

Mental health literacy of ADHD among Turkish mothers: Predictors of correct identification

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Abstract

Parental mental health literacy (MHL) plays a vital role in the early recognition of Attention-Deficit/Hyperactivity Disorder (ADHD) and timely help-seeking behaviors. In Türkiye, cultural stigma, limited awareness, and misconceptions may contribute to underdiagnosis and delayed intervention. This study aimed to assess Turkish mothers' MHL regarding ADHD and to identify factors predicting accurate recognition and professional help-seeking. A total of 393 mothers of children aged 0-12 participated in an online survey. Participants responded to an ADHD vignette and open-ended questions on recognition, diagnosis, and help-seeking. Child behavior and maternal distress were assessed using the Strengths and Difficulties Questionnaire and Kessler-6. Regression analyses were conducted to determine predictors of correct ADHD diagnosis. Only 14% of participants correctly identified ADHD. Predictors of correct diagnosis included higher education, being a healthcare worker, having a younger child, greater symptom recognition, endorsement of professional help-seeking, lower parental psychological distress, and higher scores on children's behavioral-emotional difficulties. Cultural misattributions (e.g., personality traits, parenting failure) were common and linked to incorrect diagnoses. These findings underscore the importance of enhancing parental MHL through culturally sensitive educational initiatives. Public health should reduce stigma, raise ADHD awareness, and enhance support access in non-Western settings like Türkiye.

Keywords: mental health literacy, ADHD, child, parent.

Alfabetización en salud mental sobre el TDAH entre madres turcas: Predictores de la identificación correcta

Resumen

Los conocimientos sobre salud mental de los padres desempeñan un papel fundamental en la detección precoz del trastorno por déficit de atención e hiperactividad (TDAH) y en la búsqueda oportuna de ayuda. En Turquía, el estigma cultural, la escasa concienciación y los conceptos erróneos pueden contribuir al infradiagnóstico y al retraso en la intervención. El objetivo de este estudio era evaluar los conocimientos sobre salud mental de las madres turcas en relación con el TDAH e identificar los factores que predicen un reconocimiento preciso y la búsqueda de ayuda profesional. Un total de 393 madres de niños de entre 0 y 12 años participaron en una encuesta en línea. Las participantes respondieron a una viñeta sobre el TDAH y a preguntas abiertas sobre el reconocimiento, el diagnóstico y la búsqueda de ayuda. El comportamiento de los niños y el malestar materno se evaluaron mediante el Cuestionario de Fortalezas y Dificultades y el Kessler-6. Se realizaron análisis de regresión para determinar los predictores de un diagnóstico correcto del TDAH. Solo el 14 % de las participantes identificó correctamente el TDAH. Los predictores de un diagnóstico correcto incluyeron un nivel educativo más alto, ser trabajadora sanitaria, tener un hijo más pequeño, un mayor reconocimiento de los síntomas, el apoyo a la búsqueda de ayuda profesional, un menor malestar psicológico de los padres y puntuaciones más altas en las dificultades conductuales y emocionales de los niños. Las atribuciones culturales erróneas (por ejemplo, rasgos de personalidad, fracaso en la crianza de los hijos) eran comunes y estaban relacionadas con diagnósticos incorrectos. Estos hallazgos subrayan la importancia de mejorar los conocimientos sobre salud mental de los padres mediante iniciativas educativas sensibles a las diferencias culturales. La salud pública debe reducir el estigma, aumentar la concienciación sobre el TDAH y mejorar el acceso a la ayuda en entornos no occidentales como Turquía.

Palabras clave: conocimientos sobre salud mental, TDAH, niños, padres.

Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by persistent patterns of inattention, hyperactivity, and impulsivity that interfere with daily functioning and development (American Psychiatric Association [APA], 2022). ADHD is one of the most common childhood disorders, affecting approximately 5 - 7% of children worldwide (Thomas et al., 2015). In the United States, an estimated 7 million children aged 3–17 years have been diagnosed with ADHD (Centers for Disease Control and Prevention [CDC], 2023). Children with ADHD often experience academic difficulties, impaired peer relationships, emotional dysregulation, and increased risk of comorbid psychiatric disorders (Barkley, 2014). Given these challenges, early recognition and intervention are critical for improving long-term negative outcomes (Sayal et al., 2018).

