



Research article

Investigating the potential clinical utility of therapeutic techniques based on eidetic imagery as adapted by the Eidetic Model of Growth (EMG) for people with intellectual disability (ID)

Akhtar Ali Syed^{a,*}, Shazia Neelofur^a, Aidan Moran^b, Gary O'Reilly^b^a Brothers of Charity, Services, South East, Ireland^b University College Dublin, Ireland

ARTICLE INFO

Keywords:

Psychology
 Clinical psychology
 Eidetic imagery
 Eidetic model of growth
 Psychotherapy
 Intellectual disability

ABSTRACT

Eidetic model of growth (EMG) is a form of psychotherapy developed for people with intellectual disabilities (ID). EMG is based on the theoretical tenets of eidetic psychotherapy of Akhter Ahsen, which uses eidetic imagery as its major therapeutic tool. The literature review did not find any empirical study on eidetic imagery-based psychotherapy for people with ID except reviews and case histories. This study investigates the clinical utility of therapeutic techniques based on eidetic imagery as developed by Ahsen and Syed.

In this study thirty participants with mild and moderate ID were recruited. Participants were recruited from the services for people with ID. These services were contacted to recruit participants who had experiential (i.e., abuse, trauma etc.), emotional (i.e., bereavement, attachment problems), psychiatric (i.e., anxiety, depression) and behavioural (i.e., anger, aggression) problems and to seek consent from the potential participants. The Anxiety Depression and Mood Scale (ADAMS) was administered to the participants before the therapy started, after every 5th session and once the therapy was terminated. The statistical analysis of the pre-therapy and post-therapy scores of participants on the ADAMS was carried out to measure the therapeutic outcome.

Paired-sample *t*-test revealed a significant difference between the pre-therapy and post-therapy scores of participants on ADAMS, with a large effect size ($d = 1.54$). The result indicates existence of eidetic imagery in people with ID and its promising therapeutic utility.

What this paper adds

This is the first empirical study conducted to investigate the clinical potential of eidetic imagery based therapeutic techniques for people with intellectual disability (ID). Eidetic imagery based psychotherapy has shown promising outcome to address experiential, emotional, psychiatric and behavioural problems in typically developing individuals. This study confirmed similar potential of such a model of psychotherapy in addressing these problems in people with ID in a less number of sessions. The outcome also hinted at the ability of people with ID to experience eidetic imagery.

1. Introduction

In this study, we tried to establish the potential clinical utility of eidetic imagery-based therapeutic techniques and their possible efficacy in addressing the emotional, experiential, psychiatric and behavioural problems in people with intellectual disability (ID). The therapeutic techniques employed in this study were derived from the Eidetic Psychotherapy, a model developed by Ahsen (1968, 1977, 1993, 2008), which has been adapted for people with ID by Syed (2012).

It is an established reality now that people with intellectual disability are more vulnerable to mental health issues (Hulbert-Williams and Hastings, 2008), emotional problems (Alimovic, 2013), and stressful life circumstances than typically developing (TD) individuals (Taylor et al.,

* Corresponding author.

E-mail addresses: akhtaralisyed@gmail.com, akhtaralisyed77@yahoo.com (A.A. Syed).

2008; Van den Hout et al., 2000). However, problems like therapists' reluctance in offering therapy to people with ID (therapeutic disdain; Raffensperger, 2009; Bender, 1993) and a lack of suitable therapeutic models did not allow progress in the domain of psychotherapy for people with ID. Similarly, the compromised ability of people with ID to communicate, coupled with a lack of insight into the psychological difficulties, impaired memory and compromised ability to execute therapeutic assignments disqualified them as candidates for psychotherapy (Flynn, 2012; Irvine and Beail, 2016). Due to these factors therapeutic support has not been provided to this population, the way it was needed.

All these factors are discernible in a systematic review of psychotherapy for people with ID conducted by Vereenooghe and Langdon (2013). The majority of studies they found were "excluded because they concerned interventions for challenging behaviour or life skills training programmes. Nearly half of the relevant published work concerning psychological therapy with people with IDs comprised descriptive studies, narrative reviews and expert opinion. Single case studies made up nearly 60% of intervention studies, whereas only 15% employed an independent groups design" (p. 4094). They reported that Cognitive Behavior Therapy (CBT) based approaches are widely researched ones.

Another systematic review on interventions for mental ill-health of people with ID was conducted by Osugo and Cooper (2016). The findings of Osugo and Cooper (2016) revealed the same pattern which has already been reported by Vereenooghe and Langdon (2013). Out of seven relevant studies, four were conducted on group cognitive-behavioural interventions and suggested the efficacy of this approach. However, one RCT assessed the outcome of individual sessions of CBT. The outcome of this RCT did not find efficacy of CBT in treating patients with depression and/or anxiety (Hassiotis et al. 2003; cf. Osugo and Cooper, 2016, p. 618). A small non-randomised feasibility study conducted by Jahoda et al. (2015) confirmed the efficacy of behavioural activation in treating depression in people with ID.

In a similar attempt, Koslowski et al. (2016) conducted a systematic review on interventions for mental health problems in adults with intellectual disabilities. They included studies published after 1980 and updated the data in September 2014. Like Osugo and Cooper (2016) they included a wide range of interventions like psychotherapy and biological and system-level interventions (e.g., Assertive Community Intervention in ID; ACT-ID) for people with ID and comorbid mental illness. However their findings were inconsistent with previous findings of Vereenooghe and Langdon (2013) and Osugo and Cooper (2016). They reported that "none of a wide range of interventions grouped into psychotherapy, biological and system-level approaches was effective in the sense of yielding statistically significant effect sizes for a number of vital outcome domains including behavioural problems, depression, anxiety, quality of life and functioning" (Koslowski et al., 2016, p. 473). The six studies of psychotherapies they included, all employed CBT-based interventions.

The above mentioned three systematic reviews confirmed at least two factors. Firstly, the number of studies conducted on psychotherapy for people with ID was relatively small. Secondly, the majority of studies were conducted on interventions which were derived from either Behavioural approaches or CBT. For example, Vereenooghe and Langdon (2013) in their systematic review of psychological therapies for people with intellectual disabilities reported that interventions based on theoretical tenets of CBT were the most studied therapeutic approaches, so far. Their meta-analysis reported an overall moderate effect size .682. We updated the systematic review conducted by Vereenooghe and Langdon (2013) in 2019 after following the same search criteria. The final outcome of our systematic review was similar. The two studies which met the eligibility criteria were conducted on CBT-based interventions.

