Qualitative Assessment of Patient-Perceived Impact of ADHD in Adults

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Background

Attention Deficit/Hyperactivity Disorder (ADHD) is a common neurobehavioral condition that is estimated to affect between 2.5% and 5% of adults in the US (APA 2013, Barkley 2007). Although originally conceptualized as a childhood disorder, between one half and two-thirds of children with ADHD have the disorder persist into adulthood. Lifetime ADHD is associated with tremendous stress to families, adverse academic and vocational outcomes, and financial burden (Biederman 2005). Additionally, up to 31% of adults with ADHD are also diagnosed with depression (Goodman 2009). Although the impacts of ADHD have been characterized in adults, the consistency of ADHD impacts in the presence of depressive symptoms is not as well understood and may present a challenge to the accurate diagnosis of both conditions.

Aims

To characterize and compare patient-perceived impacts on the lives of adults diagnosed with ADHD with and without depressive symptoms.

Methods

Study population

This study targeted a non-probability (convenience) sample of patients with a diagnosis of ADHD according to the DSM-5 criteria to capture diverse treatment experiences.

- Adults (aged 18-55 years) with a current DSM-5 diagnosis of ADHD and: (1) had not been medically treated for ADHD within one month of enrollment; or (2) are currently treated with lisdexamfetamine dimesylate (LDX), or have discontinued LDX treatment within 2 weeks of enrollment; or (3) are currently being treated with Adderall extended release (AXR), or have discontinued AXR treatment within 2 weeks of enrollment.
- Patients with a recent (12-month) history of clinically significant drug or alcohol abuse or dependence were excluded

Study activities

Study participants were identified by research staff at four different clinical sites in the US (Alabama, Nevada, and 2 sites in Illinois). Participants were screened for eligibility, enrolled, and scheduled for interviews. Screening and enrollment was conducted at each site by clinical staff members who were experienced in the diagnosis and treatment of ADHD.

- Demographic information, the Adult ADHD Self-report Scale (ASRS-v1.1), and the Patient Health Questionnaire (PHQ-9) depression scale were completed at enrollment.
- Relevant health information was reported by a study clinician.
- Patients who completed the enrollment visit were scheduled for an interview session on a pre-determined day when HRA interviewers who were trained in the Concept Elicitation process would be at the site.

Concept elicitation interviews

A total of 60 interviews were conducted with patients having a diagnosis of ADHD. Interviewers used semi-structured interview guides designed to obtain both spontaneous and prompted patient input about the impacts of ADHD. All interview sessions were audio-recorded and transcribed.

Examples of open-ended questions for patients were constructed like the examples below:

A. When you were first diagnosed with ADHD, what was happening at that time?

B. Was there anything in particular that led you to seek care?

C. What do you experience now that you feel is related to your ADHD?

D. Can you describe the areas of your life where you're most aware of ADHD?

E. How have any challenges changed for you (gotten easier or gotten more difficult) since you were diagnosed with ADHD and started treatment?

Analysis

- Depressive symptoms: Because there is a potential for some of the symptoms of ADHD to overlap with depression, the study sample was divided into two different groups for analysis: those with PHQ-9 scores ≥10 (indicating current moderate to severe depressive symptoms) and those with PHQ-9 scores <10, indicating current low depressive symptoms.
- Coding: All transcripts were coded using Atlas.ti software for the management of the assigned concept codes. The primary goal of transcript coding was to organize and catalog patient descriptions of their ADHD-related symptom impacts. Coded concepts were grouped by similar content to support content analysis. Comparisons of concept reporting were made between the ADHD groups with and without depression. Saturation of concept was assessed and demonstrated in groups as the point where no new information was gained.

Results

- A total of 60 subjects participated in the concept elicitation interviews. At the time of enrollment:
  - 10 patients were not pharmacologically treated for ADHD;
  - 25 subjects were currently prescribed or had recently discontinued LDX;
  - 24 were currently prescribed or had recently discontinued AXR;
  - 1 subject was currently prescribed both LDX and AXR.
- Transcript coding yielded 963 patient expressions about the different impacts of ADHD that patients experienced. Saturation of concept was achieved within the first 30 interviews.
- Most patients (60%) reported sleep-related impacts, with the most predominant concept being reduced sleep quality (45%).

