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İş Sağlığı Perspektifi Aşısından Öz Bildirimle Otizm Spektrum Bozukluğu ve Diabetes Mellitus Tanısı Olan Bir Çalışanda Aşırı Sıvı Tüketimi

Excessive Fluid Intake in An Employee with Self-Reported Autism Spectrum Disorder and Diabetes Mellitus: An Occupational Health Perspective

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Özet

Araştırmanın Amacı ve Önemi: Literatürde benzerine rastlanmamış olan bu çalışmanın amacı, iş sağlığı araştırması sırasında tesadüfen saptanan ve otizm spektrum bozukluğu (OSB), diabetes mellitus (DM) tanısını öz bildirim olarak veren bir çalışanın sıvı tüketim özelliklerini incelemek ve bu durumun iş sağlığı açısından önemine dikkat çekmektir.

Gereç ve Yöntem: Bu çalışma, Şanlıurfa'da mobilya sektöründe çalışan işçiler arasında yürütülen tanımlayıcı bir araştırmanın analizi sırasında tesadüfen fark edilen katılımcının özellikleri sunularak yapılmıştır. Araştırmada 319 çalışana sosyodemografik özellikler, sağlık durumu, çalışma koşulları ve su tüketim alışkanlıklarını değerlendiren bir anket uygulanmıştır. Veri analizi sırasında aşırı sıvı tüketimi bildiren bir katılımcı belirlenmiş ve bu katılımcının OSB ve DM tanılarını öz bildirim olarak verdiği görülmüştür.

Bulgular: Katılımcı erkek olup günlük 16.000 mL su ve 5.400 mL diğer içecek tükettiğini, toplam sıvı tüketiminin ise 21.400 mL/gün olduğunu bildirmiştir. Bu miktar, araştırmadaki tüm katılımcıların ortalama günlük su tüketiminin (3621,76 ± 2239,71 mL) yaklaşık 4,4 katıdır. Ayrıca öz bildirimle DM tanısı bulunan diğer çalışanların toplam sıvı tüketimleri 2,6–8,8 L/gün arasında değişirken, OSB+DM bulunan katılımcının toplam sıvı tüketimi 21,4 L/gün olarak saptanmıştır. Linear regresyon denklemine göre katılımcının beklenen günlük su tüketimi 9313 ml olarak tahmin edilmiştir, ancak bildirilen günlük su tüketim miktarı daha yüksek hesaplanmıştır.

Sonuç: Bu çalışma, iş yaşamında birlikte görülen nörogelişimsel ve kronik sağlık sorunlarına sahip çalışanların varlığına dikkat çekmek amacıyla sunulmuştur. OSB ve DM tanılarını öz bildirim olarak veren bir çalışanda gözlenen aşırı sıvı tüketimi, iş sağlığı profesyonelleri için farkındalık gerektiren önemli bir durumdur. Çalışmanın amacı OSB ve DM arasındaki nedensel ilişkiyi açıklamak değil, benzer durumlar iş yaşamında karşılaşılabileceğini vurgulamaktır.

Anahtar Kelimeler: *Otizm spektrum bozukluğu, diabetes mellitus, polidipsi, sıvı tüketimi, iş sağlığı, nöroçeşitlilik.*

Jel Kodları: J28, J14, M12, I12.

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Abstract

Purpose and Importance of the Research: To the best of our knowledge, this study is the first of its kind which aims to examine the fluid consumption of a an employee during an occupational health investigation and highlights the importance of this condition in terms of occupational health by incidentally identifying a participant as self-reporting both autism spectrum disorder (ASD) and diabetes mellitus (DM).

Materials and Methods: This study was conducted to present the characteristics of a participant who was incidentally observed during the analysis of a descriptive research carried out among workers in the furniture sector in Şanlıurfa. In the research, a questionnaire evaluating sociodemographic characteristics, health status, working conditions, and water consumption habits was administered to 319 employees. During data analysis, one participant reporting excessive fluid intake was identified, and it was observed that this participant self-reported diagnoses of ASD and DM.