In a somewhat different attempt Beail (2016) published a review of psychological therapies for people with intellectual disabilities (ID). Beail (2016) reported the available evidence for different models of psychotherapy for people with ID. His report highlighted six models for which the authors found evidence of efficacy. In this report, other than CBT-based approaches, controlled trials were reported only on

Solution-Focused Brief Therapy (SFBT). The evidence for rest of the models was based on case reports and case reviews. None of the above mentioned four systematic reviews could trace any study conducted on eidetic imagery-based intervention. Only one study used hypothetical imagery, a technique of implosive therapy to address participants' irrational (maladaptive) fears (Silvestri, 1977). The imagery used in implosive therapy is based on maladaptive fears and very different from eidetic imagery. Overall, there was no study found in which therapeutic techniques based on eidetic (experiential) imagery has been evaluated empirically. We did not find any empirical evidence for eidetic imagery based therapeutic techniques in our search through different data bases (PsycINFO, CINAHL plus and Medline). One possible reason for this trend may be rooted in an assumption that imagery needs cognitive ability that is why people with ID cannot experience it.

So far we have seen in our literature review, in three systematic reviews by previous researchers in the field, and in one systematic review we updated, that the evidence for the efficacy of psychotherapy for people with ID is very limited. The main body of evidence is still based on case reports and reviews, only a few RCTs are available. The RCTs we found did not compare the efficacy of different models of psychotherapy for people with ID. The interventions reported in most of the studies were based on CBT. The studies we found did not include people with lower levels of ID. Similarly, there is no evidence found for the efficacy of psychotherapy with people with verbal limitations. More crucially, the evidence for individual psychotherapy for people with ID is limited and shows only moderate efficacy (Prout and Browning, 2011). Efficacy of psychotherapy for people with ID is not something frequently reported in the research literature. Moreover, the reported studies are not methodologically sound. Such a situation needs more well-designed and RCTs (Prout and Browning, 2011).

All our literature search confirm that there is no imagery-based intervention for people with ID being used and has not been reported. The cases reported by Ahsen (1993, 2008), and Syed (2012) indicate the need to explore the potential of imagery-based psychotherapy for people with ID.

The present study investigated the potential therapeutic utility of eidetic imagery-based therapeutic techniques as described in the Eidetic Model of Growth (EMG; Syed, 2012).

1.1. The Eidetic Model of Growth (EMG)

EMG is an adaptation of eidetic psychotherapy (EP) of Ahsen (1968). The EP is based on the triple code of ISM which depicts the healthy development of individual's functioning.

"Broadly, the *eidetic* has been defined as a normal subjective visual image (I) which is experienced with pronounced vividness, although not necessarily evoked at the time of the experience by an actual external object, and not necessarily dependent on a previous experience of an actual situation; is "seen" inside the mind or outside, in the literal sense of the word, and this "seeing" is accompanied by a somatic response (S) as well as awareness of meaning (M), and the total experience in all its dimensions excludes the possibility that it is pathological. Allport (1924) has formulated a definition of *eidetic* along these lines and especially emphasized the "healthful" nature of it (Ahsen, 1984, p. 148).

In Ahsen's definition, the eidetic carries all the components required for growth and change (Hochman, 1995). From this definition, Syed (2012) drew two inferences. One, this definition extends the application of eidetic image beyond the treatment of psychopathology. Second, past experiences of success and failure continue influencing our present and future experiences. In this way the learning of current environment and its demands are shaped. The learning in the eidetic model takes place naturally during development, if its flow is not disrupted and interfered with emotional, experiential and environmental factors.

The EMG is conceived on a two pronged approach of identifying and addressing the interruptions in the normal flow of development of people with ID. One arm of it identifies the environmental factors, responsible

for fearful and distrustful interactions with surroundings and refusing to participate in activities as a result. The second arm addresses the emotional and experiential issues, like abuse and attachment problems.

Central to Ahsen (1968) definition of the eidetic is the triple code model of ISM (Image, Somatic Response, and Meaning). The imagery experience tends to occur mostly in the ISM order. Syed (2012) suggested that in people with ID, the meaning (M) element is underdeveloped (see Figure 1).

For this reason the ISM in ID is "ISm", which depicts the similarity and difference in people with ID and typically developing, in terms of eidetic theory. People with ID are similar in terms of receiving the sensory input of experiences and having its somatic affect, but they may have a compromised level of interpreting them, due to low level of cognitive functioning.

In developing the environment to address the needs of people with ID, the EMG proposed a new definition of *Structure* of planning of activities. This new *Structure* is based on Ahsen's model of *Interactivity*.

Incorporating eidetic theory, the EMG evolved a structure to shape the environment for people with ID. This structure is based on four elements: *Choice*, *Communicable Timetable*, *Variety* and *Prior Knowledge* (Syed, 2012).

In the eidetic model, the interaction with environment through participation in activities sparks the internal motivation which is rewarded by learning and growth. Such experiences of interaction with environment form an ISm. Learning is not possible without passing through such experiences. This is exactly what Ahsen's assertion "activity is its own reward" (1993. p.27) meant. This notion made the EMG entirely different from the *reinforcement* model. The EMG does not use any form of reinforcement, which is used in therapies based the principles of behaviourism in its application and operation, neither in its therapeutic processes nor for enhancing learning and increasing participation in activities.

1.1.1. Therapeutic focus and techniques

The focus of EMG is not merely remedial. The therapeutic focus is growth and development in people with ID. Syed (2012) defined growth beyond the concept of skill learning. "Growth, as it is being considered here, is a normal, natural process perpetuated through different developmental stages in human consciousness. Growth processes are blocked, according to the eidetic theory, if the individual is in conflict with nature or his environment. In his interaction with nature and environment, the individual is not a passive participant" (p. 4). The EMG focuses a lot on the environment in which individual with ID lives and works. Due to its emphasis on the individual's choice of activities and predictability of activity structure, not only the participation in meaningful and productive activities is enhanced but anxiety is lessened as well. Syed (2012) has also suggested some group intervention to address interpersonal problems.

The salient features of the EMG are outlined in Figure 2.

In a nut shell, there are three important elements make EMG somewhat different from rest of the therapeutic models for people with ID.

The EMG uses eidetic imagery as its major therapeutic tool.

- It does not use reinforcement as it is used in behaviouristic models of psychotherapy.
- It attempts to make the environment participatory and predictable.



Figure 1. The sequence of ISM in people with ID (Syed, 2012).

- Active attention is paid to facilitate the individual with activities of choice in a very predictable manner.

In this study we used techniques of eidetic imagery as adapted in EMG to address emotional, experiential, behavioural and mental health problems in people with ID.

According to the theoretical formulation of EMG, the emotional, experiential, psychiatric and behavioural difficulties of individuals with ID are rooted in traumatic experiences from negative past experiences with primary caregivers (parents) and/or in difficult interaction with the current human and material environment (Syed, 2012). Such experiences are the focus of therapeutic activity.

