice; higher than 86% OTs using therapeutic activities in Beijing study (2015),[5] suggesting OT's core concept of "purposeful activities" is not affected by COTIs.

It should be noted that in this study, "OBI and participation in occupational roles" was defined to OTs as participation and engagement in direct occupations and occupational roles, guided by client environment and context (e.g. ADL training in home setting/on-site workplace training), while OT Practice Framework-3rd Edition[13] encompasses this intervention under "Occupations and Activities" which includes this study's two interventions: "OBI and participation in occupational roles" and "activities as therapeutic medium" – both under one category. This study showed that 42.85% of Indian OTs and 34.18% of global OTs used OBI, but Beijing OTs rarely used it.[5] OBI use could have been influenced by the OT ability to individualize treatments and use different interventions in conjunction and in continuum. Interestingly, 45.29% of global OTs use the natural environment as therapy settings, but only 34.18% of them are able to practice "OBI and participation in occupational roles." These findings collaborate with Skubik-Peplaski (2012) study findings that combination room settings such as a supportive hospital space with flexible environment or environmental spectrum would allow more occupation-based client-centered practice.[6]

"Advocacy" is the least used intervention by both the groups; however, Indian OTs use it more than global OTs (23.8% vs. 15.38%). While significantly more global OTs do not use advocacy in their practices at all (12 [10.26%] vs. 2 [2.38%]; 95% CI: [0.0059–0.1491]; P = 0.0309), probably as OTs globally practice within a team which includes social workers, who primarily advocate for clients, with well developed referral-system as OT in DCs is insurance-covered, referral mandate service; whereas Indian OTs need to advocate for themselves and clients as OT practice in India is independent and direct (non-referral mandate) service. Advocacy helps individuals to attain occupational justice, i.e., equal access to services and occupational participation, as well as foster community acceptance and empowerment (improved self-care capacity).[13,34]

Implications

The study findings showed that Indian OT respondents' use of "preventive intervention and health promotion" (34.52%) and "advocacy" (23.8%) are the least used interventions in daily practices. Furthermore, Indian OT respondents who work in community-based rehabilitation (32.14%) are far lesser than those working in clinics and hospitals. Thus, to diversify and aid OT practice in India to be at par with Indian government's "Healthy India/Swasthya Bharat: a key priority under Vision 2030:" Indian OTs should engage/support community-based interventions; proactively advocate for themselves as "health promoters;" and regularly conduct "surveillance (screening) and response" camps to identify at-risk individuals and provide early intervention. Health promotion and advocacy content should gain coverage in OT curriculum, with emphasis on hands-on practice.

The study findings showed no significant differences in the research (gray literature + published papers) done by respondents between groups; however, 23.8% of Indian OT respondents have not done research at all. Indian OT group reported 66.7% of respondents with masters and master's program mandates research, thus accounting for 63.1% of respondents having done 1–5 researches. Only 13.09% of Indian OT respondents reported more than 5 researches suggesting active involvement in research. There is a dire need for OT curriculum to include the importance of research, hands-on research projects, research paper writing, etc., both at bachelors and master's program, other than mandatory thesis, which would help increase interest and inclination toward research even among nonacademicians and private practitioners.

Limitations and Suggestions for Future Studies

Despite using a comprehensive sampling strategy, our sample size was comparatively small (n = 201), hence generalization of the results should be done with caution. It is indicative of poor response rate; 6.9% response rate was calculated for Indian OTs and for global OTs, and due to multiple sampling methods used, true response rate is incalculable. It took 45–60 min to complete the questionnaire that limited the responses received. Thus, the responses may not be representative of OT practitioners of their country. However, in the absence of a more representative sample and in view of paucity of published data, this study's results provide a useful foundation for comparison and future research. Further research on OT practices in various domains, medical versus social disability models, and individual areas of OT practice may be conducted.

