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# NEPALI VERSIONS OF FISHER'S AUDITORY PROBLEMS CHECKLIST AND THE CHILDREN'S AUDITORY PERFORMANCE CHECKLIST

Contributions:  
A Study design/planning  
B Data collection/entry  
C Data analysis/statistics  
D Data interpretation  
E Preparation of manuscript  
F Literature analysis/search  
G Funds collection

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## Abstract

**Introduction:** Central Auditory Processing Disorder (CAPD) involves deficits in the processing of auditory information within the central nervous system. Children with CAPD remain undiagnosed in Nepal due to a lack of assessment tools. Developing a screening tool for CAPD in the Nepali language is needed to identify at-risk children.

**Material and methods:** Fisher's Auditory Problems Checklist (FAPC) and the Children's Auditory Performance Checklist (CHAPS) were translated into Nepali using the translation/back-translation method. The questionnaires were administered to 100 students in the Kathmandu valley using cluster sampling. Internal consistency and test-retest reliability analysis were undertaken, and validity was measured in terms of face validity.

**Results:** Cronbach's alpha was 0.761 for FAPC and 0.949 for CHAPS. All questions received a rating of > 4 from 5 audiologists, confirming their adequacy in terms of content, clarity, and intended purpose. Pearson's *r*-value of 0.998 for CHAPS and 0.775 for FAPC was obtained in test-retest reliability analysis.

**Conclusions:** The Nepali versions of Fisher's checklist and CHAPS demonstrated good internal consistency, test-retest reliability, and face validity, supporting their use as preliminary CAPD screening tools.

**Keywords:** screening tool • central auditory processing disorder • CAPD • CHAPS • FAPC

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## NEPALSKE WERSJE LISTY TRUDNOŚCI SŁUCHOWYCH FISHERA (FAPC) ORAZ SKALI OCENY PRZETWARZANIA SŁUCHOWEGO U DZIECI (CHAPS)

### Streszczenie

**Wprowadzenie:** Ośrodkowe zaburzenia przetwarzania słuchowego (CAPD) obejmują deficyty w zakresie przetwarzania informacji słuchowych w obrębie ośrodkowego układu nerwowego. Dzieci z CAPD pozostają w Nepalu niezdiagnozowane z powodu braku odpowiednich narzędzi do oceny. Opracowanie narzędzia przesiewowego w języku nepalskim jest konieczne, aby umożliwić identyfikację dzieci z grup ryzyka.

**Materiał i metody:** Listę trudności słuchowych Fishera (FAPC) oraz Skalę oceny przetwarzania słuchowego u dzieci (CHAPS) przetłumaczono na język nepalski metodą tłumaczenia zwrotnego. Kwestionariusze zastosowano u 100 uczniów z doliny Katmandu z zastosowaniem doboru losowego klastrowego. Przeprowadzono analizę rzetelności wewnętrznej oraz test-retest oraz określono trafność fasadową.

**Wyniki:** Współczynnik alfa Cronbacha wyniósł 0,761 dla FAPC oraz 0,949 dla CHAPS. Wszystkie pytania uzyskały ocenę powyżej 4 od pięciu audiologów, co potwierdza adekwatność pytań pod względem treści, jasności oraz zgodności z zamierzonym celem. W analizie test-retest uzyskano współczynnik korelacji Pearsona  $r = 0,998$  dla CHAPS oraz  $r = 0,775$  dla FAPC.

**Wnioski:** Nepalskie wersje FAPC i CHAPS wykazały dobrą spójność wewnętrzną, wysoką rzetelność test-retest oraz zadowalającą trafność fasadową, co potwierdza ich przydatność jako wstępnych narzędzi przesiewowych w kierunku CAPD.

**Słowa kluczowe:** narzędzie przesiewowe • zaburzenia ośrodkowego przetwarzania słuchowego • CAPD • CHAPS • FAPC

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Key to abbreviations	
AAA	American Academy of Audiology
APDQ	Auditory Processing Domains Questionnaire
ASHA	American Speech-Language-Hearing Association
CANS	central auditory nervous system
CAPD	central auditory processing disorder
CHAPS	Children's Auditory Performance Checklist
CHAPPS	Children's Auditory Processing Performance Scale
CI	confidence interval
FAPC	Fisher's Auditory Problems Checklist
ICC	intraclass correlation coefficient

## Introduction

Auditory processing involves identifying the spatial location, nature, and content of sounds, segregating the stimulus from background noise, and interpreting the auditory input [1]. Various components of the central auditory nervous system (CANS) collaboratively function to achieve these tasks [2]. Central auditory processing disorder (CAPD) is a disorder arising from impairment of CANS, leading to challenges in the perceptual processing of auditory information and contributing to delays in various skills, such as learning and language, where effective listening plays a crucial role [3].