1.2. The Anxiety Depression and Mood Scale (ADAMS)

ADAMS was developed by Esbensen et al. (2003) to assess symptoms of anxiety, depression, social avoidance, manic/hyperactive behavior and obsessive-compulsive behavior in people with intellectual disability (ID). It has 28 items on which a staff or a parent rates the individual's presentation of mood and behaviour. These 28 items are meant to assess symptoms of Manic/Hyperactive Behaviour, Depressed Mood, Social Avoidance, General Anxiety, and Obsessive/Compulsive Behaviour. In the current study, the ADAMS has been administered by the Key Worker before the commencement of therapeutic intervention. It was re-administered after every 5th session and once after the therapeutic work was terminated.

The authors initially developed a list of 55 items in collaboration with psychologists and psychiatrists. This list was the outcome of the first list of 131 symptoms extracted from DSM-IV and several other scales. Through consultations, the list was revised; items were rephrased to reach a short list of 55 items. These items were meant to identify the "aspects of anxiety, fear, compulsiveness, appetite, communication, concentration, depression, energy level, mood, physical state, sleep disturbance, and social interaction" (Esbensen et al., 2003. p. 619). After conducting two studies, the first was conducted on 265 subjects and the second study was conducted on 323 participants, a final list of five-factor based 28 items was finalized.

The retest reliability for the full scale was .81, (Table 1) which is high. Regarding validity, the authors claimed that ADAMS is a valid instrument for screening of disorders like bipolar disorder, clinical depression, and OCD. Individuals who had these diagnoses scored high on subscales. However, due to the limited sample of individuals with anxiety, the validity of particular subscale needs more research. Nevertheless, this initial finding about validity of ADAMS is promising (Esbensen et al., 2003).

For the current study we set the following research question.

Can eidetic imagery-based techniques be employed to address emotional, experiential, psychiatric and behavioural problems in people with ID?

2. Method

2.1. Ethics approval

The Ethics Approval for this study was granted by the Ethics Committee of University College Dublin.

2.2. Research design

The study was aimed at exploring the potential clinical utility of eidetic imagery-based therapeutic techniques for people with mild and moderate ID. Since the same participants have been assessed on the ADAMS before, during and after the therapy to investigate the utility of the techniques of eidetic therapy that is why a within-subject/repeated measure design was employed.

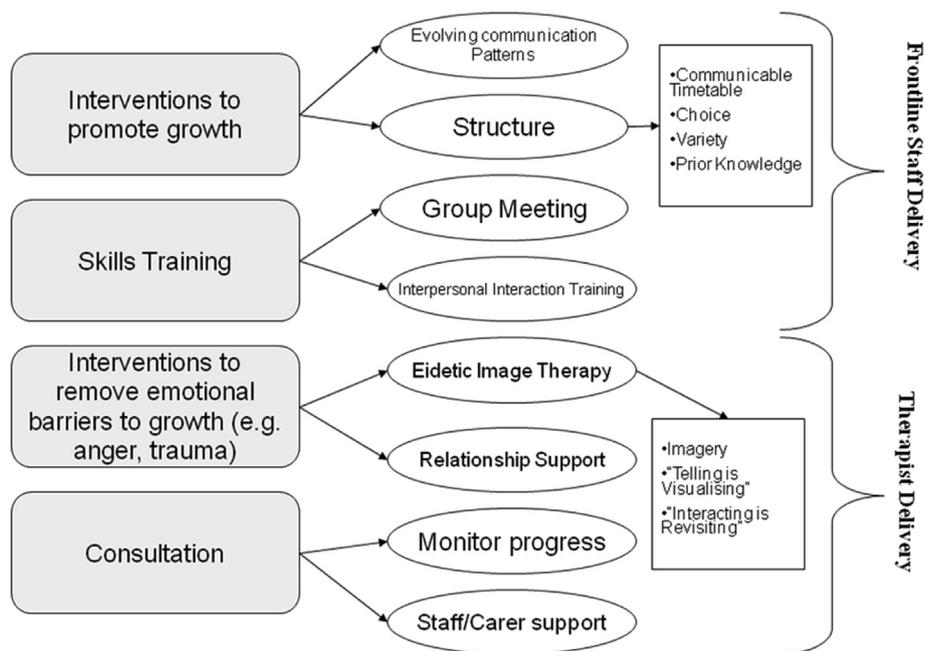


Figure 2. Shows various steps undertaken during the EMG approach to psychological support to people with ID (Syed, 2012).

Table 1. Reliability of the ADAMS.

Subscales	Alpha	Retest	Interrater Reliability	M	SD
M SD Manic/Hyperactive Behavior	.75	.72	.37	5.65	3.73
Depressed Mood	.80	.76	.39	4.70	4.17
Social Avoidance	.83	.83	.61	4.80	4.68
General Anxiety	.83	.78	.39	6.05	4.49
Compulsive Behavior	.77	.82	.62	2.61	2.71
Total scale	—	.81	.48		

Esbensen et al. (2003, p. 624).

2.3. Participants

The sample size consisted of 30 adults (over 18 and including both males and females) who have been diagnosed with the intellectual disability (ID) and they are in receipt of support from a service developed for people with ID. The diagnoses and determination of ID level was made on the basis of participants existing records and current presentation.

A power analysis, conducted with G power software, showed that a sample of 24 would be sufficient for a repeated measured *t*-test to detect a significant effect size of $d = 0.7$ (Faul et al., 2007). Our study was, therefore, adequately powered since it was conducted on 30 participants.

Following inclusion/exclusion criteria were used to help services identify potential participants.

2.4. Inclusion criteria

- Participants were over the age of 18.
- Participants who had a mild and moderate intellectual disability.
- Participants with experiential, emotional, psychiatric, and behavioural problems.
- Participants who have given informed consent.
- Participants with verbal ability required to engage in therapeutic interaction.

2.5. Exclusion criteria

- Individuals with active psychosis.
- Individuals with degenerative diseases (i.e., dementia) and neurological disorders (i.e., epilepsy), medical conditions, which impact the behaviour (i.e., mitochondrial disease and tuberous sclerosis)
- People who were on antipsychotic medicines for mental health reasons.
- Individuals who did not give informed consent
- Individuals with severe and profound intellectual disability.
- Individuals with poor receptive and expressive speech to consent and participate in the study.

Table 2 shows that we recruited 30 participants for this study. The oldest participant was 70 years old and the youngest was 18 years old.

2.6. Therapeutic structure

The Eidetic Model of Growth (EMG) offers a tailor-made therapeutic intervention, which in essence is a person-centred approach, and takes each individual's situation, the environment, personal preferences, and history into account to draw interventions.

Therapeutic discourse strives to locate experiential reason of presenting problems. Figure 3 describes the therapeutic structure in two

Table 2. Descriptive information of participants.