Findings: The participant was male and reported consuming 16,000 mL of water and 5,400 mL of other beverages daily, with a total fluid intake of 21,400 mL/day. This amount is approximately 4.4 times higher than the average daily water consumption of all participants in the study (3,621.76 ± 2,239.71 mL). In addition, while the total fluid intake of other employees with self-reported DM ranged between 2.6–8.8 L/day, the participant with ASD+DM reported a total fluid intake of 21.4 L/day. According to the linear regression equation, the expected daily water consumption of the participant was estimated as 9313 ml, but the reported daily water consumption was calculated higher.

Conclusion: This study was presented to draw attention to the presence of employees with coexisting neurodevelopmental and chronic health conditions in occupational life. The excessive fluid consumption observed in an employee self-reporting ASD and DM should remind an important issue requiring awareness among occupational health professionals. The aim of the study is not to explain the causal relationship between ASD and DM, but to emphasize that similar situations may be seen in the occupational life.

Keywords: *Autism spectrum disorder, diabetes mellitus, polydipsia, fluid consumption, occupational health, neurodiversity.*

Jel Codes: J28, J14, M12, I12.

1. Introduction

’Diversity means strength’
Dana Lee Baker
(Baker, 2011)

Autism Spectrum Disease (ASD)

Although neurodiversity has been accepted as “a difference that is defined as any human variation and should be respected’ in individuals with ASD in recent years, the approach to neurodiversity in working life remains a main problem (Masataka, 2017; Armstrong 2015). The sources of this attitude are the traditional point of view, prejudice, lack of knowledge about diversity, and the abilities of individuals with autism. For example, it has been shown that people who have ASD with high levels of cognitive activities related to memorization and recall in the field of mathematics can work in different positions with high levels of cognitive activities in the

field of music and art. Unfortunately, individuals with autism spectrum disorder (ASD) still face restrictions and obstacles in business life and employment (Khalifa et al, 2020; Johnson and Bonhamgregory, 2020). Over all it is a fact that many autistic people want to work, but unfortunately, very few of them are working. The main reason for their obstacles and restrictions is a lack of participation in social relations and a lack of necessary support, rather than professional inadequacy (Westbroke et al, 2012). Many individuals with ASD are in search of support beyond acceptance and harmony (Temeltürk and Kılıç, 2024). Autism Spectrum Disorder (ASD) is estimated to be approximately 1% of the general population. Due to the broad spectrum of ASD as defined in DSM-5, the actual prevalence may be even higher because many individuals remain undiagnosed (Zeidan, 2022). Therefore, the presence of individuals with ASD in the workforce, particularly in large companies, should not be considered exceptional, unfortunately the studies conducted, the employment problems of individuals with adult ASD are ignored (Efeoğlu, 2021; Rapp et al, 2018; Romose, 2000). Although the problems that individuals with ASD face in society will increase when they reach working age (Efeoğlu, 2021; Top, 2019), there is not much information about their employment and career experiences (Efeoğlu, 2021; Dreaver,2020), therefore, it is important to raise awareness about the issue.

Diabetes Mellitus (DM)

An endocrine and metabolic disease DM is characterized by insulin deficiency and there are nearly 415 million people with DM, and it has an increasing incidence worldwide. The most common types are type 1 diabetes mellitus (T1DM) and type 2 diabetes mellitus (T2DM). T1DM is because of absolute insulin deficiency due to the autoimmune destruction of pancreatic β-cells while (Yu, 2024) T2DM is because of relative insulin deficiency due to insulin resistance. According to current research 643 million adults aged 20–79 years will have diabetes by the year 2030 (prevalence of 11.3%) and 783 million by 2045 (prevalence of 12.2%). Common symptoms of diabetes include polyuria, polydipsia, weight loss, fatigue, weakness, blurry vision, frequent superficial infections (vaginitis, fungal skin infections), and slow healing of skin lesions after minor trauma due to hyperglycemia (Powers, 2022).