The World Health Organization's *Report on Hearing* acknowledges auditory processing disorder as a distinct clinical entity present throughout an individual's lifespan and highlights the adverse impact of the disorder on mental health [4]. Individuals with CAPD are poor listeners [4], inattentive [5], have inconsistent responses to sounds [6], exhibit difficulty understanding rapid speech, have confusion with verbal directions [7], and have trouble recalling events sequentially [8]. The actual incidence and prevalence of CAPD remain uncertain worldwide because there is no universally accepted diagnostic criterion [9] or gold-standard assessment tool [10].

To date, no epidemiological studies have been conducted to estimate the prevalence of CAPD in Nepal. Globally, the prevalence of CAPD in school-age children has been reported to vary widely, ranging from 0.2% [11] to 2.5% [12] in the US and up to 6.2% in New Zealand [13]. A study by Wilson and Arnott [9] found that, depending on the diagnostic criteria and test protocols applied, between 7.3% and 96% of children in Australia referred for auditory processing assessment were identified with CAPD. In India, the prevalence of CAPD is 3.2% in school-aged children [14], which is similar to the 2–5% prevalence in school-aged children reported by Bellis [15]. Some of the known etiological factors include prenatal and neonatal risks (such as cytomegalovirus, low birth weight, neuro-maturational delay), acquired conditions (accidents, chronic otitis media, degenerative disorders, neurological illnesses,

improper treatment of hearing loss), aging, genetic factors, and metabolic disorders [16].

Diagnosis of CAPD is a complex process, requiring a combination of psychoacoustic and electrophysiological tests [17] conducted by an audiologist [18]. A test battery approach is recommended for assessing CAPD, as it allows for comprehensively evaluating all auditory processes [19]. A CAPD test battery should include tests of temporal ordering, such as frequency and duration pattern tests, tests of monaural auditory closure, like low-pass filtered speech and other similar measures, and tests of binaural separation and integration, like dichotic tests [20]. In addition, an audiologist needs to take into account various factors when choosing an appropriate central auditory diagnostic test battery, like the linguistic, cognitive, and non-auditory requirements of the auditory assessments, and in the case of children, maturation of the auditory system [18].

Screening questionnaires help identify individuals who are candidates for auditory processing evaluation [21]. The questionnaires assess auditory ability across multiple domains, from directly assessing hearing in different situations to broader cognitive factors that influence auditory processing, including attention and memory. Questionnaires help identify the population most likely to benefit from central auditory assessment, thereby reducing unnecessary testing, lowering costs, and improving the efficiency of diagnosis and rehabilitation [2].

Commonly used CAPD questionnaires for children are the Children's Auditory Performance Scale (CHAPS) [22], Fisher's Auditory Problems Checklist (FAPC) [23], and the Auditory Processing Domains Questionnaire (APDQ) [24]. In one survey, 75% of 195 audiologists reported using questionnaires to screen for the presence of CAPD [25]. Some 63% of them reported they used FAPC, and 51% used CHAPS. These questionnaires have been translated into multiple languages. For instance, Volpatto et al. [26] described the Brazilian Portuguese CHAPS. Garbaruk et al. [27] validated the Russian versions of the CHAPS questionnaire and of Fisher's Auditory Checklist, reporting that parents found Fisher's questionnaire more convenient to complete.

CHAPS was originally called the Children's Auditory Processing Performance Scale (CHAPPS) [22], and consists of 36 questions divided across 6 sub-sections: *Hearing in Noise*, *Quiet*, *Ideal*, and (situations with) *Multiple Inputs*, *Memory*, and *Attention*. The questions are based on the most frequently reported symptoms of CAPD during referral by teachers and parents [21]. They explore the practical listening demands of children, such as responding to questions, listening to someone's dictation, and following commands. Additionally, certain dichotomies, such as simple versus complex directions, listening when attentive versus not attentive, and listening when visual cues are present versus when they are not, are included in the test. Respondents are teachers or parents who are asked to complete the questionnaire comparing the referred child to the listening difficulties faced by children of similar backgrounds and age on a 7-point Likert-type scale that ranges from -5 to +1, where -5 indicates "cannot function at all" and +1 indicates "less difficulty". Besides screening, CHAPS

can be useful in prescribing interventions and in measuring the effects of the therapeutic intervention. It is recommended for CAPD screening by the American Speech-Language-Hearing Association (ASHA) [18].

