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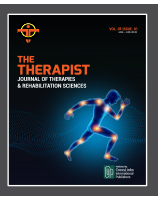

Original Article

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Prevalence of Avoidant/Restrictive Food Intake Disorder (ARFID) in Undergraduate DPT Students

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ABSTRACT

Avoidant/Restrictive Food Intake Disorder (ARFID) is a relatively new eating disorder diagnosis characterized by limited food intake due to lack of interest, sensory-based avoidance, or concern about aversive consequences, which can negatively impact nutritional health and quality of life. University students, such as those pursuing a Doctor of Physical Therapy (DPT), may be at risk due to stress and lifestyle factors. **Objectives:** To determine the prevalence of ARFID in undergraduate DPT students. **Methods:** A cross-sectional study was conducted on 377 students from different universities in Karachi using the PARDI-AR-Q-Self-14+ questionnaire. SPSS version 22 was used for data analysis, including frequencies and percentages. **Results:** The findings revealed that out of 377 participants, 28% responded "YES" while 72% responded "NO" to ARFID prediction. Participants' ages ranged from 18 to 26 years, with a female majority (72%) compared to males (27%). The highest prevalence was observed in lack of interest in food, with 53.3% at level 1, 18.3% at level 2, 15.1% at level 3, 8.5% at level 4, 4.0% at level 5, and 1.1% at level 6, whereas sensory-based avoidance showed the lowest prevalence. Most participants fell within a healthy BMI range, while the least were classified as obesity class I. **Conclusions:** Undergraduate DPT students demonstrated low prediction of ARFID but highlighted a notable lack of interest in food or eating as the most prevalent pattern. The overall findings suggest limited awareness about ARFID among students, indicating a need for educational programs, seminars, and webinars to increase awareness and promote a better quality of life.

INTRODUCTION

The DSM-5 includes a new diagnosis named Avoidant/Restrictive Food Intake Disorder (ARFID), a severe eating disorder in which a person avoids certain meals, limits food intake, or avoids eating completely, resulting in long-term failure to meet nutritional needs and affecting men and women of all ages [1]. ARFID has gained attention due to its potential impact on health, academic performance, and psychological wellness among young adults, particularly students in demanding programs such as Doctor of Physical Therapy (DPT). International studies report ARFID prevalence in children and adolescents ranging from 1% to 5%, while in young adults, it may reach 5-8% [2]; nationally in Pakistan, data are limited, but emerging evidence suggests restrictive eating patterns are present among university students [3]. ARFID arises from a combination of genetic, psychological, biological, cultural, and social factors [4], with genetic causes including hereditary predispositions and environmental influences such as dietary restrictions at home, sociocultural pressures including thinness ideals and strict food beliefs, and psychological factors linking ARFID with OCD, anxiety, ADHD, and autism, where symptoms such as sensory sensitivity, weak hunger signals, and fear of choking or vomiting contribute to restricted eating [5].

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Signs and symptoms include picky eating, lack of interest in food, texture avoidance, fear of choking or allergic reactions, and possible malnutrition [6-8]. Five subtypes are recognized: avoidant ARFID, aversive ARFID, restrictive ARFID, adult ARFID, and ARFID plus, which coexists with conditions like OCD or autism [5]; in this study, all subtypes were considered, with the majority of participants exhibiting the "lack of interest in food or eating" pattern. Diagnosis under DSM-5 TR requires evidence of nutritional deficiency, weight loss, psychosocial impairment, and exclusion of other disorders [1], and treatment involves a multidisciplinary team including doctors, psychiatrists, psychotherapists, and dietitians, with approaches such as Cognitive Behavioral Therapy for ARFID (CBT-AR), Family Based Therapy (FBT-ARFID), and Supportive Parenting for Anxious Childhood Emotions (SPACE-ARFID) [7]. Another serious eating disorder described in DSM-5 is PICA (Persistent Ingestion of Non-Nutritive Substances), defined as the persistent consumption of non-nutritive substances for at least one month, which may occur due to nutritional deficiencies, pregnancy, intellectual disabilities, or psychiatric disorders such as schizophrenia and OCD, and involves ingestion of substances like clay, ice, soap, dirt, paint, or hair, causing symptoms such as abdominal pain, constipation, diarrhea, anemia, parasitic infections, lead poisoning, and intestinal obstruction [9-11]. Both ARFID and PICA are associated with serious health consequences, including malnutrition, impaired academic performance, and psychosocial difficulties, highlighting the importance of early detection and multidisciplinary care [12-14]. Despite the global prevalence of ARFID, limited data exist for university students, particularly undergraduate DPT students in Pakistan, and understanding prevalence and patterns in this population is essential to develop awareness programs, preventive strategies, and appropriate interventions. Early identification of ARFID patterns can prevent long-term nutritional deficiencies and psychological complications, improve academic performance, and support overall health and quality of life among students.

This study aims to determine the prevalence of ARFID in undergraduate DPT students.