Number of Participants	Mean Age	Male/Female	Mild ID/Mod ID	Mean of Pre-Therapy ADAMS Score	Mean of Post-Therapy ADAMS Score	Mean Number of Sessions
30	35.33 SD = 13.52	18/12	17/13	28 SD = 12.25	7.5 SD = 5.18	9.30 SD = 3.78

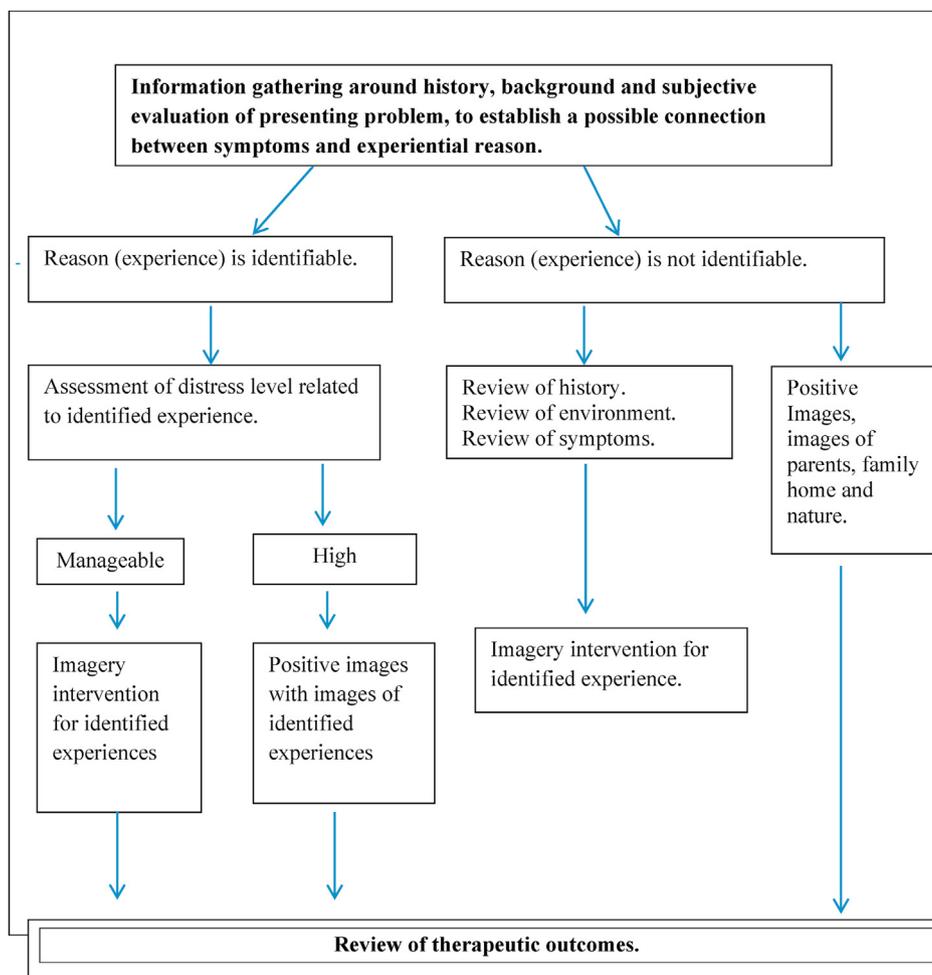


Figure 3. The therapeutic structure employed.

possible scenarios, if the reason is known or when it is unknown to the participant.

After a clinical assessment, and review of the individual's history, those distressing experiences were identified which either the client considered or therapist assessed as the possible reason for the participant's presenting problems, i.e., trauma, death or loss. The distress level attached to such experiences was carefully evaluated. The exposure to experiential imagery relevant to the presenting problem was carefully assessed and cautiously monitored. Eidetic psychotherapy offers a mechanism to manage the distress level during the therapeutic process (Dolan, 1997). Once the therapeutic image related to a particular distressing experience was detected, the participant was then instructed to visualize it during the session under the supervision of therapist. Once the participants were able visualize the image of a particular experience with a level of ease, only then was that image given as a therapeutic assignment. At this point, the frontline staff was instructed to support the therapeutic process. They were instructed to give reminders to the participant of doing therapeutic assignments and to monitor their distress level.

The therapist also monitored the distress level and therapeutic outcomes to measure the individual's progress through the process of intervention.

The decision about termination of therapy was made only after reaching a consensus among the client, caregiver and therapist.

2.7. Assessment

Anxiety, Depression, and Mood Scale (ADAMS) developed by Esbensen et al. (2003) was administered to 30 participants to assess the nature and severity of presenting problems.

2.7.1. Assessment measure

The Anxiety Depression and Mood Scale (ADAMS) was developed by Esbensen et al. (2003) to assess symptoms of anxiety, depression, social avoidance, manic/hyperactive behavior and obsessive-compulsive behavior in people with intellectual disability (ID). It has 28 items on which a staff or a parent rates the individual's presentation of mood and behaviour.

In the current study, the ADAMS has been administered by the Key Worker before the commencement of therapeutic intervention. It was re-administered after every 5th session and once after the therapeutic work was terminated.

2.8. Procedure

2.8.1. Data collection

The services for people with ID in the region were contacted for the recruitment of participants. The services were requested to identify people with ID who meet the screening, inclusion and exclusion criteria and have experiential, emotional, psychiatric and behavioural problems. The services (in consultation with the professionals involved in individuals care, Key Workers and Program Managers) were requested to evaluate the potential participants based on the above mentioned criteria and to seek consent from them. After the consent was given the frontline staff preferably the key workers and family members were contacted to get information about the presenting problem. The Anxiety, Depression, and Mood Scale (ADAMS; Esbensen et al., 2003) for individuals with ID was administered before the first therapeutic session by the same staff. The same staff also administered ADAMS after every fifth session and once the therapy has been terminated.

The sessions were conducted at the day services of participants mainly because they were familiar with the venue.

2.8.2. Distress protocol

To monitor a less likely event of distress developed due to the surfacing of traumatic experiences from past, the following distress protocol was developed for current study.

- In case a distress was noticed, the staff/Key Worker should report to the researcher, straight away.
- The required therapeutic support was available to the particular participant by the researcher.
- In case of participants' refusal to continue receiving therapeutic support from the researcher, another psychologist was taken on board to help the participant in overcoming the distress caused by past experience.

No participant has reported or observed distressed due to the therapeutic interaction.

Table 3 provides information about the ages, gender, presenting problems, scores on ADAMS at different intervals, and numbers of sessions 30 participants have received. The mean number of sessions received by the participants was 9.3 (SD = 3.78).