While somewhat narrower in focus than CHAPS, the FAPC offers valuable insights into children's functional listening behaviors within a classroom setting. The checklist is specifically intended for classroom teachers to complete. It is a 25-item questionnaire that employs a straightforward checkmark system to identify auditory behaviors. It yields a single score, which can be categorized as either indicative or non-indicative of the need for further evaluation. It is designed for children aged 5 years to 11 years and 11 months. It is listed as a recommended tool for screening by the American Academy of Audiology (AAA) [28].

CAPD assessment tools have not been developed in the Nepali language to date, meaning that children and adults with CAPD are going undiagnosed. The WHO has emphasized the importance of assessing central auditory processing in individuals with mild hearing loss, as well as in those presenting with normal pure tone audiometry [29]. This is also consistent with the European APD consensus [30]. Audiology as a clinical discipline is still in its early stages in Nepal. Pure-tone audiometry and tympanometry are routinely performed, and higher tests like auditory brainstem response and otoacoustic emissions are limited to a few centers only. Pure tone audiometry does not capture the listening challenges individuals face in everyday environments, but there are screening questionnaires developed for this very purpose. These screening questionnaires are quick to use, inexpensive, and do not require any extra instrumentation. When used in conjunction with routine audiological testing, they can aid in the detection of CAPD in Nepal.

When selecting the CAPD questionnaire to translate, we considered three widely used and validated tools: CHAPS, FAPC, and APDQ. The FAPC was chosen for translation because of its brevity, making it suitable as a quick screening instrument. Both the CHAPS and APDQ offer assessment across multiple scales, providing valuable information even in the absence of diagnostic testing. However, the APDQ contains 52 items compared to 36 in the CHAPS, making the latter more practical and less time-consuming to administer. In addition to these advantages, CHAPS and FAPC are the most widely used tools in both clinical and educational contexts. Therefore, the current study's aims were to translate and validate the CHAPS questionnaire and FAPC checklist in the Nepali language.

## Material and methods

### Translation of the questionnaires

Evidence shows that health-related questionnaires should not be literally translated into other languages [31]. Such a translation can result in assessing concepts that were not intended to be measured. When measurement tools are used across cultures, they must go beyond accurate linguistic translation. The items also need to be culturally adapted to ensure that the instrument maintains its validity in each cultural context [32]. CHAPS and FAPC

are both developed in English, so translating them to Nepali requires cross-cultural adaptation. It is important to ensure that the words in the original questionnaire accurately reflect their intended meaning in the target language [33] as well.

To ensure this, we used the translation/back-translation method [34]. An audiologist translated both tools into the Nepali language (forward translation). The translated questionnaires were then given to a panel of four lecturers specializing in linguistics with expertise in the Nepali language to rate the clarity and syntactic accuracy of the questionnaires on a 5-point rating scale. The scale ranged from 1 ("not clear/inaccurate") to 5 ("extremely clear/highly accurate"). Back-translation to English was performed by a Master's student in linguistics, who was fluent in both English and Nepali but unfamiliar with CHAPS and FAPC, and had no prior involvement in the study.

Each item in the original questionnaires was contrasted with the back-translated version to note any discrepancies between the two. Any discrepancies that were noted were corrected by the authors so that the items in the translated questionnaires contained the same information as the original tests. Then, the translated questionnaires were distributed to 15 native Nepali speakers, with the intent of validating the clarity, linguistic appropriateness, and content of the translated items. In this phase, participants were asked to employ a rating scale with 5 points, ranging from 'appropriate' to 'not appropriate,' to assess each item's clarity. Only those items that were rated as 'appropriate' were retained, and those that received lower ratings were changed to make them appropriate.

For instance, in the CHAPS questionnaire, in the subscale *Multiple Inputs*, examples depicting the listening environment like 'हेरेर + सुनेर' (visual + auditory input) were added in the description of the listening environment after the cohort found it difficult to understand. Examples were also added in question 10 of the FAPC to make it more comprehensible to Nepali teachers and parents. The face validity of the questionnaire was evaluated to ensure its content and clarity. Five qualified audiologists were tasked with rating the items using a 6-point scale, and the items that received a rating of > 4 (clear and mostly appropriate) were deemed valid, affirming their adequacy in terms of content, clarity, and intended purpose.