Mental health literacy refers to knowledge and beliefs about mental disorders that help in their recognition, management, and prevention (Jorm, 2000). Parental MHL is particularly important for ADHD, as early recognition of symptoms facilitates timely professional intervention (Kappi & Martel, 2022). Studies suggest that parents with higher Mental Health Literacy (MHL) are more likely to recognize ADHD symptoms and seek professional help (Sciutto et al., 2016). However, low MHL and cultural misconceptions about ADHD often contribute to delayed diagnosis and treatment gaps, particularly in non-Western societies (Bisset et al., 2022; Sayal et al., 2018).

Research has shown that parents who are more knowledgeable about ADHD symptoms are more likely to pursue formal diagnoses and treatment (Sciutto, 2015). Conversely, low knowledge about ADHD symptoms contributes to misconceptions, such as interpreting ADHD-related behaviours as disciplinary issues rather than a neurodevelopmental condition (Johnson et al., 2023). This misunderstanding often results in delayed or unprofessional help-seeking, with some parents attributing symptoms to poor parenting, personality traits, or external stressors (Bussing et al., 2003; Sayal et al., 2018).

Cultural perceptions and stigma significantly shape parental MHL and help-seeking behaviors. Cross-cultural research shows that behavioural norms influence how child difficulties are interpreted; for example, Weisz et al. (1988) found that undercontrolled behaviours such as hyperactivity are viewed as more problematic in Western contexts, whereas collectivist cultures emphasize behavioural regulation and may pathologize overcontrolled behaviours. In Türkiye, ADHD symptoms are often evaluated through social or moral lenses rather than neurodevelopmental frameworks, leading parents to interpret hyperactivity as a lack of discipline and inattentiveness as laziness (Yildiz et al., 2025).

Mental health stigma further discourages parents from consulting mental health professionals, with many preferring teachers, relatives, or alternative practitioners instead (Hurley et al., 2020; Schnyder et al., 2017). These cultural tendencies contribute to delayed diagnosis and underutilization of specialized ADHD services. Supporting this, studies show that Turkish parents frequently attribute inattentiveness or impulsivity to personality traits or parenting failures rather than recognizing them as signs of a neurodevelopmental disorder (Avcı & Sak, 2021), and similar misattributions are reported across other non-Western cultures (Johnson et al., 2023). As a result, informal help-seeking and culturally shaped misinterpretations further hinder timely ADHD recognition in Türkiye.

Research indicates that parental sociodemographics significantly influence MHL and ADHD recognition. Parents with higher education levels tend to have greater awareness of ADHD symptoms, as their ability to access and understand scientific resources and information about ADHD facilitates early recognition and intervention (French et al., 2019; Li et al., 2022). Similarly, parental occupation, particularly employment in healthcare-related fields, has been linked to higher MHL with parents in medical or psychological professions more accurately distinguishing ADHD symptoms from typical childhood behaviors and seeking appropriate interventions (Davidson et al., 2022). Child age also plays a role in ADHD recognition. Parents of older children may normalize symptoms, particularly inattentiveness, as part of adolescence (Sayal et al., 2018). In contrast, younger children's developmental milestones are often more closely monitored during early childhood screenings and routine paediatric evaluations.

Parental recognition of ADHD symptoms also appears to be influenced by the severity of a child's emotional and behavioural difficulties. Children with more severe difficulties may be more likely to receive ADHD recognition from parents, as these symptoms often disrupt daily life prompting concern (Wong et al., 2025). Research suggests that parents are particularly responsive to externalizing behaviours, such as hyperactivity and impulsivity, which directly affect classroom discipline and family interactions, making them more noticeable (Johnson et al., 2023). However, children with less overt symptoms, particularly distractibility, may be overlooked unless academic difficulties become severe.

In addition, parental psychological distress may further impair symptom recognition, as high stress levels can reduce cognitive flexibility and lower awareness of ADHD-related difficulties (Fonseca et al., 2020; McRae et al., 2020). Anxiety and stress may lead parents to misattribute ADHD symptoms to external factors such as parenting practice (Wong et al., 2025). Furthermore, heightened psychological distress can result in avoidant coping strategies, where overwhelmed parents may unintentionally downplay or overlook symptoms (Malka et al., 2020).

This study is guided by Jorm's (2000) mental health literacy framework, which defines MHL as the knowledge and beliefs that help in the recognition, management, and prevention of mental disorders. Given the sociocultural context of Türkiye, a culturally informed lens was also adopted in interpreting findings, resulting in a hybrid theoretical approach.

Despite increasing global awareness of ADHD, research on ADHD-related MHL among Turkish parents remains scarce. Prior studies suggest that parental knowledge, beliefs, and sociodemographic factors can influence how symptoms are interpreted and whether professional help is sought. However, no previous research has specifically investigated the predictors of accurate ADHD identification among Turkish mothers.