People with diabetes need regular health checks with multiple health professionals, filling prescriptions, and buying diabetes supplies like testing strips for glucose monitor, needles. Therefore, a high degree of organizations should be in health systems for effective diabetes management (Harris, 2000).

Polydıpsia

Polydipsia is defined as excessive fluid intake, typically more than 3 liters per day, and in some cases reaching 10–15 liters (Sakuma, 2021; Salima and Tase 2024). It is observed especially among psychiatric inpatients and is reported as a common symptom across a broad spectrum of conditions including endocrine (e.g.) diabetes mellitus, diabetes insipidus, hypercalcemia), neurological and hypothalamic disorders, psychiatric illnesses (schizophrenia, autism spectrum disorder), and renal diseases such as chronic kidney disease (Verbalis, 2003; Sailer et al., 2017; Terai et al., 1999). The measurement of daily water and/or fluid intake is the simple and evident diagnostic method for polydipsia (Verghese, 1996).

The amount of drinking water consumption should be regulated according to age, gender, physical activity, workplace characteristics, and climatic characteristics (Üner and Yılmaz, 2020). Literature research shows that there is a significant link of primary polydipsia (PP) with endocrine, neurological, psychiatric, and renal conditions, including diabetes mellitus, diabetes insipidus, primary polydipsia, schizophrenia, autism spectrum disorder, chronic kidney disease, hypercalcemia, and disorders affecting hypothalamic regulation of thirst (Verbalis, 2003; Sailer et al., 2017, Terai et al. 1999, Ahmadi and Goldman, 2020).

DM and ASD

Although some clinical reports have negated the causal relationship of them, several studies suggest that DM increases the risk of ASD in offspring while people with ASD increase their own risk of DM. Whether this intrinsic link between ASD and DM remains controversial with the interaction which has not been fully elucidated (Yu, 2024).

Research also shows that when ASD and DM coexist in an employee, challenges related to diabetes managements may increase. Diffuculties in dietary regulation, physical activity, healthcare access, and communication with health services, sensory sensitivities, adherence to treatment recommendations due to ASD may influence diabetes self- management and glycemic control. As a result, the risk of poor metabolic outcomes, diabetes-related complications, and associated healthcare costs may increase (Liu, 2021) (Charlier, 2025) (Vinayagam, 2024). These challenges should be taken into consideration for autistic individuals by healthcare professionals to ensure that they receive high-quality and equitable care (STroman, 2020). Therefore occupational health awareness and appropriate workplace support should be planned carefully for employees with coexisting ***ASD and DM.***

Mechanisms have been proposed to explain the association between Autism Spectrum Disorder (ASD) and diabetes mellitus (DM) includes shared immunological and inflammatory pathways those have been associated with immune dysregulation for T1DM. For T2DM obesity, dyslipidemia, lifestyle-related factors, and the metabolic side effects of medications commonly prescribed to individuals with ASD have been discussed for relationship. However, despite growing evidence supporting an association between ASD and DM, the underlying mechanisms remain incompletely understood and the relationship continues to be a subject of debate. Current evidence is insufficient to support routine bidirectional screening of all individuals with ASD or DM. Instead, a risk-based clinical approach has been recommended, whereby screening and further evaluation are considered when relevant clinical signs, symptoms, or risk factors are present (Cortese et al., 2022) (Chen, 2016) (Tromans, 2021).