### Participants

The sample size was calculated using the single proportion formula [35], assuming a prevalence of CAPD to be 3% based on previous studies [18,36], a 5% margin of error, and a 95% confidence level. This yielded a minimum sample size of 45. In this study, a larger sample of 100 participants was intentionally recruited to improve the precision of the reliability and validity estimates.

A multi-stage sampling method was used for the study. First, a list of all the schools in the Kathmandu district was obtained. The schools were then divided into clusters based on municipalities, and a municipality randomly selected. Finally, simple random sampling was used to select 5 schools within the selected municipality. All selected

**Table 1.** Descriptive statistics and reliability (Cronbach's alpha) of the CHAPS subscales

Subscales	N	Min	Max	M	SD	$\alpha$	CI
Noise	100	-1.43	1.00	0.174	0.6394	0.839	0.81–0.87
Quiet	100	-1.00	1.00	0.447	0.5500	0.862	0.84–0.89
Auditory Memory	100	-1.37	1.00	0.170	0.6212	0.855	0.83–0.89
Auditory Attention	100	-1.62	1.00	0.235	0.5904	0.846	0.82–0.88
Ideal Listening Condition	100	-1.00	1.00	0.705	0.4237	0.609	0.53–0.69
Multiple Input	100	-1.00	1.00	0.387	0.6226	0.750	0.71–0.79
Total	100	-5.00	6.00	2.11	2.80	0.949	0.93–0.96

Note: N = number of samples, Min = minimum, Max = maximum; M = mean score; SD = standard deviation;  $\alpha$  = Cronbach's alpha; CI = confidence interval

**Table 2.** Descriptive statistics and reliability (Cronbach's  $\alpha$ ) of FAPC

	N	Range	Min	Max	M	SD	$\alpha$	CI
Score	100	24	76	100	87.36	7.52	0.761	0.71–0.80

Note: N = number in sample, Min = minimum, Max = maximum; M = mean score; SD = standard deviation;  $\alpha$  = Cronbach's alpha; CI = confidence interval.

schools were English-medium day schools located in urban areas of Kathmandu and predominantly catered to children from middle to upper socioeconomic backgrounds, as indicated by tuition fee structures and school amenities. From each school, 20 students, aged 7 to 17 years, all of whom had an unremarkable audiological history and passed hearing screening, were chosen using a lottery method, and a total sample of 100 students was obtained.

The final sample consisted of 51 males and 49 females with a mean age of 8 years and 11 months (SD = 1 year and 8 months). After obtaining consent from the school principal and parents of the students included in the sample, the Nepali versions of the CHAPS and FAPC were completed by teachers. To support data collection, the teachers were oriented to the questionnaires and instructed to monitor each child's listening behaviors across 3 consecutive days before test administration.

### Statistical analysis

SPSS version 25.0 was used for data analysis. Cronbach's alpha was computed to measure the internal consistency of items on both questionnaires, which ensured the reliability of the tests among the Nepali pediatric population. Similarly, the test–retest reliability of the tests was analyzed by computing the intraclass correlation coefficient (ICC). Re-testing was done on 10% of the sample after 4 weeks of initial testing. The level of statistical significance was set at  $p < 0.05$ . Face validity of the tests was measured by five qualified audiologists who rated the clarity and content of the items using a 6-point rating scale from 1 (indicating “not clear and not appropriate”) to 6 (“extremely clear and highly appropriate”). Items that received a rating greater than 4, indicating “clear and mostly appropriate”, from all the raters, were considered valid. The relationship between total scores of the FAPC and CHAPS was also examined

using Pearson's product–moment correlation coefficient to assess convergent validity.

## Results

### Children's Auditory Performance Scale

According to the face validity assessment, all items received scores greater than 4, indicating good face validity. The Cronbach alpha of the Nepali CHAPS was 0.949 with a confidence interval: CI = 0.93 to 0.96. The average CHAPS scores across different subscales, along with their corresponding Cronbach's alpha values, are presented in **Table 1**. The overall mean CHAPS total score was 2.11 (SD = 2.80). The mean subscores ranged from 0.17 (*Auditory Memory*) to 0.71 (*Ideal Listening Conditions*), with standard deviations ranging from 0.42 to 0.64. Among the subscales, *Quiet* demonstrated the highest internal consistency ( $\alpha = 0.862$ ), followed closely by *Noise* ( $\alpha = 0.839$ ) and *Auditory Memory* ( $\alpha = 0.855$ ). In contrast, the *Ideal Listening Condition* subscale showed the lowest internal consistency ( $\alpha = 0.609$ ). Similarly, the intraclass correlation coefficient indicated excellent test–retest reliability for the total score (ICC = 0.923). Ceiling effects were observed in 10 of the 36 items, with more than 15% of participants selecting the highest possible score on these questions. No floor effects were detected in any of the items.