This study aims to address this gap by examining ADHD-related MHL in a Turkish sample, focusing on recognition accuracy and the factors that may influence it. Specifically, the following research questions were explored:

- a. What are the levels of ADHD-related MHL among Turkish mothers?
- b. How do sociodemographic variables (e.g., parental education, parental occupation, child age) relate to ADHD-related MHL?

- c. How is parental psychological distress - particularly anxiety - associated with ADHD-related MHL?
- d. How do children's behavioural characteristics influence mothers' recognition of ADHD symptoms?

Method

Participants

Participants were mothers living in Türkiye ($n = 393$), aged between 22 and 60 years ($Mage = 42.01$, $SD = 6.61$), with most having a higher education degree. More than half of the mothers were employed in flexible, part-time, or full-time jobs, while nearly one in three were not working. A total of 43 mothers (10.9%) were healthcare workers. The mothers had children aged between 0 - 12 years ($Mage = 8.89$, $SD = 3.57$), with approximately half being girls ($n = 185$, 47.1%). Mothers' characteristics are presented in Table 1.

Table 1. Characteristics of mothers and their children (N=393)

Participant characteristics	n	%
Education status		
Primary or secondary school graduate	12	3.1
High school or 2-year college graduate	79	20.1
University or post-graduate degree	302	76.8
Employment status		
Full-time work (regular hours, 5 days a week, office-based)	169	43.0
Part-time work (hourly job, half-day job)	23	5.9
Flexible work (remote, flexible hours, hybrid)	65	16.5
Not working (unemployed, retired, disabled, on leave, homemaker)	136	34.6
Working as health worker		
Yes	43	10.9
No	350	89.1
Parents' previous help-seeking		
Yes, just for myself or my child	168	42.7
Yes, both for myself and my child	148	37.7
No	77	19.6
Child gender		
Girls	185	47.1
Boys	208	52.9

Procedure

Ethical approval for the study was obtained from the Cappadocia University Research Ethics Committee (No: E-64577500-050.99-79416). We conducted a convenience sampling method to recruit participants. Study information was disseminated through multiple online channels such as Facebook and WhatsApp groups of mothers, and the researchers' social media accounts. Mothers were invited to participate by completing an online survey accessible via a shared link. To be eligible, participants needed to be at least 18 years old, a mother with a child between the ages of 0 and 12. This age group was selected because early and middle childhood are critical periods for the early identification and intervention of developmental, emotional and behavioral difficulties

(Schaefer et al., 2022). During this stage, parents - especially mothers - serve as primary observers and decision-makers regarding their children's mental health and help-seeking. Additionally, children under 12 are typically dependent on caregivers to access mental health services, making parental mental health literacy particularly relevant to early support and treatment pathways (Reardon et al., 2017; Sayal et al., 2010). The sample in the current study was restricted to mothers with children in this age range, as Turkish mothers play a more active role in childcare (Parlak et al., 2021).

Data Collection Tools

Demographics

Mothers were asked to provide information about their age, education level, and employment status, as well as the age and gender of the child they referenced. Additionally, they reported whether they were healthcare workers and whether they had previously received mental health support (for themselves, their child, or both), as well as whether the mother's own child had ever received a mental health diagnosis.

Emotional-Behavioral Problems

The Strengths and Difficulties Questionnaire - Parent Form (Goodman, 1997; Güvenir et al., 2008) was utilized to assess children's emotional and behavioral difficulties. The subscales of emotional problems (e.g., Often complains of headaches, stomach-aches, or other physical complaints.), peer relationship problems (e.g., Has many fears, easily scared.), hyperactivity/inattention (e.g., Is easily distracted, concentration wanders.), and conduct problems (e.g., Has one good friend or more.) were summed to form a total score. The scale was rated three-point scale, ranging from 1 ("Not True") to 3 ("Certainly True"). Higher scores correspond to greater levels of emotional-behavioral challenges. The internal reliability of the scale was strong, with a Cronbach's alpha of .72.

Psychological Distress

Kessler-6 scale was used to measure psychological distress and well-being (K6). It consists of 6-item instrument (Kessler et al., 2003; Morgül et al., 2023) that can be rated on the scale, ranging from 1 "All of the time" and 5 "None of the time" (e.g., "How often did you feel nervous?"). Higher scores indicate greater psychological distress. The scale exhibited good internal consistency, with a Cronbach's alpha of .80. Mental health literacy

A vignette to evaluate mothers' mental health literacy (MHL) was created specifically for this study (see Supplementary Material 1). It was adapted from the Friend in Need Questionnaire, by modifying the vignette to reflect ADHD symptoms from a parental perspective, focusing on how parents might identify and respond to these behaviours (Burns & Rapee, 2006). The scenario was carefully crafted to represent the core characteristics of ADHD, following the diagnostic criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR; American Psychiatric Association, 2023). It highlighted key symptoms of hyperactivity and attention-deficit. To ensure inclusivity, the character in the vignette was named "Beyhan", a widely recognized unisex name in Turkish.