Occupational health and safety professionals should attempt to ensure the well-being and health of all employees accepting and considering their differences (Felknor et al, 2020). Although recent evidence suggests that diabetes is more prevalent among autistic adults, limited information is available regarding how ASD influences the experience and management of diabetes and other chronic health conditions (Vinayagam et al., 2024). Furthermore, occupational health aspects of autism remain underexplored, and additional research is needed to better understand the interaction between autism and workplace-related factors (Goez et al., 2024). In this context, the present report was prompted by the incidental observation of a worker with self-reported ASD and DM, who exhibited remarkably high fluid consumption during the course of a broader occupational health research project. It inspired this study and aimed to raise awareness that employees with neurodevelopmental and chronic health conditions are present in the workforce and may present unique health-related needs and challenges among occupational health professionals.

2. Material and Methods

2.1. The research

The main purpose of this descriptive type of research, which aimed to reach about 400 people working in workplaces connected to the Şanlıurfa Carpenters and Furniture Makers Room, was to determine the relationship between the sociodemographic and work environment characteristics of the participants and their drinking water consumption characteristics. The questionnaire prepared by the researchers included questions about sociodemographic characteristics, health problems, working conditions, working environment conditions, amount and characteristics of drinking water, and liquids other than water consumption. The researcher visited

the workplaces between 7-11 August 2023, and 319 employees volunteered to complete the data collection form.
Since the results of the main research were used in another manuscript, only the related results for the case have been represented in this study. The participant with ASD in this manuscript was excluded from the main research manuscript because of the extreme value of drinking water consumption.

2.2. Participant with ASD and DM

During the analysis, one of the employees attracted attention due to extremely high drinking water consumption. Data analysis via crosstab (SPSS analysis) demonstrated that he had reported that he had ASD and DM.

2.3. Analysis

The water consumption of the participants was asked in the data collection forms as to how many glasses of water were consumed on average per day. The number of glasses was multiplied by 200 ml. Socio-demographic characteristics, health indicators and problems, workplace conditions, and drinking water consumption characteristics like water type, time, frequency, amount, and place were asked. Age, BMI, total working hours, and work experience in years were asked. Marital status was grouped as single or married. There were five groups for the education level: primary, high secondary, lycée, university, and master's degree. Smoking was asked as yes, no, and I was. For the analysis, BMI values were grouped as 25-29,9 m2/kg; 30-34,9 m2/kg; 35-37,9 m2/kg -50 m2/kg. Working hours per week were grouped as 0-15 hours, 16-40 hours, 41-50 hours, 51-60 hours, and 61-75 hours. Work experiences in years in that workplace were grouped as 1-3 years, 4-10 years, 11-20 years-21-50 years for analysis. Number of the employees working at the same place and breaks was asked with open-ended questions. The type of drinking water was asked in 5 choices: tap, bottle, tanker, sebil, and damacana, but the participants answered open-ended for more than one choice and then grouped for analysis. Water drinking timing was asked as whenever it comes to mind, planned timing, and mobile phone reminder. Consumption of drinking water at home, at breaks, while working was asked with the answer yes or no. The time of most drinking water is asked as in the morning, noon, afternoon, after work, and night. The mean amount values of the groups that include the participants with ASD were calculated and presented in the table in the results.

Linear regression (LR) modeling was applied for the independent variables in which statistically significant differences were found between/among the mean values of daily drinking water consumption amounts. For LR analysis, one hot encoding has been applied to categorical values. (In one-hot coding, each categorical value is converted into a new categorical column, and a binary value of 1 or 0 is assigned to those new columns. Therefore, each integer value is represented as a binary vector so that data is prepared for an algorithm to get a better prediction.) After getting the LR model, the probable amount of daily drinking water consumption of the participant with ASD was calculated by the LR equation. Analysis of the study is performed with Python, SPSS Statistics 23, and Microsoft Excel by researchers.

3. Results

This study reached 319 individuals employed in the furniture sector, with ages ranging from 13 to 65 years and a mean age of 34.91±11.42 years.