### Fisher's Auditory Problems Checklist

According to the face validity assessment, a score greater than 4 was obtained on all items, confirming the validity of FAPC. Descriptive statistics and internal consistency of the FAPC are shown in **Table 2**. The scores ranged from 76 to 100, with a mean of 87.36 (SD = 7.52). The scale demonstrated acceptable reliability, with a Cronbach's  $\alpha$  of 0.761 (CI = 0.71–0.80). The overall ICC of 0.717 was

obtained suggesting good reliability of the FAPC. Similarly, no ceiling and floor effects were observed in FAPC.

Similarly, Pearson's correlation analysis revealed a statistically significant positive correlation between the total CHAPS and FAPC scores ( $r = 0.62$ ,  $p < 0.001$ ), indicating a strong association and supporting convergent validity between the two instruments.

## Discussion

The current study aimed to translate the CHAPS and FAPC questionnaires into Nepali and determine their validity and reliability. The questionnaires were translated into Nepali using a translation/back-translation method, and data was collected from teachers of 100 normal-hearing students. Results indicated that the Nepali versions of CHAPS and FAPC were valid and reliable screening tools for CAPD and can be reliably used for both clinical and research purposes.

CHAPS total scores ranged from  $-5.00$  to  $6.00$  (mean =  $2.11$ , SD =  $2.80$ ). Among the CHAPS subscales, the *Ideal listening* subscale had the highest mean score ( $0.71$ , range =  $-1.00$  to  $1.00$ ), whereas the *Auditory Memory* subscale had the lowest mean score ( $0.17$ , range =  $-1.37$  to  $1.00$ ). The pattern of better auditory performance in the ideal conditions and relatively poorer performance when challenged by noise is because the listening and understanding of young children is better in ideal conditions compared to other conditions [21].

Similarly, FAPC scores ranged from  $76$  to  $100$ , with  $7\%$  of participants achieving the maximum possible score. The minimum was obtained by  $14\%$  of participants, and the average total score was  $87.36$ . On the FAPC, item 15 ("Has difficulty recalling a sequence that has been heard") showed the highest rate of concern, with  $40\%$  of participants reported as experiencing this difficulty. The established normative cut-off values in the literature suggest that children without CAPD score greater than  $72\%$  [37] in the FAPC and a total score between  $-11$  and  $+36$  in the CHAPS [20]. In our study, when both questionnaires were administered to the same sample, the findings independently fell within the normative ranges, suggesting the sample is not at risk of CAPD. It also shows the convergence of results and supports the validity of the tests.

Ceiling effects (defined as  $\geq 15\%$  of respondents selecting the highest performance category) were observed in 10 out of 36 items in CHAPS. They include: following simple instructions in noise (Item 3) and under ideal listening conditions (Item 16); listening in a group in noise (Item 7) and in quiet (Item 14); listening to complicated or multiple instructions in noise (Item 4), in quiet (Item 11), and under ideal conditions (Item 17). Ceiling effects were also found on items involving multiple inputs, namely listening while watching the speaker's face (Item 18), listening and reading along while material is read aloud by another (Item 19), and listening while watching an accompanying illustration (Item 20). These items represent common classroom listening situations. As the ratings were provided by teachers for children with normal hearing, these familiar, routine classroom situations were likely

perceived as areas of consistently good performance, which may have led teachers to assign uniformly high ratings on these specific items. No floor effects were detected in any item, as none of the respondents selected the lowest response category. Similarly, no ceiling and floor effects were observed in FAPC. This pattern is consistent with the fact that the sample consisted entirely of students without CAPD symptoms.