Conclusion

The study provides an insight and establishes the baseline for the current preferences and practices of therapeutic interventions by OTs in India versus globally aiding monitoring of practice trends. Due to limited responses, the OT practice by Indian and global OT respondents could not be generalized as it may not represent true practice trends. However, significant differences between the responses of the groups provide insight into the overall OT practices. Indian OTs practice in the private sector, as consultants, in the area of developmental disability rehabilitation, in OPD settings and prefer to use "performance skills training" type of intervention significantly more than global OTs, while global OTs practice in natural settings, i.e., normal school classroom based/home/on-site workplace, etc., and treat the adult and geriatric population significantly higher than Indian OTs.

These differences can be attributed to six determinants (COTIs): health-care systems; reimbursement policies; health-care models; sociocultural differences; feasibility to therapy setting/therapeutic environment; and national body, council, and licensure practices in the country. This will help guide OTs in India regarding the current scope of OT practices as well as aid in repositioning OT practice, focusing on core domains

while trying to diversify practice, and align with the Indian government's health vision.

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Conflicts of Interest

There are no conflicts of interest.

References

1. Dauda AZ, Yaua JJ, Barnetta F. Issue in applying occupation-based intervention. Procedia Soc Behav Sci 2016;222:272-282. [Doi: 10.1016/j.sbspro.2016.05.158].
2. Müllersdorf M, Ivarsson AB. What, why, how – Creative activities in occupational therapy practice in Sweden. Occup Ther Int 2016;23:369-378.
3. Howard L. A survey of paediatric occupational therapists in the United Kingdom. Occup Ther Int 2002;9:326-343.
4. Saneii SH, Esmaili SK. Rehabilitation in autism spectrum disorder: A look at current occupational therapy services in Iran. Funct Disabil J 2019;2:54-63.
5. Shi Y, Howe TH. A survey of occupational therapy practice in Beijing, China. Occup Ther Int 2016;23:186-195.
6. Skubik-Peplaski C, Rowles GD, Hunter EG. Toward a physical environmental continuum for occupational intervention in a rehabilitation hospital. Occup Ther Health Care 2012;26:33-47.
7. Glen S. "10% Condition in Statistics: What is it?" StatisticsHowTo.com: Elementary Statistics for the Rest of us! Available from: https://www.statisticshowto.com/10-condition/. [Last updated on 2022; Last accessed on 2022 Aug 22].
8. WMA Declaration of Helsinki. The World Medical Association, Inc. Available from: https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/. [Last updated on 2022 Sep 06; Last accessed on 2022 Oct 23].
9. Eysenbach G. Improving the quality of Web surveys: The Checklist for Reporting Results of Internet E-Surveys (CHERRIES). J Med Internet Res 2004;6:e34.
10. Pendleton HM, Schultz-Krohn W. Occupational therapy practice framework and practice of occupational therapy for people with physical disabilities. In: Pedretti's Occupational Therapy Practice Skills for Physical Dysfunction. 7th ed. Missouri: Mosby; 2013. p. 1-17.
11. Trombly Latham CA. Conceptual foundations for practice. In: Radomski MV, Trombly Latham CA, editors. Occupational Therapy for Physical Dysfunction. 6th ed. Baltimore, Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2008. p. 1-21.
12. Schell BA. The therapeutic process. In: Willard HS, Crepeau EB, Cohn ES, Schell BA, editors. Willard & Spackman's Occupational Therapy. 11th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2009. p. 315-343.
13. American Occupational Therapy Association. Occupational therapy practice framework-domains and process, 3rd ed. Am J Occup Ther 2014;68 Suppl 1:S1-S48.
14. All India Occupational Therapy Association, Occupational Therapy Areas of Practice. India. Available from: http://aiota.org/temp/managepdf/OT%20and%20its%20different%20areas%20of%20practice%20Final-pdf.pdf. [Last updated on 2017 Apr 25; Last accessed on 2020 Apr 12].
15. All India Occupational Therapy Association, Occupational Therapy Education Programs in India. India. Available from: https://aiota.org/education/accredited_colleges. [Last updatedon 2018; Last accessed on 2021 Jan 30].