3.1. Participant with ASD and DM

The male participant, who did not specify his age, is a graduate with a master's degree. He has one year of work experience and works 8 hours a week. He smokes, has heart disease, diabetes, and is still using insulin. The body mass index calculated according to the body weight and height taken based on the declaration is 26.72 m2/kg. The number of employees working in his workplace is 6, and the number of breaks is 4. He

consumes drinking water whenever it comes to mind. He drinks more water in the morning and has answered yes to all the questions examining whether water was consumed at home before coming to work, during breaks, during meals, and while working. He consumes tanker water at work. His daily drinking water consumption is 16.000 ml, and his daily beverage consumption amount (other than water) is 5.400 ml. Therefore, his total liquid consumption amount is 21.400 ml. He has the highest daily amount of drinking water consumption of all of the participants who have the same characteristics as him.

The average amounts of drinking water consumption of participants who have the same sociodemographic and occupational characteristics as the participant with ASD are presented in Table 1.

Table 1. The daily drinking water consumption amount means of the other participants who have the same characteristics as the participant with ASD and DM

Group characteristics		n	Mean (ml)	sd
Male		308	3614,6	2132,17
Single		106	2200,0	632,00
Masters degree		7	5900,0	4150,66
Smoking	Yes	156	3760,8	2122,22
Has health problems	Yes	28	5344,0	3602,55
BMI (25-29,9 kg/m2)		10	3200,0	1817,38
Furniture manufacturer		131	3675,8	1948,71
Work experience 1-3years		118	3558,1	2481,06
Working 0-15 hours per week		15	6416,6	4703,16
6 employees at the workplace		28	3100,0	1071,37
4 breaks		27	3761,5	5034,94
The drinking water type is tanker.		10	4600,0	4162,26
Drinking water whenever it comes to mind	Yes	263	3426,9	1862,67
Drinking water in the morning	Yes	22	4185,7	2291,74
Drinking water at home	Yes	251	3806,6	2226,42
Drinking water at break	Yes	269	3769,4	2173,68
Drinking water at meal	Yes	291	3587,0	2090,73
Drinking water while working	Yes	241	3742,1	2240,63

The averages were calculated without including the participant with ASD +DM

The independent variables of the research group that were detected as having statistically significant differences in the daily amount means of drinking water consumption are as follows: Education level (p=0,00), marital status (p=0,017)BMI (p=0,027), smoking (p=0,04), having chronic illness (p=0,00) work experience years (p=0,00), working hours per week (p=0,00), drinking water type (p=0,00), drinking water consumption time (p=0,006), whether drinking water consumption or not at home (p=0,00), at break(p=0,00), and while working (p=0,014),

(α=0,05). Linear regression model for the independent variables above with statistical differences due to the primer analysis presented in Table 2

Table 2. Linear regression model for the independent variables with statistical differences due to the primer analysis presented

	B (ml)	Sig.	Lower Bound	Upper Bound
Constant	133616,919		-143947,416	-123286,422
Education (Master)	-1059,078	0,033	2033,140	-85,016
Marital status (Married)	67,951	0,666	-241,977	377,879
BMI (25-29,9 kg/m$^{2)}$	847,242	0,019	138,375	1556,109
Smoking (Do not smoke)	-76,784	0,585	-335,562	181,994
Having ilness (Yes)	523,580	0,057	16,771	1063,931
Work experience (4-10 years)	580,052	0,000	276,781	883,324
Working hours per week (0-15 hours)	142254,025	0,000	132001,430	152506,620
Water type (Tanker)	2455,513	0,000	1628,186	3282,839
Water drinking time (Whenever it comes to mind)	-4209,620	0,000	-6392,632	-2026,607
Water consumption at home (Yes)	-33,219	0,850	-379,455	313,017
Water consumption at breaks (Yes)	1990,012	0,000	1578,346	2401,678
Water consumption while working (Yes)	-341,671	0,060	-698,232	14,890

Due to the linear regression model, education, BMI, work experience years, working hours per week, water type, water drinking time, and drinking water consumption at break of participants have statistical differences for the amount of daily drinking water consumption.