Reliability and validity are important factors determining the clinical utility of a test. A test should provide a legitimate measure of the function it claims to measure (validity), and it should do so consistently (reliability). Therefore, a test developed to screen for CAPD should consistently assess the integrity of CANS. While both tests are established as reliable and valid in their original versions, it is important to confirm that this is retained in the translated questionnaires. The reliability of the Nepali versions of the tests was evaluated through internal consistency, measured by Cronbach's  $\alpha$ , and test-retest reliability calculated using ICC between two administrations of the test 4 weeks apart. We found that the Nepali CHAPS and FAPC have excellent internal consistency. The overall Cronbach  $\alpha$  of Nepali CHAPS was  $0.949$  (CI =  $0.93$ – $0.96$ ). Across the subscales in Nepali CHAPS, the *Quiet* section had the highest  $\alpha$  ( $0.862$ ), which suggests a strong internal consistency of that sub-section, and the *Ideal* section had the lowest ( $0.609$ ). The *Ideal Condition* had a comparatively lower internal consistency in Turkish CHAPS as well. The lower  $\alpha$  for the *Ideal Condition* may be due to the reduced variability in children's performance under the optimal listening environments. When most of the responses cluster at the higher end, the restricted range limits inter-item correlations. The  $\alpha$  of FAPC was  $0.761$ , which is acceptable, as Cronbach's  $\alpha$  values above  $0.7$  are considered good. Similarly, the test-retest reliability of CHAPS was excellent with a reliability coefficient of  $0.998$ . The Nepali version of FAPC also had good test-retest reliability, with a reliability coefficient of  $0.775$ . Similarly, in the face validity analysis, all items in both the questionnaires received ratings above the minimum acceptable threshold of  $4$ , indicating "clear and mostly appropriate" on a 6-point rating scale when judged by 5 qualified audiologists. The questions were evaluated based on the clarity and representativeness of the intended constructs. The Nepali versions of CHAPS and FAPC also demonstrated good face validity and acceptable convergent validity, indicating that both instruments are appropriate measures of auditory performance and related listening difficulties in the studied population.

The overall Cronbach  $\alpha$  of Nepali CHAPS ( $0.949$ ) is similar to other studies: Turkish CHAPS had  $\alpha = 0.97$  [38], Polish CHAPS had  $\alpha = 0.97$  [39], Arabic had  $\alpha = 0.99$  [40]. The *Ideal condition* had a comparatively lower internal consistency in Turkish CHAPS, similar to our study. Bayden et al. [38] reported that the Turkish adaptation of CHAPS demonstrated strong reliability and validity, with high internal consistency and a factor structure accounting for  $77.8\%$  of the variance in scores. Their translation process followed a translation/back-translation procedure, and data were collected from the parents of 150 children aged 7–15 years. Bienkowska et al. [39] suggested that the Polish version of CHAPS enables a reliable measurement of hearing as well as understanding difficulties in

children. It is also reflected in the Polish version of CHAPS, where the mean scores for *Noise* and *Ideal Conditions* were  $-0.34$  and  $0.26$ , respectively. Arabic CHAPS, like ours, used a 6-point rating scale to assess face validity. The internal consistency of Nepali FAPC was  $0.761$ , which is comparable to Persian FAPC. In the Persian validation of FAPC, 25 children with APD and 25 normal-hearing controls (8–12 years) were included, and the questionnaire had good internal consistency (Cronbach's  $\alpha = 0.85$  in the APD group and  $0.71$  in controls) and acceptable test–retest reliability (ICC =  $0.71$ – $0.74$ ). Mean checklist scores clearly differentiated the groups ( $46.6$  in the APD group vs  $94.7$  in controls), and the questionnaire's effectiveness was further supported by its use alongside the dichotic digit test (DDT) and the word-in-noise test (WNT).

## Conclusions

This study has developed reliable and valid Nepali versions of the CHAPS and FAPC questionnaires. These questionnaires are fit for clinical use and help in identifying children who are at risk for CAPD without high cost or long evaluation time. In the future, questionnaires that can be used in the adult population need to be explored. Psychometric evaluation of the Nepali versions and determination of their sensitivity and specificity is also necessary.

## Limitations

Individuals may under or overestimate their listening difficulties based on their personality [41]. Some teachers may attribute a child's auditory problems to factors such as motivation and focus [42], whereas others may overattribute the problems to an auditory origin [43]. Thus, a formal CAPD diagnosis should always include behavioral

tests and a multidisciplinary assessment approach. Due to a lack of standardized diagnostic tools for CAPD in the Nepali language, we were unable to independently confirm the presence or absence of CAPD in the sample. We were also unable to recruit a clinical group of students with CAPD in the study and conduct psychometric analyses. The test–retest sample taken in our study was small ( $n = 10$ ), which may not be representative. The possibility of teacher bias also remains, as teachers rated their own students, and blinding was not feasible.

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## Conflict of Interest

The authors declare no conflicts of interest.

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## Ethical Approval

Ethical approval for this study was obtained from the Institutional Review Committee of the Institute of Medicine, Tribhuvan University, Nepal (reference number 515 (6-11) E2).

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