Table 3 also shows the nature of presenting problems of 30 participants. More common experiential reason identified was bereavement. Out of 30, 13 (43%) participants have related their problems with death in their families. Other than these 13 participants, bereavement was found to be an issue with five other participants. After that, attachment

Table 3. Participants' age, gender, experiential reason, scores on ADAMS at baseline, after every 5th session and at the end of therapy and total number of sessions each participant received (N = 30).

	Age	G	Exp. reason	Scores on ADAMS						Sessions
				1	2	3	4	5	Last	
1	32	M	S Abuse	27	5	5	3	0	3	22
2	70	F	Ber & Att	12	1				3	11
3	32	M	Ber	37	16	12	2		3	16
4	34	F	Ber. & Break up	20	2				1	8
5	33	M	Ber	22	29	12			10	8
6	55	F	Ber	12	8				4	9
7	20	M	Anger	22	14				9	9
8	20	M	Gen. Anx	38	17				11	8
9	25	M	Att.	8	13				7	10
10	43	M	Ber	40	13				10	9
11	21	M	Gen Anx & Att.	22	16				12	9
12	18	M	Ber	42	20				21	10
13	22	M	Ber	21	6				6	7
14	32	M	Ber.	41	21				11	5
15	27	F	Ber.	35	5				4	6
16	24	F	Ber.	41	25				13	6
17	48	F	Att.	33	28				1	8
18	33	M	Accident	31	32				5	8
19	33	M	Ph Abuse	39	8				7	9
20	21	M	Att.	33	17				3	7
21	38	M	Att.	42	28				5	8
22	38	M	Anger	17	24				9	9
23	29	M	Ber.	27					2	5
24	52	F	Ber.	24					20	5
25	24	M	Ber.	20					4	5
26	26	F	Ber.	63	9				5	8
27	55	F	Ber. & S. Abuse	23	23	17			11	15
28	40	F	Att.	16	13				9	14
29	48	F	Ber. & Att.	12	22	14			9	15
30	68	F	Ber. & Att.	20	9				7	10

Note: M = Males (N = 18), F = Females (N = 12). Exp.reason = experiential reason for presenting problems. Att. = attachment problems, Ber = Bereavement. Gen. Anx = generalized anxiety, S. Abuse = sexual abuse. P Abuse = Physical abuse.

Table 4. Mean and standard deviation of pre-therapy and post-therapy scores of participants on ADAMS (N = 30).

Variables	F(%)	Minimum	Maximum	M	SD
Pre-therapy scores		8	63	28	12.23
Post-therapy scores		1	21	7.50	4.92
Total No. of Sessions		5	22	9.3	3.78
5 to 8 sessions	15 (50%)				
9 to 12 sessions	10 (33%)				
13 to 16 sessions	4(13.3%) 1 (3.3%)				
22					

(lack of contact with family members or institutionalization at early stages of life) was reported (5 participants, 16.66%) as the most prevalent issue.

3. Results

Table 4 shows the pre-therapy and post-therapy mean scores of participants on ADAMS. It also shows that half of the participants needed 5 to 8 sessions for the required therapeutic outcome.

The paired-sample *t*-test (within-subject design/repeated measure design) was carried out to investigate the difference between pre and post-therapy scores of participants on the ADAMS and its subscales.

To find the answer to our research question we compared pre-therapy and post-therapy scores of participants on the ADAMS and its five subscales.

Table 5 shows the results of paired samples *t*-test, which was employed to compare the pre and post therapy scores of participants on ADAMS. Result showed a statistically significant decrease in total scores from pre-therapy ($M = 28.00, SD = 12.23$) to post-therapy ($M = 7.50, SD = 4.9$), $t(29) 8.45, p < .001$. The mean decrease in scores was 20.5 ($SD = 7.07$) with a 95% confidence level and 5% alpha value. The Cohen's *d* statistic was calculated using the following formula suggested by Lakens (2013).

$$\text{Cohen } d = t/\sqrt{n}$$

The calculated effect size was 1.54, which is considered as large (Lakens (2013).

Similar outcomes were evident through the statistical analyses of pre-therapy and post-therapy scores on the five subscales of ADAMS with large effect sizes. However, on the subscale of General Anxiety the

difference was bigger ($M = 2.40, SD = 2.10$) $t(29), p < .001$ with large effect size of 1.50) than the rest of other subscale (Table 5).

A one-way repeated measures ANOVA was conducted to compare scores on the ADAMS before therapy commenced, after the 5th session, and at the end of therapy (Table 6). We adopted Wilk's Lambda multivariate test method of conducting the one way repeated measures ANOVA, which revealed a significant effect (.24, $F(2, 28) = 42.91, p < .001$) of therapeutic work based on eidetic imagery.

The analysis revealed that therapeutic work elicited a major reduction in ADAMS scores from pre-therapy assessment ($M = 28, SD 12.22$) to 5th therapeutic session ($M = 15, SD = 8.97$) which was statistically significant ($p < .001$). Moreover, post-therapy assessment, ADAMS score had been further reduced ($M = 7.50, SD = 4.91$) which was also statistically significantly different to pre-therapy assessment ($p < .001$) and assessment after 5th therapeutic session ($p < .001$). Therefore, we can conclude that a short-term therapeutic program (5 sessions) can also elicit statistically significant major reduction in ADAMS scores as the most evident therapeutic outcome was observed in 5 sessions. This is further confirmed in Table 6 and Figure 4.

Figure 4 shows more reduction has been recorded between the mean of pre-therapy scores of ADAMS ($M = 28, SD = 12.22$) and after 5th session ($M = 15, SD = 8.97$; with mean difference of 13) than between scores after 5th session and post-therapy scores ($M = 7.50, SD = 4.91$; with mean difference of 6.5) of participants on ADAMS.

Table 5 and Figure 4 show the swiftness of therapeutic outcomes. A major reduction in scores of ADAMS has happened in first five session (Table 6). This reduction is bigger than the reduction recorded in ADAMS afterwards. The results show a promising and fast acting potential of therapeutic techniques of EMG to generate therapeutic response in people with ID with large effect size (see Table 6).

Table 5. Paired sample *t*-test for ADAM and its subscales (N = 30).

Variables	Pre-therapy Assessment		Post-therapy Assessment		<i>t</i> (29)	<i>p</i>	95% CI 5% α		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
Man/Hyper Beh	5.77	3.42	1.87	2.03	5.75***	.000	2.51	5.29	1.04
Depressed Mood	6.07	4.59	1.47	1.52	5.63***	.000	2.93	6.27	1.02
Social Avoidance	4.60	4.36	1.27	2.18	4.94***	.000	1.95	4.71	0.90
General Anxiety	8.63	3.98	2.40	2.10	8.27***	.000	4.69	7.77	1.50
Obs. Com. Bhvr.	2.80	2.68	.77	1.25	4.85***	.000	1.18	2.90	0.88
Total	28.00	12.23	7.50	4.92	8.45***	.000	15.76	25.24	1.54

Note. ADAMS = Anxiety, Depression, and Mood Scale. Man/Hyper Beh = Manic, Hyperactive Behavior. Obs. Com. Bhvr. = Obsessive Compulsive Behavior. *** $p < .001$.