METHODS

A cross-sectional study was conducted for six months among undergraduate students of physical therapy from different medical universities in Karachi (June to December 2024), using a convenience sampling technique with a sample size of 377 calculated via the Rao-Soft sample size calculator. Inclusion criteria included male and female undergraduate DPT students aged 18–26 years willing to participate, while exclusion criteria covered individuals below 18 or above 26 years, pregnant women, non-physical therapy medical and non-medical students, school-going students, and those unwilling to participate. Data were collected using the PARDI-AR-Q-Self-14+ questionnaire, a 14-item self-report tool designed to assess ARFID in adolescents and adults, evaluating three domains: lack of interest in food/eating, sensory-based avoidance, and fear of aversive consequences. Each item is rated on a 6-point Likert scale (1 = not at all, 6 = extremely), with higher scores indicating greater severity, and mean scores were calculated for each domain to classify severity levels. Participants were approached, the research procedure was explained, informed consent was obtained, ensuring confidentiality, and the questionnaire was collected immediately after completion. Ethical approval was obtained from the Institutional Ethical Review Committee of Isra University, Karachi Campus, and participation was voluntary. Data were coded and analyzed using SPSS version 22, with descriptive statistics including frequencies, percentages, mean, standard deviation, minimum, and maximum values calculated for demographic variables, BMI categories, ARFID prediction, and ARFID domain scores. Data visualization was performed using tables and bar charts to display ARFID patterns. As this was a descriptive study, no inferential statistical tests were applied.

RESULTS

The prediction of ARFID was reported; out of 377 participants, 28% participants responded Yes, and 72% participants responded No (Table 1).

Table 1: Prediction of ARFID

Variables	Frequency (%)	Cumulative Percent
Yes	112 (28%)	28%
No	265 (72%)	72%

The gender of the participants was mentioned. Out of 377 participants, 72% were female, while 27.6% were male. The BMI of the participants was mentioned. Out of 377 participants, 26.8% participants were underweight, 52.8% participants were of a Healthy weight, 17.2% participants were overweight, and 3.2% participants were in obesity class I (Table 2).

Table 2: Gender and BMI of Participants

Variables	Frequency (%)	Cumulative Percent
Gender		
Female	273 (72.4%)	72.4%
Male	104 (27.6%)	100.0%
Total	377 (100.0%)	–
BMI		
Underweight	101 (26.8%)	26.8%
Healthy Weight	199 (52.8%)	79.6%

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Overweight	65 (17.2%)	96.8%
Obesity Class I	12 (3.2%)	100.0%
Total	377 (100.0%)	-

The sensory-based avoidance by the participants was reported. Out of 377 participants, 73.7% participants were at level 1, 9.3 % participants were at level 2, 5.3 % participants were at level 3, 4.2% participants were at level 4, 3.2 % participants were at level 5, while 4.2 % participants were at level 6 (Table 3).

Table 3: Sensory-Based Avoidance

Variables	Frequency (%)	Cumulative Percent
1	278 (73.7%)	73.7%
2	35 (9.3%)	83.0%
3	20 (5.3%)	88.3%
4	16 (4.2%)	92.6%
5	12 (3.2%)	95.8%
6	16 (4.2%)	100.0%
Total	377 (100.0%)	–
Mean of Sensory-Based Avoidance		
Mean ± SD	1.67 ± 1.349	–
Minimum	1	–
Maximum	6	–

The Lack of interest by the participants was reported. Out of 377 participants, 53.3% participants were at level 1, 18.3 % participants were at level 2, 15.1 % participants were at level 3, 8.5 % participants were at level 4,4.0 % participants were at level 5, while 1.1 % participants were at level 6 (Table 4).

Table 4: Lack of Interest

Variables	Frequency (%)	Cumulative Percent
Levels of Lack of Interest		
1	201 (53.3%)	53.3%
2	68 (18.0%)	71.4%
3	57 (15.1%)	86.5%
4	32 (8.5%)	95.0%
5	15 (4.0%)	98.9%
6	4 (1.1%)	100.0%
Total	377 (100.0%)	–
Mean of Lack of Interest		
Mean ± SD	1.95 ± 1.246	–
Minimum	1	–
Maximum	6	–

DISCUSSION

Avoidant/Restrictive Food Intake Disorder (ARFID) is characterized by restricted food intake either through avoidance of certain foods or by reducing overall quantity, and it can occur across all ages, genders, and body weights [15]. Restriction is often associated with sensory-based avoidance, lack of interest in food, or concern about aversive consequences. Previous research among adults with disorders of gut–brain interaction demonstrated that ARFID symptoms were linked to lower body mass index (BMI), whereas shape/weight-motivated eating disorders were more closely associated with higher depression, anxiety, and pain interference. This suggests that ARFID symptomatology is not restricted to underweight individuals and may present across different body weight categories, aligning with the notion that ARFID is independent of weight or shape concerns. Gender distribution in ARFID has been reported to show a higher prevalence among females, although the disorder can affect all genders [16, 17]. The predominance of females in previous studies may reflect greater reporting or awareness of eating-related difficulties in this group. The PARDI-AR-Q questionnaire has been widely used in ARFID research to establish diagnoses and evaluate the concurrent validity of its subscales, showing excellent reliability [18, 19]. Sensory-based avoidance and lack of interest in food are consistently identified as the most prominent drivers of restrictive eating behaviors, whereas concern about aversive consequences, although less frequent, may still contribute meaningfully to ARFID symptomatology. These findings highlight the multidimensional nature of ARFID and the importance of assessing all relevant domains when evaluating patients. Previous psychometric validation of the PARDI-AR-Q demonstrated that severity-of-impact items clustered into four factors: concern about aversive consequences, sensory-based avoidance, lack of interest, and overall severity. High intraclass correlations across these subscales support its concurrent validity and the robustness of its domains in assessing ARFID-related symptomatology [20].

CONCLUSIONS

The highest prevalence of sports injuries was observed among football players, with ankle sprains and muscle pain being the most common. Other types of injuries were also reported. Most injuries occurred during the second half of matches, and the primary causes were identified as kicking the ball, foul play, and running.

Authors Contribution

Conceptualization: S
Methodology: MM, KA
Formal analysis: GF
Writing review and editing: AMA

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

All the authors declare no conflict of interest.

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