Table 2. ADHD-Related symptoms identified in the vignette and mother's responses (N=393)

	DSM-5 category	Symptoms given in the vignette	n	%
Inattention	1. Difficulty sustaining attention in tasks or play activities	<i>Frequently losing focus during the lesson.</i>	11	2.8
	2. Not follow through on instructions and fails to finish schoolwork	<i>Failing to follow the teacher's instructions.</i>	65	16.5
	3. Difficulty organizing tasks and activities	<i>Being messy</i>	4	1.0
	4. Avoids, dislikes, or is reluctant to engage in tasks	<i>Being unwilling to complete assignments.</i>	12	3.1
	5. Loses thing	<i>Losing his/her belongings.</i>	21	5.3
	6. Forgetful in daily activities	<i>Forgetting to do their homework.</i>	42	10.7
Hyperactivity	7. Leaves seat	<i>Getting up from the desk during the lesson for various reasons.</i>	46	11.7
	8. Runs about or climbs	<i>Trying to climb on things or jump in the classroom.</i>	5	1.3
	9. Unable to play or engage in leisure activities quietly,	<i>Talking and laughing during the lesson</i>	9	2.3
	10. Acting as if "driven by a motor",	<i>Being constantly active in the classroom.</i>	36	9.2
	11. Blurts out an answer	<i>Speaking without being called on.</i>	4	1.0
	12. Has difficulty waiting his or her turn	<i>Having difficulty waiting for their turn in games.</i>	14	3.6
	13. Interrupts or intrudes on others	<i>Disrupting the lesson or making games more difficult.</i>	19	4.8

The vignette was developed through a multi-step process to ensure clarity and content validity. Key symptoms were selected based on DSM-5-TR criteria. The first draft was reviewed by two clinical child psychologists and one developmental psychologist. Based on their feedback, minor wording changes were made to improve clarity and cultural relevance. Although a separate pilot study was not conducted, the high rate of concern expressed by participants suggests that the vignette effectively elicited meaningful responses.

Following the vignette, mothers were asked to answer three open-ended questions. These questions aimed to assess their ability to recognize emotional difficulties by identifying any concerning signs in the scenario, determine their understanding of the specific condition the character might have, and suggest whom the child should seek help from if necessary, evaluating their awareness of professional help-seeking options.

Data Analysis

Statistical analyses were performed using IBM SPSS software 27.0. Participants' responses to the open-ended questions were analyzed using descriptive statistics.

Three open-ended questions assessing mothers' MHL levels were categorized based on the presence of specific terms. Mothers were asked to describe the emotional and behavioral problems of the character in the vignette. Responses that included "Attention-Deficit/Hyperactivity Disorder" or "ADHD" were coded as "Correct Diagnosis", while all other responses were classified as "Incorrect Diagnosis". Mothers' responses coded as a correct diagnosis were assigned a score of "1", while those classified as an incorrect diagnosis were scored as "0".

Mothers were also asked symptoms of character in vignette, and correct answer was scored as "1". According to the DSM-5-TR criteria, the vignette includes categories that address both inattention and hyperactivity: 1. *Difficulty sustaining attention in tasks or play activities*, 2. *Not follow through on instructions and fails to finish schoolwork*, 3. *Difficulty organizing tasks and activities* 4. *Avoids, dislikes, or is reluctant to engage in tasks* 5. *Loses thing* 6. *Forgetful in daily activities* 7. *Leaves seat* 8. *Runs about or climbs* 9. *Unable to play or engage in*

leisure activities quietly, 10. *Acting as if "driven by a motor"*, 11. *Blurts out an answer*, 12. *Has difficulty waiting his or her turn* 13. *Interrupts or intrudes on others*. Each of the 13 DSM-5-TR symptoms was scored individually as present (1) or absent (0). The total number of accurately identified symptoms was then summed to generate a continuous variable (0-13), which was used as a predictor in regression analyses. To ensure reliability of coding, a second rater independently coded a random 20% of responses, producing strong inter-rater agreement (Cohen's $\kappa = .88$). Discrepancies were discussed and resolved jointly.