Table 6. One way ANOVA to show the difference in scores on the ADAMS at three different points of therapy.

	N	M	SD
First Assessment (Pre-assessment)	30	28.00	12.22
Second Assessment (Assessment after 5th session)	30	15.00	8.97
Final Assessment (Post-assessment)	30	7.50	4.91

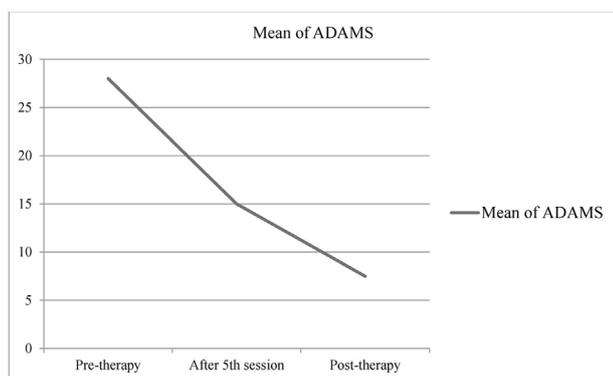


Figure 4. Difference in scores of ADAMS at three different points of therapy.

3.1. Fidelity

Fidelity in studies to establish the evidence for psychotherapy “refers to the extent to which the intervention delivered in a study is true to the underlying therapeutic principles on which it is based” (Parham et al., 2011, p. 133). In this study we did not use any objective measure to assess the treatment fidelity. However, therapeutic structure described in Figure 3 was strictly adhered to.

3.2. Acceptability

The acceptability of treatment is assessed through *all-cause discontinuation* (Zhou et al., 2015). In the current study only two participants discontinued the therapy before the termination was decided. One participant refused to attend after the first session of information gathering, while the second one was dropped for not meeting with inclusion/exclusion criteria of study protocol.

4. Discussion

Professionals are reluctant to offer psychotherapy to people with intellectual disability (ID) due to their perceived inability to address emotional, experiential and mental health problems (Pehl, 2007). This reluctance is known as *therapeutic disdain* (Raffensperger, 2009). Such reluctance seems to be rooted in two reasons. Firstly, cognitive impairment and other limitations in people with ID, which make therapeutic work unsuccessful for them. Secondly, the scarcity of suitable models of psychotherapy is the reason for the ineptness of therapeutic work for people with ID (Prout and Strohmer, 1995). The results of current study raised insights around both of these issues. The ability of people with ID and qualification for psychotherapy, both are noteworthy outcomes of this study. Particularly, the significant difference in pre-therapy and post-therapy scores on the ADAMS with large effect size suggests promising clinical utility of eidetic imagery based therapy and confirms the qualification of people with ID for psychotherapy. At the same time, the mean of number of sessions (9.3 ($SD = 3.78$)) in this study in comparison with two studies conducted by McGillivray and Kershaw (2015); and McGillivray et al. (2013) where the mean of number of sessions was 12. This comparison reflects the swiftness with which eidetic imagery-based therapeutic techniques may work for people with ID. In comparison with these studies, the current study offered individual therapeutic sessions and the number of sessions was contingent upon the emergence of the desired outcome. At the same time during the course of therapy we did not have to face any of the deficits in people with ID around pre-requisites for therapy mentioned by Flynn (2012). He included abilities to communicate, a capacity to have some level of insight into one's psychological difficulties, memory, and the ability to execute therapeutic assignments as pre-requisites to receiving therapy. Since

people with ID have been known for lacking many of these abilities that is why therapists did not consider people with ID as suitable for psychotherapy (O'Driscoll, 2009). During the course of current study, we did not encounter any of these difficulties. A possible reason for such an outcome can be attributed to its minimum reliance of eidetic psychotherapy on cognitive potential of participants.

Szymanski (1980) was among the first ones who recognized the emotional problems of people with ID and asserted the need for psychotherapy to address them. The results of this study provide evidence of both of Szymanski's notions. The results provide evidence that people with ID suffer from emotional and experiential problems and they can be supported through psychotherapy to overcome them. At the same time, the results reveal how these issues are generally ignored. Of the thirty participants, 13 were suffering from bereavement-related problems. Families, organizations and professionals generally do not attempt to address bereavement related problems of people with ID because it is thought that they are unable to comprehend the concept of death (Meeusen-van de Kerkhof et al., 2006).

The nature of presenting problems of participants of the current study confirmed the prevalence of emotional problems and fallacious practises of ignoring them by the caregivers, as well. The results also confirmed the ability of people with ID to receive and respond to psychotherapy to overcome bereavement related problems.

4.1. Eidetic imagery-based psychotherapy

The triple code of eidetic image; the ISM (I = image, S = soma, body, M = meaning, cognition) as defined by Ahsen (1987) places cognition at the least important position. That is why eidetic therapy rely less on cognitive potential. The results of the current study indicate a phenomenological aspect of eidetic imagery, which can function therapeutically for people with cognitive impairment. The results of this study further confirmed that people with ID are not only able to experience different types of imagery despite the cognitive impairment but can benefit from the (therapeutic) function of it, as well.

4.2. Limitations

This is the first study which empirically identified the therapeutic potential of eidetic imagery for people with ID. This study empirically evaluated therapeutic potential of eidetic imagery. This way it also has provided evidence for the existence and advantages of eidetic imagery for people with ID.

4.2.1. Design

A randomized controlled trial (RCT) is considered a better way to assess the efficacy of a therapeutic model. However, in the domain of psychotherapy for people with ID only a small number of RCTs have been conducted (Vereenooghe and Langdon, 2013).

4.2.2. Follow-up

Another limitation was that the study did not carry out follow up assessments after a certain period of time. They were not conducted because the current study was designed to investigate the potential therapeutic utility - not the efficacy - of therapeutic techniques based on Eidetic Psychotherapy.

4.2.3. Sample

Vereenooghe and Langdon (2013) identified in their systematic review and meta-analysis that half of the studies they reviewed have reported the IQ of the participants as above 65, which indicates that the therapy was provided to people at the upper range of mild ID. Only two studies in their meta-analysis included people with severe disability. Osugo and Cooper (2016) in their systematic review included only those studies of intervention which were conducted on people with mild ID (IQ

50–69). Whereas, Koslowski et al. (2016) covered a wider range than Vereenoghe and Langdon (2013) and Osugo and Cooper (2016), they included studies conducted on people with mild to moderate intellectual disabilities (IQ score 35–69). Similarly, this study did not include people with severe ID.