The equation of linear regression is:
Y= (a1x1+a2x2+…+anxn) + constant
Y= Estimated daily water consumption amount of a participant
a= Each B value for the characteristics of the participant
x= His encoding number for this value
Constant: B constant of the model
If we place the values of the participant with ASD to the linear regression equation
Y=[(-1059,078x1) +(67,951x0) +(847,242x1) +(-76,784x0) +(523,580x0) +(580,052x0) + (142,254,025x1) +(2455,513x1) +(-4209,620x1) + (-33,219x1) + (1990,012x1) + (-341,671x1)] + -133616,919 ml
Y= 142.930,052+(-133616,919) ml
Y=9.313,133 ml

Based on the linear regression model and the linear regression equation, the daily amount of drinking consumption for the participant with ASD and DM is estimated at 9.313,133 ml, depending on the independent variables he had. His daily drinking consumption amount is 16.000 ml.

Table 3. Daily water and fluid consumption characteristics of employees with self-reported diabetes mellitus and the participant with self-reported ASD and DM

Table 3. Daily water and fluid consumption characteristics of employees with self-reported diabetes mellitus and the participant with self-reported ASD and DM

Condition	Insulin Use	Water (mL/day)	Other Fluids (mL/day)	Total Fluid Intake (mL/day)
DM	No	5000	3800	8800
DM	No	1000	1600	2600
DM	Yes	3000	1600	4600
DM	No	5600	1400	7000
ASD + DM	Yes	16000	5400	21400

Among employees who self-reported DM, daily water consumption ranged from 1,000 to 5,600 mL, while total daily fluid intake ranged from 2,600 to 8,800 mL. One employee who self-reported both ASD and DM and reported insulin use consumed 16,000 mL of water and 5,400 mL of beverages other than water per day, resulting in a total daily fluid intake of 21,400 mL. This value was substantially higher than that observed among the other employees with self-reported diabetes mellitus (Table 3).

4. Discussion

To the best of our knowledge, this is the first report to examine drinking water consumption characteristics in an employee who self-reported both Autism Spectrum Disorder (ASD) and diabetes mellitus (DM). During the analysis of the obtained data, which was conducted in Şanlıurfa and aimed to evaluate some sociodemographics, health conditions, working environment, and drinking water consumption characteristics of employees working in furniture manufacturing, one participant was identified as consuming an exceptionally high amount of water and other beverages. The participant also self-reported diagnoses of both ASD and DM. Since polydipsia is a recognized symptom of both conditions, and growing evidence suggests a potential bidirectional relationship between ASD and DM, this finding is significant. Therefore, this identification of that participant provides a unique opportunity to discuss the intersection of ASD, DM, and excessive fluid consumption from the occupational health perspective.

Although ASD and DM diagnoses in the present study were based on self-report and could not be independently verified because of the anonymous study design, self-reported health conditions are widely used in epidemiological research. Previous validation studies have demonstrated that self-reported diabetes has high specificity and acceptable validity for population-based investigations, supporting its use when clinical verification is not feasible. Additionally, self-reported autism has been utilized in large population-based surveys and autism research, particularly among adults, when clinical confirmation is unavailable or impractical. Furthermore, studies have shown that autism-related self-report measures possess acceptable predictive validity in adult populations. Therefore, although the diagnoses reported in this study should be interpreted with caution, their use is consistent with established epidemiological research practices (Fontanelli et al., 2017; Najafi et al., 2019; Schneider et al., 2012; Tromans et al., 2024).

Autism Spectrum Disorder (ASD) is associated with a wide range of comorbidities, including neuropsychiatric conditions such as anxiety, ADHD, and depressive disorders, alongside significant physical health conditions such as obesity, dermatitis, and food allergy. Cross-sectional and prospective studies have also explored the association between diabetes and ASD. Although the underlying mechanisms remain incompletely understood, this relationship may be rooted in shared neurobiological and physiological pathways.