Following the coding process, logistic regression analyses were performed to assess the relationship of study variables with mothers' ability to correctly identify ADHD. Prior to conducting the logistic regression analysis, multicollinearity was assessed by examining Variance Inflation Factor (VIF) values. All VIFs were below 2.0, indicating no issues with multicollinearity. Variables were entered simultaneously into the model to assess their unique contribution to predicting correct ADHD diagnosis.

Results

Concerns and Emotional-Behavioral Difficulties

After reading the ADHD vignette, mothers were asked whether they were concerned about the child's mental health. The majority ($n = 383$, 97.5%) reported being concerned about the child's well-being. Additionally, they were asked if they believed the child in the vignette had emotional-behavioral problems. Almost all mothers (90.8%) indicated that they thought the child was experiencing such difficulties. In contrast, a small proportion ($n = 19$, 4.8%) expressed uncertainty about whether the child was facing any challenges.

Table 2 (see Supplementary Material 2) presents the ADHD-related symptoms identified in the vignette and the percentage of mothers who recognized and referenced these symptoms in their responses. The most common response for hyperactivity was getting up from the desk during the lesson, while failing to follow the teacher's instructions was most frequently identified as a sign of inattention.

Identifying Diagnosis

Mothers were asked to identify the problem -if there is- with the child in the vignette. A total of 55 mothers (14.0%) correctly recognized the child's problem as ADHD. Many other mothers described the child as energetic or attributed the problem to factors such as lack of love or parental problems. Details are presented in Table 3 (see Supplementary Material 2).

Table 3. Diagnoses and symptoms identified by Turkish mothers (N = 393)

Mothers' responses	n	%
Correct Diagnosis		
ADHD	55	14
Incorrect Diagnosis		
Impulsive	26	4.84
Mood disorder	5	0.93
Behavioural problems/autism	12	2.23
Sensory problems/sensory integration disorder	4	0.74
Energetic	146	27.19
Attention problems	102	18.99
Lack of attention	26	4.84
Others (lack of love, temperament, gifted etc.)	145	27.00
No diagnosis	16	2.98
Total answer	513	100

Note: Percentages exceed 100% as mothers were allowed to provide more than one response.

Help-Seeking

Most mothers ($n = 356$, 90.6%) stated that they believed the child in the vignette needed support. A minority of mothers ($n = 2$, .4%) indicated uncertainty about whether the child needs help. Only one mother (.2%) stated that she did not believe the child requires help.

Responses were categorized based on the type of help suggested. Those who recommended *mental health professionals* (e.g., psychiatrists, psychologists, therapists) were coded as "1," while suggestions of *non-mental health professionals* (e.g., teachers, family members, or others without a mental health focus) were coded as "0." In this study, help-seeking from mental health professionals is referred to as "professional help-seeking", whereas help-seeking from non-mental health professionals is referred to as "non-professional help-seeking".

Table 4. Recommendations for help-seeking based on mother's responses (N = 393)

	Type of recommended professional or support	n	%
Correct answers	Psychologist	114	29.0
	Psychiatrist	89	21.9
	Therapist	28	7.1
Incorrect answers	General doctor	23	5.9
	Teacher or school	45	11.5
	Family or loved ones	27	6.9
	Other (homeopathy, special education teacher etc.)	62	15.8

Among those who believed help was needed, the most frequently suggested professionals were a psychologist or a psychiatrist. A smaller percentage recommended other professionals and family or loved ones. Details are presented in Table 4.

Predictors of Correct Diagnosis

A logistic regression analysis was performed to identify factors that predict mothers' ability to correctly diagnose ADHD. The overall model was found to be statistically significant when compared to the null model ($\chi^2(11) = 64.79$, $p < .05$). The model accounted for 27.4% of the variance in correct diagnoses and accurately predicted 87.5% of cases. Demographic factors that significantly predicted a correct ADHD diagnosis included having a university degree or higher, being employed as a healthcare worker, and having a younger child. Furthermore, factors such as using more accurate ADHD criteria, exhibiting professional help-seeking behaviors, experiencing lower levels of psychological distress, and higher scores on the children's behavioral-emotional problems were also associated with correct diagnoses. However, variables such as the parent's employment status, child's gender, whether the mother's child had a diagnosis, and previous help-seeking behavior were not significant predictors of an accurate ADHD diagnosis.

Table 5. Predictors of correct ADHD diagnosis.

