The aim of this study was to explore primary school teachers’ awareness and knowledge of (Central) Auditory Processing Disorder ((C)APD). Teachers’ awareness and knowledge are crucial for initial recognition and appropriate referral of children suspected of having (C)APD. When a child is diagnosed with (C)APD, teachers have a role in implementing and monitoring the effectiveness of interventions. A questionnaire was designed and distributed to 53 primary schools in the Republic of Ireland. Findings indicated that 89.1% of participants reported poor/very poor awareness, while 92% reported poor/very poor knowledge of (C)APD. Results were compared with specific data obtained from a similar study carried out simultaneously in Northern Ireland. Overall, the majority of the participants reported that they have poor/very poor awareness and knowledge of (C)APD. These findings emphasise the need to establish training programmes for teachers and ultimately to support the provision of an appropriate service for children with (C)APD.

Key words: (Central) Auditory Processing Disorder, primary school teachers, teachers’ awareness.

Introduction

The auditory system can be divided into peripheral and central portions (Musiek & Baran, 2007). The peripheral auditory system consists of the outer, middle and the inner ear and the vestibulocochlear nerve. The role of the peripheral auditory system is to convert sound into an informative ensemble of neural signals (Clopton & Spelman, 2000). These neural signals are then carried by the vestibulocochlear nerve to the central auditory system. The central auditory system is an organisation of neural structures and connections within the brain. Its role is to process the neural signals transmitted from the vestibulocochlear nerve and convert them into auditory sensations before transmitting them to the auditory cortex to be processed (Musiek & Baran, 2007).

Katz, Stecker and Henderson (1992, p. 5) described central auditory processing as ‘what we do with what we hear’. In other words, it is the ability of the brain to analyse and process incoming neural information from both ears and transmit processed information to the auditory cortex and other areas within the nervous system (Stach, 2007). Once the brain has completed its analysis of the physical characteristics of the incoming sound, it then constructs an image of the signal from these component parts for comparison with stored images. If a match occurs, we can then understand what is being said or recognise sounds that have meanings in our lives such as a dog barking.

Hearing impairment(s) arising from pathology of the brain have been collectively termed (Central) Auditory Processing Disorders ((C)APD). The American Speech-Language-Hearing Association (ASHA) (2005) states that (C)APD refers to difficulties in the perceptual processing of auditory information in the auditory nervous system, demonstrated by poor performance in one or more of the following areas:

- auditory discrimination;
- auditory pattern recognition;
- temporal aspects of audition;
- auditory performance in competing acoustic signals;
- auditory performance with degraded acoustic signals.

Literature suggests that as many as 10% of children have some degree of (C)APD (Medical Research Council Institute of Hearing Research UK, 2004). Currently there are no statistics on the number of children in the Republic of Ireland presenting with (C)APD. It is, however, acknowledged that (C)APD exists: ‘The reality of auditory processing disorders in children can no longer be doubted’ (Jerger & Musiek, 2000, p. 467).

There is limited epidemiological information presently available on (C)APD. As a result there has been no general agreement or consensus internationally on diagnostic markers of (C)APD (Hind, 2006). The most commonly reported symptom of (C)APD, according to anecdotal reports from clinicians, is difficulty hearing in the presence of background noise (Bamiou, Musiek & Luxon, 2001). Other reported symptoms include:

- difficulty following oral instructions;
- inconsistent or inappropriate responses to requests for information;
difficulty understanding rapid speech;
remaining focused when listening;
difficulty or inability to detect the subtle changes in prosody that underlie humour or sarcasm;
difficulty maintaining attention;
a tendency to be easily distracted (American Academy of Audiology (AAA), 2010; (Bamiou et al., 2001; Jerger & Musiek, 2000).

These symptoms may translate into difficulties with communication and learning, including difficulty with speech and language and problems with reading (ASHA, 2005; Cacace & McFarland, 1998).

(C)APD symptoms become apparent in the early school years of a child’s life (Bamiou et al., 2001). This may be due to changes that occur in the acoustic environment, particularly in the school setting, and the fact that the majority of language is learned by listening. The inability of children with (C)APD to separate relevant auditory stimuli (the teacher’s voice) from irrelevant auditory stimuli (noise in the corridor) can disrupt their normal communication, language development and academic progress (Logue-Kennedy, Lyons, O’Shaughnessy, Byrne, Dewitt, Dignan & O’Hagan, 2011). Having difficulty with tasks that are critical for school performance makes learning more challenging and sometimes difficult for children with (C)APD. (C)APD may therefore have a negative impact upon a child both educationally and socially (Northern & Downs, 2001). It is likely, however, that children with (C)APD will constitute a heterogeneous group (Moore, 2006) and therefore the impact will be variable.

Awareness and knowledge of (C)APD
As audiologists and speech and language therapists (SLTs) are the health professionals recognised as key to the diagnostic process of (C)APD (Jerger & Musiek, 2000), it is natural to assume that these professionals have a clear awareness and knowledge of (C)APD. However, Hind (2006) highlighted a lack of understanding, identification and management of (C)APD among these two disciplines in the United Kingdom. Results signify that only 11.1% of participants screen or diagnose (C)APD in children. Of these participants, the majority (58%) consider themselves to be ‘not very well informed’ while a minority (1.5%) state that they are ‘very well informed’ about (C)APD. Similarly, in the Republic of Ireland, research by Logue-Kennedy et al. (2011) revealed that the majority of these key professionals self-rated their knowledge and awareness of (C)APD as poor or very poor.