16. World Federation of Occupational Therapy. WFOT Approved Education Programmes. London, United Kingdom. Available from: https://wfot.org/programmes/education/wfot-approved-education-programmes. [Last accessed on 2021 Jan 30].
17. Collins J. A Female's Profession: Gender Disparity in Occupational Therapy. Eastern Kentucky University; 2019. Available from: https://encompass.eku.edu/honors_theses/671. [Last accessed on 2021 Jan 26].
18. Mani K, Sundar S. Occupational therapy workforce in India: A National survey. Indian J Occup Ther 2019;51:45-51.
19. Canadian Institute for Health Information. Canada's Health Care Providers, 2015 to 2019 — Data Tables. Ottawa, ON: CIHI; 2020.
20. American Occupational Therapy Association. 2010 Workforce Study. USA. Available from: https://www.aota.org/ExternalLinks/Surveys.aspx. [Last accessed on 2021 Jan 30].
21. Loh LC, Ugarte-Gil C, Darko K. Private sector contributions and their effect on physician emigration in the developing world. Bull World Health Organ 2013;91:227-233.
22. The World Bank, Current Health Expenditure (% of GDP). WHO Global Health Expenditure Database. Available from: https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?end=2019&locations=CA-IN-US-GB-AU&start=2019&view=bar. [Last updated on 2022 Jan 30; Last accessed on 2022 Mar 27].
23. World Health Organization. Primary Healthcare in India. WHO. Available from: https://www.who.int/india/health-topics/primary-health-care. [Last updated on 2022 Apr 01; Last accessed on 2022 Apr 27].
24. The World Bank, Out-of-Pocket Expenditure (% of current health expenditure). WHO Global Health Expenditure Database. Available from: https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS?end=2019&locations=CA-IN-US-GB-AU&start=2019&view=bar. Last accessed on 2022 Mar 27].
25. Ridic G, Gleason S, Ridic O. Comparisons of health care systems in the United States, Germany and Canada. Mater Sociomed 2012;24:112-120.
26. Joseph J, Sankar D H, Nambiar D. Empanelment of health care facilities under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) in India. PLoS One 2021;16:e0251814.
27. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Occupational Therapists. USA. Available from: https://www.bls.gov/ooh/healthcare/occupational-therapists.htm. [Last updated on 2022 Feb 17; Last accessed on 2022 Mar 22].
28. Pattison M. Message from the president: Global health policy. World Fed Occup Ther Bull 2018;74:3-7.
29. Henry-Noel N, Bishop M, Gwede CK, Petkova E, Szumacher E. Mentorship in medicine and other health professions. J Cancer Educ 2019;34:629-637.
30. The World Bank. The Life Expectancy at Birth, Total (Years)-India. World Development Indicators. Available from: https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=IN. [Last updated on 2020 Dec 16; Last accessed on 2021 Jan 30].
31. Solman B, Clouston T. Occupational therapy and the therapeutic use of self. Br J Occup Ther 2016;79:1-3.
32. Jesus T, Zweck C, Ledgerd R. Occupational Therapeutic Human Resources. World Federation of Occupational Therapists. Available from: https://wfot.org/resources/occupational-therapy-human-resources.[Last updated on 2021 May; Last accessed on 2022 Jan 30].
33. Jaffe EG, Epstein CF. Consultation: Collaborative interventions for change. In: Jacobs K, Mc-Cormack GL, editors. The Occupational Therapy Manager. 5th ed. Bethesda, MD: AOTA Press; 2011. p. 521-545.
34. World Health Organization and the United Nations Children's Fund (UNICEF). A Vision for Primary Health Care in the 21st Century: Towards Universal Health Coverage and the Sustainable Development Goals. (WHO/HIS/SDS/2018.X). Geneva: World Health Organization and the United Nations Children's Fund (UNICEF); 2018. p. 1-37.

Appendix

Appendix A: OTISS Questionnaire

I understand that completing and submitting the form would be considered consent to my participation in this survey study (Mark only one).
Yes
No

A list of abbreviations used throughout the document is given below:

ADLs: Activities of daily living

OBI: Occupation-based interventions

OT: Occupational therapy

CBT: Cognitive behavioral therapy

DBT: Dialectical behavior therapy

REBT: Rational emotive behavior therapy

LD: Learning disability

NGO: Nongovernmental organization

ICU: Intensive care unit

NICU: Neonatal intensive care unit

Additional instructions:

Kindly answer all the questions:
1. Based on exclusively your own clinical practice experience.
2. Please avoid using abbreviations.
3. Please answer in list format (e.g.: 1., 2., 3., etc.) wherever applicable, instead of paragraphs.