Potential predictors	β	Odds ratio (95% CI)
Parent education a	.92**	2.51 (1.19 – 5.28)
Working status	.20	1.22 (.95 – 1.58)
Child age	-.09**	.91 (.85 – .97)
Child gender	.04	1.05 (.55 – 1.99)
Working as health worker b	1.26**	3.54 (1.62 – 7.73)
Child diagnosis	.66	1.94 (.72 – 5.26)
Parents' previous help-seeking c	.09	1.10 (.67–1.79)
Number of accurate diagnosis criteria	.33***	1.40 (1.14 – 1.71)
Professional help seeking	.77*	2.16 (1.10 – 4.24)
Psychological distress	-.16*	.84 (.76 – .94)
Behavioral-emotional problems	.09**	1.09 (1.00 – 1.18)

* $p < .05$, ** $p < .01$, *** $p < .001$

† Note. a University or higher level, b Working as health worker, c Having previously sought psychological help, d Sought professional help.

Discussion

This study aimed to assess the MHL of Turkish mothers regarding ADHD, focusing on their ability to recognize symptoms, correctly diagnose the condition, and recommend professional help-seeking behaviors. The findings indicate that while the majority of mothers expressed concern about the child's mental health, only 14% correctly identified ADHD, with many attributing symptoms to external factors such as lack of parental attention or child's personality traits. The study also identified several predictors of correct diagnosis, including sociodemographic characteristics, symptom awareness, help-seeking behaviors, and both child and parental mental health - each of which played a distinct role in shaping mothers' recognition of ADHD.

Mothers' ability to accurately recognize ADHD was significantly lower than expected, although most mothers were

concerned about the child's wellbeing. Many mothers misattributed ADHD symptoms to hyperactivity as a normal temperament (27.2%) or lack of parental love (27.0%), suggesting a gap in MHL. These misattributions reflect culturally embedded explanations that prioritize familial or personality-based causes over clinical conceptualizations. Although a full thematic analysis was beyond the scope of this quantitative study, these qualitative patterns echo culturally specific meanings attributed to child behavior and deserve further exploration in future research. Similar findings have been reported in other studies, where parents, particularly those without medical backgrounds, struggle to differentiate between normal childhood behaviors and neurodevelopmental disorders (Johnson et al., 2023).

The study found that certain ADHD symptoms were more easily recognized than others. Mothers were most likely to identify inattention symptoms such as failing to follow instructions (16.5%) and hyperactivity symptoms like leaving their seat (11.7%). However, other key ADHD symptoms, such as impulsivity, forgetfulness, and difficulty organizing tasks, were less frequently recognized. This pattern aligns with previous research suggesting that hyperactivity is often more noticeable to parents and teachers, whereas inattention and impulsivity may be overlooked unless they severely disrupt daily activities (Sonuga-Barke et al., 2011). The very low recognition rates for several DSM-5-TR symptoms (e.g., difficulty organizing tasks, reluctance to engage in tasks, excessive climbing, or noisy play; 1-3%) further indicate substantial MHL gaps in mothers' awareness of less visible or less disruptive ADHD features. These symptom domains may be particularly susceptible to under-recognition in everyday contexts.

Cultural perceptions may also shape how ADHD is understood in the Turkish context. Behaviors such as hyperactivity or impulsivity are sometimes viewed through the lens of parenting style or temperament, rather than recognized as signs of a neurodevelopmental condition (Avcı & Sak, 2021; Weisz et al., 1988). For instance, some parents may believe the child will "grow out of it", while others may interpret inattentiveness as a discipline issue rather than a clinical concern.

A promising finding was that the majority of mothers believed the child needed help, indicating a general willingness to seek intervention. However, the sources of help they suggested varied significantly. While psychologists (29%) and psychiatrists (21.9%) were commonly recommended, a considerable portion of mothers believed that teachers (11.5%), family members (6.9%), or general doctors (5.9%) were suitable sources of help. Moreover, the belief that alternative supports (such as homeopathic remedies, sensory integration therapies, or informal emotional support) can replace professional intervention highlights the need for clearer guidance on evidence-based ADHD care. This pattern, observed in our sample, may reflect broader uncertainty or skepticism around psychiatric services. While cultural factors such as stigma may play a role (Ayhan et al., 2024; Bayrakçeken et al., 2023), these findings underscore the importance of public education efforts that clarify when and how to seek clinical support.

Our findings revealed several key predictors of correct ADHD diagnosis. Mothers with a higher education level and healthcare-related occupations were significantly more likely to recognize ADHD, consistent with previous studies indicat-

ing that health literacy and formal education strongly influence mental health knowledge (Morrison et al., 2019). Additionally, having a younger child was associated with higher accuracy in ADHD diagnosis. This may be due to the fact that parents of younger children tend to be more attentive to developmental concerns and engage more frequently with healthcare professionals during early childhood.