Although growing evidence suggests an association between ASD and diabetes mellitus, current evidence remains insufficient to support routine bidirectional screening of all individuals with either condition. Instead, a risk-based clinical approach has been recommended. Individuals with ASD should be evaluated for diabetes when relevant clinical symptoms or risk factors are present, while individuals with diabetes should be further assessed when autism-related characteristics or developmental concerns are identified. Thus, clinicians and policymakers should be aware of the potential association between these conditions. Nevertheless, the available evidence is not yet sufficient to justify population-wide screening programs (Cortese et al., 2022). The evidence shows that those with ASD have a high risk of polydipsia when compared with people with other neurodevelopmental disorders. ASD increases the risk of DM in the same individual (Yu, 2024) .

According to Clark et al., the reason for this is that there may be a physiological process dependent on the arginine vasopressin deficiency hypothesis specific to ASD (Clarke et al, 2024). The effect of vasopressin and oxytocin on social behaviors as well as polydipsia in individuals with ASD is also discussed (Clarke et al, 2024; Rigney et al, 2022). The risk of polydipsia exists for individuals with ASD regardless of their sociodemographic characteristics and working conditions. In this study, the amount of drinking water consumption of the participant with ASD + DM was found to be higher than the average amount of drinking water consumption of all the groups he was included in, depending on the common sociodemographic and working conditions during the analysis (Table 1). The participant with ASD+DM has higher amount of

daily water consumption and total liquid consumption (21.4 L/per day) more than the participants who self reported DM (2.6 L-8.8 L of total fluids per day) (Table 3). Polydipsia is also a well-recognized symptom of diabetes mellitus and is commonly attributed to hyperglycemia-induced osmotic diuresis and increased thirst (Ahmadi&Goldman 2020)

Daily drinking water consumption in Türkiye has been reported as 1,841.9 ml for men and 1,497.2 ml for women aged 19 years and older. The Türkiye Nutrition Guidereferencing the recommendations of the European Food Safety Authority (EFSA) highlights that daily water intake should range between 1,500 and 2,000 ml (equivalent to 8–10 glasses of water) (Güler, 2015) (Guideliness, 2016) (Erdoğan, 2015) (TUBER, 2015).

So, the question is: What is the reason for this? Is it because of autism or diabetes, or neither of them? The answer is important in terms of preventive approaches to occupational health for the investigation of the root cause for similar positions.

Yet, identifying the underlying causes of excessive fluid consumption may be important from an occupational health perspective, particularly for the development of preventive strategies and the management of similar cases encountered in the workplace.

Despite the efforts of researchers to create strategies to help employees with ASD, there are still gaps in the diversity management programs of human resources departments. Although neurodiversity training programs have been proposed at universities, there is no such training even for workplace physicians Clarke and Fung2). There is also a gap reported between people with ASD and workplace physicians (Clarke and Fung, 2022).
In light of all this data, workplace physicians should have an awareness of both neurodiversity and chronic illnesses supporting employees with diverse mental characteristics and health problems to ensure that they are more compatible and healthy at work. Because in addition to ASD-related needs, diabetes mellitus requires continuous self-management, regular medical follow-up, adherence to treatment, and monitoring of symptoms that may affect workplace performance and well-being. Previous studies have shown that chronic diseases such as diabetes may be associated with increased healthcare utilization, work-related limitations, and reduced quality of life when not adequately managed (Harris, 2000; Liu et al., 2021).

Workplace physicians need to cooperate with occupational physicians, psychiatrists, psychologists, endocrinologists, and other healthcare professionals on the approach to cases of neurodevelopmental and metabolic disorders and to develop solutions to the problems encountered from a common point of view. This attitude may be particularly important for employees presenting with unusual health-related behaviors, including excessive fluid consumption.