Overall patient-perceived ADHD impacts:

Fifty-six patients (93%) reported experiencing ADHD-related functional limitations.

- Predominant functional impacts were problems at **school** (62% of patients) and **work** (53%).

Fifty-two subjects (87%) reported emotional impacts

- Emotional impacts included **altered relationships** (47%), **frustration** (42%), and **feelings of anxiety** (38%).

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Table 1: Demographic Characteristics of Participants

		TOTAL N = 60 (100%)
Age (Years):	Mean (SD)	35.8 (10.6)
Gender:	Male	26 (43.3%)
Marital status:	Married or Living as Married	27 (45.0%)
	Other	8 (13.3%)
	Never Married	25 (41.7%)
Highest Level of Education Completed:	Less than High School	1 (1.7%)
	High School	15 (25.0%)
	Some College	22 (36.7%)
	Bachelor's Degree	16 (26.7%)
	Graduate or Professional School	6 (10.0%)
Current Employment Status:	Employed full-time for wages	22 (36.7%)
	Employed part-time for wages	9 (15.0%)
	Self employed	6 (10.0%)
	Out of work for more than 1 year	2 (3.3%)
	Out of work for less than 1 year	4 (6.7%)
	Homemaker	6 (10.0%)
	Student	8 (13.3%)
	Other	3 (5.0%)
Household income:	Under $5,000	3 (5.0%)
	$5,000 to $9,999	3 (5.0%)
	$10,000 to $14,999	2 (3.3%)
	$15,000 to $24,999	8 (13.3%)
	$25,000 to $34,999	5 (8.3%)
	$35,000 to $49,999	7 (11.7%)
	$50,000 to $74,999	8 (13.3%)
	$75,000 to $99,999	8 (13.3%)
	$100,000 and over	13 (21.7%)
	Decline to answer	3 (5.0%)
Hispanic, Latino, or Spanish Origin:		3 (5.0%)
Racial group:	White	51 (85.0%)
	Black and other	9 (15.0%)

Table 2: Clinical Characteristics of Participants

		TOTAL N = 60 (100%)
Initial ADHD diagnosis (years ago)	Mean (SD)	5.6 (7.2)
	Median	2.6
	Range	0-33
Patients have been diagnosed with Major Depressive Disorder (MDD)		24 (40.0%)
Initial MDD diagnosis (years ago)	Mean (SD)	6.6 (7.2)
	Median	4.0
	Range	0-25
Timing of ADHD/MDD diagnosis (n=24)	Patient was diagnosed with ADHD before MDD	6 (25%)
	Patient was diagnosed with MDD before ADHD	8 (33.3%)
	Patient was diagnosed with ADHD and MDD at the same time	10 (41.7%)
Patients with MDD are currently taking medication for MDD		13 (21.7%)
Patient has history of other mental or behavioral health diagnoses, not including MDD		15 (25.0%)
Patient has children who have been diagnosed with ADHD	No*	46 (76.7%)
	Yes, one child	6 (10.0%)
	Yes, more than one child	8 (13.3%)
How ADHD was diagnosed	Because of complaints of school performance	15 (25.0%)
	Because of complaints of work performance	2 (3.3%)
	Spouse/partner/other observed the ADHD issues and encouraged me to see doctor	12 (20.0%)
	I observed the ADHD issues myself and saw a doctor	23 (38.3%)
	Became aware of ADHD when my child was diagnosed	2 (3.3%)
	Other ADHD diagnosis	6 (10.0%)
ASRS-v1.1 scores	Patient has symptoms highly consistent with ADHD in adults	31 (51.7%)
PHQ-9 scores	Mean (SD)	8.4 (5.5)
	Median	8.0
	Range	0-23
	Score of 0-4 (no depression)	17 (28.3%)
	Score of 5-9 (mild depression)	19 (31.7%)
	Score of 10-14 (moderate depression)	15 (25%)
	Score of 15-19 (moderately severe depression)	7 (11.7%)
	Score of 20-27 (severe depression)	2 (3.3%)