Mothers who identified a greater number of accurate ADHD symptoms were significantly more likely to correctly diagnose the condition. This suggests that familiarity with ADHD diagnostic criteria plays a crucial role in accurate recognition, supporting previous research indicating that specific symptom awareness is a key component of MHL (Sciutto, 2015). Studies have shown that when parents are educated about ADHD's core symptoms - such as inattention, impulsivity, and hyperactivity - they are better able to distinguish the disorder from typical childhood behaviors (Sayal et al., 2018). However, many parents, particularly in non-Western cultures, tend to recognize only the most overt hyperactivity symptoms, while subtler inattentive or impulsive traits may go unnoticed (Johnson et al., 2023). This discrepancy may stem from cultural norms regarding childhood behavior. In many collectivist societies, compliance and obedience are highly valued, making parents and educators to focus more on disruptive behaviors that interfere with group harmony, such as hyperactivity. In contrast, inattention or impulsivity is often overlooked or mistaken for personality traits or a lack of motivation. Limited MHL further reinforces the misconception that ADHD is solely about physical restlessness rather than cognitive and emotional regulation difficulties (Bisset et al., 2022; Sayal et al., 2018).

Mothers who recommended seeking help from professionals (e.g., psychologists, psychiatrists, therapists) were also more likely to correctly identify ADHD. This suggests a strong link between mental health literacy and the ability to navigate healthcare services effectively. Research indicates that parents with higher MHL levels are more proactive in seeking professional support, whereas those with lower MHL may rely on teachers, family members, or alternative treatments, delaying proper diagnosis and intervention (Schnyder et al., 2017).

Cultural stigma around psychiatric labels may contribute to reduced help-seeking and diagnostic delays in Türkiye. Research suggests that parents may avoid labelling their child with ADHD due to concerns about judgment or misunderstanding (Yildiz et al., 2025). This could explain why, in our study, some mothers preferred informal sources of support - such as teachers or relatives - over mental health professionals. Limited public discussion of ADHD outside clinical settings may further reduce awareness, especially among those without prior exposure to psychiatric services. These patterns highlight the importance of culturally sensitive outreach strategies that normalize ADHD and clarify available support pathways.

Mothers' psychological wellbeing is another important factor predicting the diagnosis. Mothers experiencing higher psychological distress were less likely to correctly diagnose ADHD, supporting the hypothesis that personal mental health challenges may impair cognitive processing and accurate symptom recognition (Fonseca et al., 2020; McRae et al., 2020). In our study, mothers with higher distress were around 16% less likely to correctly identify ADHD, suggesting that even moderate levels of emotional strain can meaningfully affect

how accurately mothers interpret their child's behaviors. This highlights the importance of supporting maternal wellbeing as part of early identification efforts.

Psychological distress - including stress, anxiety, and depressive symptoms - has been widely recognized as a factor that impairs cognitive flexibility, attention, and decision-making (Wong et al., 2025). Research suggests that parents experiencing mental health difficulties may struggle to differentiate between typical child behavior and clinical symptoms, particularly in cases where the child's challenges mirror or exacerbate their own emotional distress (Spang et al., 2022). These difficulties in symptom recognition, also observed in our sample, may be partly explained by avoidant or overwhelmed responses under high emotional strain, whereby parents unintentionally minimize or misinterpret symptoms rather than seeking clinical explanations. Elevated distress may also reduce their capacity to engage in proactive healthcare behaviors, leading to delayed recognition or misattribution of symptoms to environmental or familial stressors instead of a neurodevelopmental condition (Breaux & Harvey, 2019; Chronis-Tuscano et al., 2016).

Besides parental psychological health, children's emotional and behavioral difficulties was also significant predictor of correct ADHD diagnosis. Mothers whose children exhibited higher levels of emotional and behavioral difficulties were more likely to correctly recognize ADHD. This finding aligns with previous research suggesting that the severity of a child's symptoms often acts as a trigger for parental recognition and help-seeking behaviors (Sayal et al., 2018).

Research examining the relationship between SDQ and MHL is limited, yet findings from the present study align with those of Johnson et al. (2023), who also reported a significant association between behavioral difficulties and adults' ADHD recognition. Given that SDQ includes subscales measuring externalizing behaviors, such as hyperactivity and conduct problems, it is likely that these observable difficulties enhance parental awareness and contribute to a stronger link between SDQ scores and MHL. Additionally, since the SDQ used in this study is based on parental reports, the association may reflect reporting biases, where parents with higher MHL levels are more attuned to behavioral difficulties and thus rate their child's symptoms more accurately. These findings highlight the need for further research to clarify whether this relationship is primarily driven by externalizing symptoms or whether other SDQ dimensions, such as emotional problems, also play a role in parental ADHD recognition. Future studies should also explore whether objective measures of child behavior yield similar results, reducing the potential influence of parental perception and bias.