4.2.4. IQ assessment

The current study did not assess the IQ of the participants. We relied on the IQ assessments of participants that had been conducted in the past. To assess the role of intellectual functioning as a covariate in the therapeutic outcome it would have been helpful to calculate the correlation between IQ and therapeutic response. Both Koslowski et al. (2016) and Osugo and Cooper (2016) did not include any study in which IQs of participants was not assessed. We did not assess participants' IQ, however the referring Manager had considered the IQ assessment of potential participants from the available record to ascertain their ID level.

4.2.5. Interrater reliability of ADAMS

The ADAMS was administered to participants by their key workers. In such a situation determining the interrater reliability would have been helpful.

4.3. Practical implications

To provide evidence-based psychological practices, the American Psychological Association (American Psychological Association, 2005) provided a list of categories of evidence to judge the efficacy of psychotherapy. The list includes, clinical observation (including individual case studies), qualitative research, systematic case studies, single-case experimental designs, public health and ethnographic research, process-outcome studies, studies of interventions as these are delivered in naturalistic settings (effectiveness research), RCTs and meta-analyses. The evidence-based therapies as described by the American Psychological Association (2005) for people with ID are very small in number (Flynn, 2012) and lack theoretical orientation (Vereenoghe and Langdon, 2013). The evidence this study belongs to the category of "process-outcome" as described by the American Psychological Association (2005). Evidently the results defined eidetic imagery as a process which helps people with ID to assimilate information and remember their experiences. The results also confirmed the notion of eidetic psychotherapy, which suggests revisiting (or visualizing) the experiential imagery is therapeutic (Ahsen, 1984). This is same therapeutic process which was later called as "imaginal reliving" by Ehlers et al. (2005). Both theoretically and practically the above mentioned functions of eidetic imagery open avenues for further exploration to use it for learning enhancement and therapeutic support to people with ID. The swiftness with which the desired outcome was produced (Table 5 and Figure 4) might be helpful for the services to evolve a support mechanism based on eidetic imagery to help people with ID in dealing with the day-to-day stressors, learning new tasks and developing future plans. Such a therapeutic system may be more helpful in a situation where the availability of qualified professionals is scarce to support people with ID.

4.4. Suggestions for future research

Based on the outcomes of this study the following directions can be suggested for future studies.

The researchers attempted to identify and utilize the functions of imagery for the betterment of people with ID. They found an effective role of imagery in enhancing motor performance and learning in people with ID (Surburg et al., 1995; Screws and Surburg, 1997; De La Iglesia, Buceta, and Campos, 2005; and Carmen et al., 2005). However, the potential therapeutic functions of any type of imagery for people with ID have not been attempted by anyone before Ahsen (1993). He identified the role of eidetic imagery in learning and therapy for people with ID (Ahsen, 1993, 2008). The current study identifies a potential role of

eidetic imagery in people who have cognitive deficits. This outcome also raises a major question around role of cognitive abilities needed to produce successful therapeutic outcomes.

Future studies may focus on the efficacy of eidetic imagery-based models of psychotherapies through randomized controlled trials (RCTs). Another possible domain for future research which the EMG (Syed, 2012) has highlighted is the use of eidetic imagery in increasing the participation of people with ID in skill enhancing activities.

Ahsen (1993, 2008), Hochman (1995), and Syed (2012) highlighted the potential of eidetic imagery in learning, in evolving constructive interaction with the environment, and in resolving interpersonal issues other than its therapeutic utility. Our literature review confirmed that these avenues are still untapped in empirical studies on ID. They can be further explored empirically.

5. Conclusion

The results suggest that therapeutic techniques based on eidetic imagery have a potential utility for people with intellectual disability (ID). The effect size ($d = 1.54$) we calculated was large with a significant difference between pre-therapy and post-therapy scores of people with ID on the Anxiety Depression and Mood Scale (ADAMS).

The mean of number of sessions required to produce the desired therapeutic outcomes was 9.30. It was less than the mean of number of session reported in other studies. The results revealed the promising potential of imagery-based therapeutic techniques and their possible role in supporting people with ID. The IQ of participants was not assessed, people with severe ID were not included in the sample were the two major limitations of the study. Despite these limitations, the findings of the current study indicate the therapeutic potential of eidetic imagery techniques as adapted in the Eidetic of Growth and suggest new insights into using imagery for people with ID.

Declarations

Author contribution statement

A. A. Syed: Conceived and designed the experiments; Performed the experiments; Analysed and interpreted the data; Wrote the paper.

S. Neelofur. Contributed reagents, materials, analysis tools or data; Wrote the paper.

A. Moran, G. O'Reilly: Conceived and designed the experiments; Wrote the paper.

Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing interest statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

References

- Ahsen, A., 1968. Basic Concepts in Eidetic Psychotherapy. Eidetic Publishing House, New York.
- Ahsen, A., 1977. Psyche: Self-Analytic Consciousness. Brandon House, New York.
- Ahsen, 1984. Imagery, drama and transformation. *J. Ment. Imagery* 8 (1), 139–168.
- Ahsen, A., 1993. Learning Ability and Disability: an Image Approach. Brandon House, New York.
- Ahsen, A., 1987. Image Psychology and the Empirical Method. Brandon House, New York.
- Ahsen, A., 2008. Autism: the Picture Approach. Brandon House, New York.