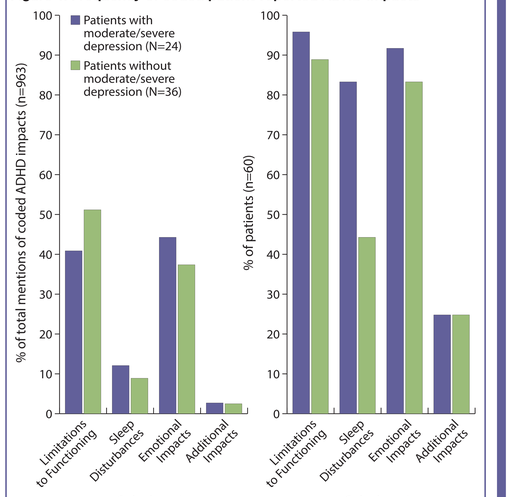
*Includes both subjects with no children and subjects whose children have not been diagnosed with ADHD.

Table 3: Frequency of coded patient-reported ADHD impacts, by depressive symptomology

	Patients with moderate to severe depression (PHQ-9 score ≥10)		Patients without moderate to severe depression (PHQ-9 score <10)	
	% of expressions* (N=479)	% of patients (N=24)	% of expressions* (N=484)	% of patients (N=36)
LIMITATIONS TO FUNCTIONING	41%		51%	
Limitations to Functioning in General	2.5%	29.2%	1.7%	19.4%
Altered Relationships	10.2%	58.3%	7.4%	38.9%
Impacts on Driving	0.6%	8.3%	1.2%	11.1%
Impacts on Housework/ Chores	3.3%	33.3%	3.3%	27.8%
Impacts on Leisure Activities	1.5%	16.7%	2.1%	11.1%
Low Productivity in General	2.5%	20.8%	4.5%	36.1%
Impacts on School	9.0%	62.5%	14.9%	61.1%
Impacts on Social Life	1.5%	16.7%	3.9%	22.2%
Impacts on Work	8.6%	50.0%	11.6%	55.6%
Other Impacts on Functioning	0.0%	0.0%	0.6%	5.6%
SLEEP DISTURBANCES	12%		9%	
Difficulty Falling Asleep	3.8%	41.7%	2.7%	19.4%
Difficulty Staying Asleep	1.7%	29.2%	2.1%	19.4%
Reduced Sleep Quality	6.5%	70.8%	3.9%	27.8%
Other Sleep Disturbances	0.2%	4.2%	0.2%	2.8%
EMOTIONAL IMPACTS	44%		37%	
Anger	1.9%	16.7%	1.9%	13.9%
Difficulty Feeling Accepted	2.5%	37.5%	2.5%	30.6%
Feels Drained/Low Energy	1.5%	12.5%	2.1%	8.3%
Embarrassment	0.4%	8.3%	0.2%	2.8%
Feelings of Anxiety	8.6%	37.5%	5.8%	38.9%
Feelings of Depression	4.4%	41.7%	2.9%	22.2%
Frustration	7.7%	41.7%	6.8%	41.7%
Guilt	0.2%	4.2%	0.6%	8.3%
Irritability/Moodiness	3.5%	37.5%	1.4%	19.4%
Negative Self-Image	4.0%	45.8%	4.1%	25.0%
Overwhelmed	5.4%	29.2%	2.3%	16.7%
Regret	0.2%	4.2%	1.0%	8.3%
Self-Consciousness	2.1%	29.2%	2.9%	16.7%
Stress	1.7%	16.7%	1.7%	13.9%
Worry	0.2%	4.2%	1.0%	13.9%
Other Emotional Impacts	0.0%	0.0%	0.2%	2.8%
ADDITIONAL IMPACTS	3%		2%	
Financial Burden	1.3%	12.5%	1.9%	16.7%
Risky Behaviors	1.5%	12.5%	0.6%	8.3%

* "Expressions" refers to individual patient expressions (mentions) of coded ADHD impacts during their interview.

Figure 1: Frequency of coded patient-reported ADHD impacts



Conclusions

- Perceived functional and emotional impacts are prevalent in adults with ADHD, including both those with and without depressive symptoms. The differences experienced between these two groups appear to vary primarily around select impacts.
- Therefore, ADHD impacts can vary in the presence of depressive symptoms, particularly sleep-related impacts.
- Healthcare professionals need to consider both ADHD and depression during assessment.

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