Section I: Participants: Demographics, qualifications, and training

Age (in years):

Gender: (Mark only one oval)

Female

Male

Other:

City/State/Country of Practice:

Highest educational qualification: (Choose an option)
- Bachelors (BOTh/BOT/BScOT)
- Masters (MOTh/MOT/MScOT)
- PhD in OT
- Postprofessional Doctoral (OTD)
- Other:

Additional Qualification/s (e.g.: postgraduate diploma, master in additional fields like psychology/MBA, etc.):

Memberships of associations: Yes/No (If yes, kindly list 1., 2., and avoid abbreviations)

Council Registrations/State Licensure: Yes/No (If yes, kindly list)

I. Aptitude to Acquire/Pursuit Advanced Knowledge/Skill

Attended/PARTICIPATED in Continuing Occupational Therapy Education (COTE) programs as Participated as Delegate/as Faculty/as Both (Check all that apply):
- Workshop

- Conference
- Symposium
- Seminar
- Fellowships

Advance knowledge/skill acquisition: (None, 1–5, 6–10, 11–15, 16–20, >20)

(Mark only one oval per row)

Number of Presentations:

Number of Research (gray literature) + published papers:

Certifications (in standardized assessment tools or treatment technique):

Total years of practice (excluding clinical assignments/internship). Kindly also mention number of years of practice country wise, if you have practiced OT in more than one country:

II. OT practice details

1. Sector of practice: (Check all that apply)

- Academic
- Corporate
- Freelance/visiting consultant
- Government
- Nonacademic
- Private clinic
- Private hospital
- Municipal corporation/public sector
- Regular school
- Self-employed/owns clinic
- Special school
- Other:

2. Your organizational role: (Check all that apply)

- Consultant
- Head/Director
- Manager
- Mentor
- Teaching faculty
- Therapist
- Supervisor
- Other:

3. Age group of patients/clients or people worked with: (Check all that apply)

- Neonates
- Children (up to age 15 years)
- Youth (16–20 years)
- Adult (21–65 years)

- Geriatric (>65 years)
- All age groups

4. Types of conditions treated/areas of clinical practice: (Check all that apply)

- Ante- and postnatal women's care
- Cardiopulmonary rehabilitation
- Developmental disability rehabilitation
- Ergonomic care
- Geriatric care
- Hemophiliac rehabilitation
- Industry/work consultation/rehabilitation
- Mental health and/or substance use disorder rehabilitation: psychosocial therapy
- Neonatal care
- Neurological rehabilitation
- Obesity and weight management
- Oncology care
- Orthopedics rehabilitation
- Palliative care
- Plastic surgery/surgical rehabilitation
- Upper quarter/hand rehabilitation
- Wellness and health promotion
- Other:

Enlist 3–5 most common diagnosis treated: (Kindly answer in numbered list 1., 2., etc., and avoid abbreviations)

5. Type of Intervention unit and Therapy setting environment available at your step up: (Check all that apply)

- Aquatic pool
- Clinic outpatient setting/polyclinics/health clinics
- Community rehabilitation
- Health and fitness center/therapy gym setting
- Hospital inpatient setting: acute care units [NICUs, ICUs, burns unit, etc.] and wards
- Hospital outpatient setting
- Long-term rehabilitation center
- Natural environment: normal school-classroom based/home visits/playground/beach/garden/on-site workplace/corporate/industry, etc.)
- Simulated environment: home like/work like/school like: special school-classroom based
- Vocational training centers/sheltered workshops/daycare centers
- Other:

Section II: Mark the percentage use of each type of intervention in daily practice: (Mark only one oval per row.)