- Alimovic, S., 2013. Emotional and behavioral problems in children with visual impairment, intellectual and multiple disabilities. *J. Intellect. Disabil. Res.* 57 (2), 153–160.
- Allport, G.W., 1924. Eidetic imagery. Retrieved from. <http://www.readcube.com/articles/10.1111/j.2044-8295.1924.tb00168.x>.
- American Psychological Association, 2005. *Presidential Task Force On Evidence Based Practice. Policy Statement on Evidence-Based Practice in Psychology*. Retrieved from. <http://www.apa.org/pubs/journals/features/evidence-based-statement.pdf>.
- Beail, N., 2016. *Psychological Therapies and People Who Have Intellectual Disabilities*. Retrieved from. https://www1.bps.org.uk/system/files/Public%20files/id_therapies.pdf.
- Bender, M., 1993. The unoffered chair: the history of therapeutic disdain towards people with a learning difficulty. *Clin. Psychol. Forum* 54, 7–12.
- Carmen, J., Iglesia, D.L., Buceta, M.J., Campos, A., 2005. Prose learning in children and adults with Down syndrome: the use of visual and mental image strategies to improve recall. *J. Intellect. Dev. Disabil.* 30 (4), 199–206.
- De La Iglesia, J., Buceta, M.J., Campos, A., 2005. Prose learning in children and adults with Down syndrome: the use of visual and mental image strategies to improve recall. *J. Intellect. Dev. Disabil.* 30 (4), 199–206.
- Dolan, A.T., 1997. *Imagery Treatment of Phobias, Anxiety States and Other Symptom Complexes*. Brandon House, New York.
- Ehlers, A., Clark, D.M., Hackmann, A., McManus, F., Fennell, M., 2005. Cognitive therapy for post-traumatic stress disorder: development and evaluation. *Behav. Res. Ther.* 43 (4), 413–431.
- Esbensen, A.J., Rojahn, J., Aman, M.G., Ruedrich, S., 2003. The reliability and validity of an assessment instrument for anxiety, depression and mood among individuals with mental retardation. *J. Autism Dev. Disord.* 33, 617–629.
- Faul, F., Erdfelder, E., Lang, Buchner, A., 2007. G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav. Res. Methods* 39 (2), 175–191.
- Flynn, A.G., 2012. Fact or faith?: on the evidence for psychotherapy for adults with intellectual disability and mental health needs. *Curr. Opin. Psychiatr.* 25 (5), 342–347.
- Hassiotis, A., et al., 2003. Manualised individual cognitive behavioural therapy for mood disorders in people with mild to moderate intellectual disability: A feasibility randomised controlled trial. *J. Affect. Disorders* 151 (1), 186–191.
- Hochman, J., 1995. *The Image Psychology of Akhter Ahsen*. Dastavez, Lahore.
- Hulbert-Williams, L., Hastings, R.P., 2008. Life events as a risk factor for psychological problems in individuals with intellectual disabilities: a critical review. *J. Intellect. Disability Res.* 52 (11), 883–895.
- Irvine, M., Beail, N., 2016. Identifying and meeting the emotional and mental health needs of people who have intellectual disabilities through psychological therapies. In: Beail, N. (Ed.), *Psychological Therapies and People Who Have Intellectual Disabilities*, pp. 15–24. Retrieved from. https://www1.bps.org.uk/system/files/Public%20files/id_therapies.pdf.
- Jahoda, A., Melville, C.A., Pert, C., Cooper, S.-A., Lynn, H., Williams, C., Davidson, C., 2015. A feasibility study of behavioural activation for depressive symptoms in adults with intellectual disabilities. *J. Intellect. Disability Res.* 59 (11), 1010–1021.
- Koslowski, N., Klein, K., Arnold, K., Kösters, M., Schützwohl, M., Salize, H., Puschner, B., 2016. Effectiveness of interventions for adults with mild to moderate intellectual disabilities and mental health problems: Systematic review and meta-analysis. *Br. J. Psychiatry* 209 (6), 469–474.
- Lakens, D., 2013. Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for *t*-tests and ANOVAs. *Front. Psychol.* 4 (863), 1–12.
- McGillivray, J.A., Kershaw, M., 2015. Do we need both cognitive and behavioural components in interventions for depressed mood in people with mild intellectual disability? *J. Intellect. Disabil. Res.* 59 (2), 105–115.
- McGillivray, J.A., McCabe, M.P., Kershaw, M.M., 2013. The impact of staff initiated referral and intervention protocols on symptoms of depression in people with mild intellectual disability. *Res. Dev. Disabil.* 34 (2), 730–738.
- Meusen-van de Kerkhof, R., van Bommel, H., van de Wouw, W., MaaskantM, 2006. Perceptions of death management of grief in people with intellectual disability. *J. Pol. Pract. Intellect. Disabil.* 3 (2), 95–104.
- O'Driscoll, D., 2009. *Psychotherapy and intellectual disability*. In: Cottis, T. (Ed.), *Intellectual Disability, Trauma and Psychotherapy*. Routledge, London, pp. 9–28.
- Osugo, M., Cooper, S.-A., 2016. Interventions for adults with mild intellectual disabilities and mental ill-health: a systematic review. *J. Intellect. Disabil. Res.* 60, 6.
- Parham, L.D., et al., 2011. Development of a fidelity measure for research on the effectiveness of the Ayres sensory integration intervention. *Am. J. Occup. Ther.* 65 (2), 133–142.
- Pehl, J., 2007. *An exploration of the therapist's experience of psychodynamic psychotherapy with learning disabilities. A Doctoral Thesis in Clinical Psychology Submitted to. The University of Sheffield*. Retrieved from. <http://etheses.whit.ac.uk/3623/1/485122.pdf>.
- Prout, H.T., Browning, B.K., 2011. Psychotherapy with persons with intellectual disabilities: a review of effectiveness research. *Adv. Ment. Health Intellect. Disabil.* 5 (5), 53–59.
- Prout, H.T., Strohmmer, D.C., 1995. Counseling persons with mental retardation: issues and considerations. *J. Appl. Rehabil. Counsel.* 26 (3), 49–54.
- Raffensperger, M., 2009. Factors that influence outcomes for clients with an intellectual disability. *Br. J. Guid. Counsell.* 37 (4), 495–509.
- Screws, D.P., Surburg, P.R., 1997. Motor performance of children with mild mental disabilities after using mental imagery. *Adapt. Phys. Act. Q. (APAQ)* 14 (2), 119–130.
- Surburg, P.R., Porretta, D.L., Sutlive, V., 1995. Use of imagery practice for improving a motor skill. *Adapt. Phys. Act. Q. (APAQ)* 12 (3), 217–227.
- Silvestri, R., 1977. Implosive therapy treatment of emotionally disturbed retardates. *J. Consult. Clin. Psychol.* 45 (1), 14–22.
- Syed, A.A., 2012. A way to grow: eidetic model of growth in people with intellectual disability. *J. Ment. Imagery* 36 (3 & 4), 1–32.
- Szymanski, L.S., 1980. *Individual psychotherapy with retarded persons*. In: Szymanski, L.S., Tanguay, P.E. (Eds.), *Emotional Disorders of Mentally Retarded Persons*. University Park Press, Baltimore, MD, pp. 131–148.
- Taylor, J.L., Lindsay, W.R., Willner, P., 2008. CBT for people with intellectual disabilities: emerging evidence, cognitive ability and IQ effects. *Behav. Cognit. Psychother.* 36, 723–733.
- Van den Hout, M., Arntz, A., Merckelbach, H., 2000. Contribution of psychology to the understanding of psychiatric disorders. In: Gelder, M.G., Lopez-Ibor Jr., J.J., Andreasen, N.C. (Eds.), *New oxford Textbook of Psychiatry*. Oxford University Press, Oxford, pp. 277–292.
- Vereenoghe, L., Langdon, P.E., 2013. Psychological therapies for people with intellectual disabilities: a systematic review and meta-analysis. *Res. Dev. Disabil.* 34, 4085–4102.
- Zhou, X., et al., 2015. Comparative efficacy and acceptability of psychotherapies for depression in children and adolescents: a systematic review and network meta-analysis. *World Psychiatr.* 14 (2), 207–222.