Implications

The findings of this study have several important implications for public health, clinical practice, and policy efforts aimed at improving ADHD recognition and early intervention in Türkiye. Many mothers misattributed ADHD symptoms to parenting issues or personality traits, highlighting the need for targeted educational programs. Integrating ADHD education into national parenting programs, maternal health services, and school-based initiatives can enhance awareness and recognition. Community workshops, online resources,

and teacher training can further support parents. Expanding access to affordable mental health services and strengthening collaboration between healthcare and education professionals can ensure timely diagnosis and intervention.

Many mothers suggested general practitioners as a primary source of ADHD diagnosis. Therefore, increasing professional development for practitioners and pediatricians on ADHD pathways could help bridge this gap. Additionally, establishing multidisciplinary teams - including pediatricians, psychologists, and educators - could improve coordination between health and education systems.

The study found that maternal psychological distress negatively impacted ADHD recognition. Integrating parental mental health support into pediatric and educational settings could be beneficial. Providing stress management programs, counselling services, and peer support groups for parents may help reduce barriers to accurate symptom recognition and intervention.

Parents of children with greater emotional and behavioral difficulties were more likely to recognize ADHD, suggesting symptom severity influences identification. Pronounced symptoms prompt professional evaluation, while milder cases, especially inattention, may go unnoticed. Raising awareness of subtle presentations and implementing routine screenings can aid early diagnosis and timely intervention.

Lastly, given the disproportionately high number of well-educated mothers in our sample, future initiatives should ensure that ADHD awareness programs reach parents with lower educational backgrounds, who may face greater informational barriers. Accessible outreach materials are essential for promoting equitable MHL across socioeconomic groups.

Limitations and Future Research

This study provides valuable insights into Turkish mothers' MHL regarding ADHD, but several limitations should be acknowledged. The reliance on self-reported data may introduce bias, as mothers might overestimate or underestimate their knowledge. The sample, primarily composed of Turkish mothers recruited via online parent groups, may not be representative of the broader population and limits generalizability to fathers, other caregivers, or individuals without regular internet access. The use of convenience sampling may limit representativeness, as participants self-selected through online parenting groups, potentially introducing bias toward mothers with greater digital access or interest in child development. Additionally, findings may not generalize to Turkish fathers, caregivers from rural regions, or parents with lower educational backgrounds who may face distinct barriers in recognizing and addressing ADHD symptoms. Psychological distress was measured via the Kessler-6 self-report scale without clinical validation, which may limit the precision of associations between distress and symptom recognition. The cross-sectional design prevents causal inferences, and the absence of clinical diagnoses limits validation of parental recognition accuracy.

Future research should expand participant diversity by including fathers, other caregivers, teachers, and healthcare providers to explore broader ADHD recognition patterns. Intervention-based studies can evaluate the effectiveness of school and community-based MHL programs in improving early diagnosis. Longitudinal and cross-cultural comparisons can provide

insights into ADHD recognition over time and across different societies. Given the rise of online health information, examining the role of digital media in shaping parental perceptions can inform evidence-based ADHD awareness strategies. Lastly, further exploration of psychological, structural, and cultural barriers to professional help-seeking can guide policies aimed at reducing stigma and improving healthcare access.

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Conflict of interest

The authors report there are no competing interests to declare.

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Supplementary Matherial

Vignette to evaluate mothers' mental health literacy

Six-year-old Beyhan has been a challenging child to manage since he was very young, particularly due to his hyperactivity. Beyhan constantly tries to climb, jump, and explore his surroundings. He is very curious but tends to get hurt because he is fearless. He doesn't accept "no" as an answer. When he wants something, he doesn't give up; if he doesn't get it, he throws tantrums, throws objects around the room, or tries to run away from home.

This year, Beyhan started school, and his teacher says he is uncontrollable. During class, Beyhan makes noise, talks, and frequently gets up and wanders around despite the teacher's instructions to sit down. During recess, he disrupts his classmates' games. Today, the teacher called Beyhan's mother and reported that Beyhan didn't want to wait his turn on the slide. While trying to push to the front, he shoved a classmate, causing the classmate to fall off the slide.