1. Interview, therapeutic relationship, and therapeutic use of self (e.g., history-taking, rapport building, collaborative goal-setting, and intervention planning)
2. Preventive interventions and health promotion (e.g., lifestyle redesign, yoga)

3. Client education, counseling, and consultation (e.g., psychoeducation/health education on do's and don'ts postinjury/postoperative care)
4. Adaptive interventions (e.g., ADL adaptive aids, pencil grippers use, home/work modifications)
5. Preparatory interventions addressing body structures and functions (e.g., positioning, splinting or preparatory exercises, etc.)
6. Performance skills training (enabling activities/occupation as means) (e.g., ADL manipulation board, visual-perceptual training/memory drills)
7. Activities as therapeutic medium (purposeful activities/occupation as ends) (e.g., therapeutic handwriting practice/practicing self-care/kitchen activities)
8. Occupation-based interventions (OBI) and participation in occupational roles guided by client environment and context (e.g., ADL training in home setting/on-site workplace training)
9. Advocacy (e.g., community awareness programs for inclusion)

PART 2 OTISS-II

V. Techniques commonly used in type of interventions

A. Tick all techniques you commonly use in "interview, therapeutic relationship, and therapeutic use of self." List any additional techniques you use in "Other" option:

Check all that apply.

- Rapport building
- History taking (e.g., work history/ADL history/sensory history/play history, etc.)
- Exchange of information (e.g., sharing evidence regarding therapy with clients/patients, etc.)
- Professional guidance (e.g., giving professional recommendations to facilitate client's/patient's decision-making, etc.)
- Professional expertise and an empathic partner (e.g., listening to client's/patient's feelings regarding their difficulties, etc.)
- Narrative therapy (e.g., therapist breaks down problems into smaller and specific issues that are easier addressed; separate problems of client/patient from client/patient as a person, etc.)
- Behavior modification techniques (e.g., reward system and motivation)
- Transference and countertransference
- Self-disclosure
- Other:

B. Tick All Techniques You Commonly Use in "Preventive Interventions and Health Promotion." List Any Additional Techniques You Use in "Other" Option:

Check all that apply

- Yoga and wellness training
- Relaxation techniques
- Health management programs
- Injury prevention and ergonomic care workshops
- Support groups for vulnerable and high-risk populations for mental wellness
- Senior programs for fall prevention and healthy aging
- Lifestyle redesign
- Pelvic floor exercises during early pregnancy (e.g., Kegel exercise or prenatal yoga)
- Leisure time activity development for relapse prevention in addiction
- Other:

C. Tick All Techniques You Commonly Use in "Client/Patient Education, Counseling, and Consultation." List Any Additional Techniques You Use in "Other" Option:

Check all that apply.

- Caregiver counseling (e.g., caregiver education, understanding the implications for caregiver and giving appropriate support, etc.)
- Counseling clients/patients to aid transition to a new environment (discharge planning for return home with modifications, etc.)
- Advise and education on precautions, do's and don'ts, care, wearing schedule, and donning and doffing methods of splints/orthotics/prosthetics
- Home program prescription

- Caregiver training in bed/wheelchair transfer techniques, etc.
- Client/patient education (e.g., progressive relaxation techniques/coping strategies, do's and don'ts postinjury/postop care, etc.)
- Psycho-education and use of psychoanalysis, CBT/DBT/REBT, etc.
- Other:

D. Tick All Techniques You Commonly Use in "Adaptive Interventions". List Any Additional Techniques You Use in 'Other' Option:

Check all that apply.

- Adaptive device fabrication (e.g., pencil grippers, long handle spoon, built-up handle, etc.)
- Adaptive techniques for task performance (e.g., one-handed dressing techniques, notebook for memory, use of checklist for task completion)
- Home adaptations (e.g., handrails in bathroom, motion sensor light placement for night time, nonskid mats, etc.)
- Other adaptations to home and other natural environments and/or contexts (e.g., additional caregiver assistance, panic button installation, memory/secretary application on phone, etc.)
- Use of noise-mufflers/noise-canceling headphone in individuals with auditory hyper-sensitivity or with auditory hallucinations
- Assistive technology use to individuals with low vision or blindness/deafness
- Use of augmented communication devices and picture exchange communication systems (PECS) for individuals with speech and communication difficulties
- Work simplification and energy conservation techniques
- Other:

E. Tick all techniques you commonly use in "Preparatory Interventions Addressing Body Structures and Functions." List Any Additional Techniques You Use in "Other" Option:

Check all that apply

- Physical agent modalities for pain management, etc.
- Manual therapy for joint mobilization/manipulation, etc.
- Fabrication and use of splints/orthosis (e.g., Kleinert's/Capner's splint, knuckle-bender, thumb spica, wrist cock-up splint, etc./thoracic-lumbar orthosis, etc.)
- Therapeutic exercise: stretching exercises, range of motion intervention, strength and endurance training, etc.
- Edema management (use of Coban wrap, phototherapy, etc.)
- Scar management (silicone gel sheeting for postburn scars, circular massage, etc.)
- Postural re-education
- Mirror box therapy (for stroke rehabilitation, phantom pain management, etc.)
- Biofeedback training
- Sensory compensation and sensory re-education
- Mindfulness training
- Mental imagery techniques
- Yoga/meditation
- Balance training (e.g., balance board/Bosu exercises, etc.)
- Hand manipulation tasks (e.g., peg-board/hand gym exercises, etc.)
- Bilateral coordination training (e.g., brain gym exercises, skipping rope/stationary cycle/rowing boat training, etc.)
- Cognitive/perceptual training (e.g., memory drills, geometric designs, spatiotemporal activities, etc.)
- Reaction-time training and tremometer training (in de-addiction therapy)
- Constraint-induced movement therapy
- Movement Therapy (in mental-health conditions)
- Aerobic/cardio-vascular Training
- Obstacle trail
- Other:

F. Tick all techniques you commonly use in "Performance Skills Training (Enabling Activities/Occupation-As-Means)." List Any Additional Techniques You Use in "Other" Option:

Check all that apply

- Motor skills training: joint mobility, fine-motor, muscle strength, endurance, agility and plyometric training (e.g., sanding board [horizontal/inclined], placing/retrieving grocery in shelves/overhead places, making bed, buttoning-unbuttoning, Theraputty/clay modelling, ADL manipulation board, maneuvering obstacles and doorways, walking on uneven surfaces/slope, etc.)
- Process skills training: (e.g., planning an outing, choosing ingredients for a meal)
- Social interaction skills training: (e.g., interaction in group therapy, verbalizing needs, and expressing dissent)
- Sensory processing skills practice (e.g., eating wet food item with bare hands/finger painting/foam use for person with tactile hypersensitivity)
- Perceptual skills practice (e.g., ball games, arts and crafts, etc.)
- Other:

G. Tick All Techniques You Commonly Use in "Activities as Therapeutic Medium (Purposeful Activities/Occupations-As-End)." List Any Additional Techniques You Use in "Other" Option:

Check all that apply

- Steps/parts of ADL training (e.g., meal preparation in kitchen, cold sandwich making, cutting with knife practice, dressing task with setup, etc.)
- Communication skills practice (e.g., group therapy, role play, parallel talk, etc.)
- Drivers' rehabilitation (on adaptive training vehicles, etc.)
- Work task training
- Play therapy in nonnatural environment
- Therapeutic handwriting practice
- Creative media-use of sports, dance, arts, and crafts in therapeutic settings
- Sheltered workshops
- Pre-vocational training and/or vocational exploration

H. Tick all techniques you commonly use in "Occupation-Based Interventions (OBI) and Participation in Occupational Roles Guided by Environment and Context." List Any Additional Techniques You Use in "Other" Option:

Check all that apply

- Ergonomics in office (individual or organization as client)
- Independent performance of BADL and IADL with any necessary adaptations.
- Return to classroom and participation in school activities with necessary adaptations
- Return to and performing parent/grandparent/husband/wife/friend, etc., role
- Return to work
- Play in a natural environment like a playground, home, garden, beach, etc.
- Shopping skills in malls/shopping centers, etc.
- Money management at shop counters/cafes/hotels, etc.
- Child care and parenting skills for parents of kids with special needs
- Eating skills in a hotel/cafeteria/dining table, etc.
- Use of picture exchange communication systems (PECS) or augmented communication devices in the classroom/home, etc.
- Leisure-activity exploration and/or participation
- Job acquisition and continuation of meaningful employment for neurodiverse individuals
- Other:

I. Tick All Techniques You Commonly Use in "Advocacy." List Any Additional Techniques You Use in "Other" Option:

Check All That Apply

- OT reports for availing learning disability concessions in classroom settings and exams
- Implementation of fall prevention programs in community for older adults after advocacy by occupational therapists
- Advocating to take benefits of national schemes for persons with disabilities (PwD)
- Advocacy for regular ergonomic activities and injury prevention programs undertaken by corporate organizations for employee wellness
- OT advocacy leading to special shopping hour implementation for special needs individuals
- OT advocacy leading to changes in neighborhood accessibility (sidewalk and crosswalk accessible to wheelchairs and walkers)

- Sensitizing employers to hire people with neurodiversity
- Other:

VI. When treating your client/patient, what service delivery/treatment/interventions do you provide that are unique to occupational therapy and not carried out by any other professional? Kindly list examples from your own practice setting.

In your experience, have you come across any place where occupational roles are worked on? Yes/No. If yes, what is the area/specialty/extent of practice?

VII. Possible Factors that Impact Your Practice of Occupation-Based Interventions (OBI) with Clients/Patients: (Mark Each One of Them as Favorable/Restricting/Not Applicable to Your Practice)

(ii). Please elaborate on why the selected factors are Favorable for your practice of OBI: (kindly write in list format using numbers given against the factor selected by you)

(iii). Please elaborate on why the selected factors are restricting for your practice of OBI: (Kindly write in list format using numbers given against the factor selected by you)

A (i). Occupational Therapists' Factors That Impact Practice of OBIs with Clients/Patients:

1. Switching from one therapy setting to another for your client's therapy goals
2. Using a particular environment to conduct a session
3. Perceived ease of practice of OBI
4. Use of frames of reference/models as guide to conduct therapy session
5. Use of professional reasoning in therapy
6. Autonomy to advocate for your clients/patients
7. Preference to use OT assessment tools
8. Your self-confidence and comfort with ADL techniques

B (i). Client/Patient Factors That Influence OBI Practice:

9. Client's/patient's age
10. Client's/patient's goals
11. Client's/patient's paying capacity
12. Client's/patient's need to see instant improvement
13. Follow-up by client/patient
14. Client's/patient's in-session perception of productivity satisfaction
15. Outcome demanded by client/patient
16. Client's/patient's awareness about role of OT
17. Client's/patient's understanding of expectations from therapist
18. Cultural value of OBI for client/patient

C (ia) Physical Environment Factors Influencing OBI Practice:

19. Availability of a variety of therapy settings
20. Availability to use a particular setting to conduct a session at a given time
21. Distance between two available therapeutic settings
22. Space availability for conducting therapy
23. Time availability for OBI in a session
24. Physical accessibility to therapy room

C (iia) Products and Technology:

25. Availability of assessment tools/methods
26. Availability of standardized tests, scales, and measures
27. Availability of occupation-based outcome tools/measures
28. Availability of basic conventional treatment tools/equipment/media, etc.
29. Availability of advanced technology

C (iiia) Support and Relationships:

30. Family support to clients/patients (e.g.: physical, emotional, financial, etc.)
31. Social (friends/peers/neighbors/colleagues/employers/NGO etc.) support to clients/patients (e.g.: physical, emotional, financial, etc.)

32. Personal insurance reimbursement coverage
33. Employer's insurance reimbursement coverage

C (iva). Systems and Policies:

34. Referral system
35. Documentation protocol mandate
36. Protocol defined by the institute
37. Protocol underlined by the referring health-care professional
38. Financial terms and conditions with the workplace
39. Financial liabilities with the referral sources, e.g., third-party agencies, etc.

D. Other Factors: Other Factors That You Might Have Experienced That Impacted Your OBI Use: (Please Specify Reason of It Being Favorable or Restricting in Your Practice)