In our study, there is one employee self reported both ASD and DM of among 319 employees. Although this is a single observational finding it highlights that workers may be with coexisting neurodevelopmental and chronic health conditions in occupational settings. Accordingly, occupational health physcians should be prepared to encounter employees with ASD, chronic health conditions such as DM, or both, and should consider their potentially unique health needs in workplace health management programs.
The present study has seveal limitations. First, all health conditions, including ASD and DM, were based on self-report and could not be independently verified because of the anonymous study design. Second, daily water consumption was assessed through self-reported glass and fluid intake estimates, which may be subject to reporting bias. Third, because the study was anonymous and the participant with self-reported ASD and DM was identified incidentally during data analysis, detailed clinical information was not available so that it could not be presented as a case report.

Most importantly, the primary aim of this study is not to establish or explain the relationship between ASD and DM, but to draw attention to a potentially relevant occupational health scenario and to increase awareness of similar cases that may be encountered in working populations. The fact that the study is the first study of its kind in the literature constitutes a major strength. This study provides only an imporetant basis and beginning, yet more needs to be done.

Recommendations for Future

Physicians, workplace physicians, and human resources managers should be prepared for these changes that will occur in the future. However, individuals with ASD constitute one of the most common disability groups in Turkey and, although very important steps have been taken to enable people with disabilities to participate in working life, the desired level has not been reached (Özaydın and İri, 2020). In Turkey, Labor Law No. 4857 obliges employers to hire workers with disabilities (İş Kanunu). These legal regulations aim to promote the participation of individuals with disabilities in working life. Supporting access to education, health, transportation, and socio-cultural services is also targeting an increase in employment among people with disabilities. For the diagnosis and follow-up of diabetes and other chronic diseases, Law No. 6331 stipulates mandatory risk analysis, pre-employment medical examinations, and periodic health check-ups (6331). However, beyond these legal obligations, certain workplace-level practices are necessary to foster inclusion and sustainability. More comprehensive strategic actions needs to be planned to protect all vulnerable groups that may have special and unique occupational health and safety risks (women, elderly employees, disabled people, young people, migrants, intermittent employees, and non-qualified ones) (Ipol, 2010).

Aksnes and Ulstein (2024) have suggested several workplace strategies that lead to positive outcomes for vulnerable groups:

Table 4. Workplace strategies and linked outcomes

Strategy	Linked outcomes
Accommodation	Improves experience of employees with disabilities (job satisfaction, well-being) and strengthen objective employement outcomes (job retention security)
Cultural Practices	Enhances experiences of employees (sense of belonging, recognition) and experiences of other stakeholders (positive attitudes, team cohesion).
HRM Practices	Supports organizational outcomes (engagement, productivity, reduced costs) and objective employement outcomes (career advancement, wages)
Leadership	Boosts job performance (creativity, productivity) and organizational outcomes (learning capacity, inclusive culture)
Participation	Strengthens experiences of employess (feeling valued, recognition) and experiences of stakeholders (shared decision- making, cohesion).
Support	Directly improves experiences of employess (well-being, belonging) and indirectly enhances job performance (task accomplishment, productivity)
Training	Raises job performance (skills, communuication) and contributes to orgnizational outcomes learning, engagement)

(Aknes, 2024).

This approach is necessary for 2 important reasons: 1. the work of people with disabilities will positively affect their health status and well-being. 2. It will strengthen the economy. Studies have also shown the self-confidence-enhancing effect of the study on disabled individuals (Provencher et al, 2022; Ipol, 2010).

In conclusion, the findings of this study highlight the presence of employees with diverse health problems alone and coexist together like ASD and DM in the workplaces. The observation of a participant with self reported DM and ASD also raises awareness of another occupational health issue, i.e. excessive fluid consumption. The aim of this study is not to establish a causal relationship between ASD and DM, but to emphasize the importance of awareness, individualized occupational health approaches.

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