A more recent study conducted in the USA (Chermak, Silva, Nye, Hashbrouck & Musiek, 2007) found a lack of awareness and knowledge among qualified audiologists regarding (C)APD in private practice, clinics and hospitals. Results indicate that only 45% of respondents identified the audiologist as the provider of auditory training. A total of 370 audiologists were randomly selected to participate. However, only 95 responses were received of which 90 were eligible to take part, giving a low response rate of 24%. This low level of response, particularly to those questions asked only of those who actually assess (C)APD, may misrepresent the perspective of a larger sample. The low response rate may also indicate a lack of awareness and knowledge among audiologists. A lack of awareness and knowledge may in turn impact on audiologists’ confidence in diagnosing and treating (C)APD.

The Irish National Children’s Strategy (Department of Health and Children, 2000) recognised that children with a disability are entitled to the services they need to achieve their full potential. Primary school teachers are thus encouraged to implement a framework that is comprehensive yet flexible to meet the needs of every individual child. A report by the National Council for Curriculum and Assessment (2005) found that 82.3% of primary school teachers in the Republic of Ireland foster a reading culture by providing opportunities for children to listen to the teacher or other children reading. For a child with (C)APD this is a challenging task and if the appropriate strategies are not implemented these children may not receive the appropriate level of education to meet their needs. The significance of children listening in a classroom environment leads to the need for classroom teachers to be aware and knowledgeable about (C)APD.

Teachers play an important role in identifying and appropriately referring children with suspected (C)APD (AAA, 2010) in addition to advocating for the child’s needs (ASHA, 2005). They also play a significant role in informing the other team members of a child’s processing strengths and weaknesses, implementing programmatic accommodations recommended by the audiologist, including those outlined in the Individual Education Plan, and assisting in monitoring the effectiveness of treatment for the child (AAA, 2010; ASHA, 2005; Hickson & Newton, 2000). As such, teachers have a key role as part of an interdisciplinary team in the identification and management of (C)APD in children.

To date no work has specifically targeted primary school teachers nationally in Ireland in relation to (C)APD. It is hypothesised that primary school teachers will have limited awareness and knowledge of (C)APD, yet teachers are in a position to be among the first to observe a child’s difficulties in managing auditory information. It is therefore possible that teachers may not know the potential impact the disorder can have upon a child and as a result not recognise the need to refer a child for assessment. Awareness and knowledge among this profession is crucial for initial recognition and appropriate referral.

Purpose of the study
This research study aimed to explore primary school teachers’ awareness and knowledge of (C)APD. The objectives of the research process were to:

• investigate primary school teachers’ awareness and knowledge of (C)APD;
• investigate primary school teachers’ graduate training particularly regarding (C)APD;
• compare data collected in the Republic of Ireland with data collected in a similar study in Northern Ireland.

**Phase 1**
A mixed methodology in the form of a questionnaire was used. The questionnaire was designed and customised to address the objectives outlined above. The development of this questionnaire was based on three different studies: Logue-Kennedy et al. (2011), Baldry and Hind (2008) and Hind (2006), with permission from all three. Changes were made in order to address the specific aim and objectives of this research. The questionnaire was designed in conjunction with a co-researcher who carried out a similar study in Northern Ireland. The questionnaires were identical with the exception of the words ‘Republic of Ireland’ for this study. The questionnaire contained different types of question, for example, dichotomous options (yes/no response), multiple choice, open-ended questions and a five-point Likert scale.

**Participants**
The target group for participation in this research were qualified mainstream primary school teachers working in the Republic of Ireland. The exclusion criteria included:

- student teachers;
- teachers in Gaelscoil.

Exclusion of teachers in Gaelscoil was due to the cost of having the questionnaire compiled and validated in Irish. Student teachers were excluded as they have not yet completed their training.

**Procedure**
To improve reliability of the research, the questionnaire was piloted on a sample of six qualified primary school teachers currently working in the Republic of Ireland. These participants were asked to provide specific feedback regarding the information sheet and questionnaire. Comments from the pilot studies were used to enhance the clarity of the questionnaire and information sheet.

**Sample size**
A list of primary schools was obtained through the Republic of Ireland’s Department of Education’s website. Data collected from a sample must be representative of the population to be valuable (Hicks, 2009). An approach to achieve this goal is random sampling (Maxwell & Satake, 2006). Eighty randomly chosen school principals were sent a letter of invitation requesting that the teachers in their school participate in this research project. Fifty-three school principals gave consent for the researcher to distribute questionnaires in their school.

There were 246 questionnaires with an accompanying letter of invitation and instruction sent to the 53 school principals to distribute to teachers in their school. It was anticipated that 100 questionnaires would be returned based on literature which stated that a 40% return rate is considered adequate (Hicks, 2009). The school principals agreed to circulate the questionnaires to individuals currently employed as primary school teachers. The participants were requested to complete the questionnaire by an agreed date and return it using an envelope provided, for confidentiality purposes.

**Data analysis**
The questionnaire contained 15 questions in total, 13 quantitative questions and two qualitative questions. The responses from the 13 quantitative questions were coded, entered and analysed using the Statistical Package for Social Scientists (SPSS), yielding descriptive statistics of frequency counts and percentage responses. The responses from the two qualitative questions were read, transcribed and colour-coded into themes by the researcher and the frequency of these themes was reported to quantify the variables.

**Phase 2**

**Procedure**
A similar research study was carried out simultaneously by a different researcher in Northern Ireland. An identical questionnaire with the exception of the words ‘Northern Ireland’ in place of ‘Republic of Ireland’ was used. It was agreed that specific data would be shared by both researchers in Phase 2 of this study for comparability. The specific data shared comprised results obtained for the awareness and knowledge of (C)APD.

**Results**

**Phase 1: response rate and respondents**
In total 246 questionnaires were distributed nationally, representing 53 primary schools in the Republic of Ireland. One hundred and thirty-seven questionnaires (55.7%) were completed and returned, 91 (37%) were not returned and 18 (7.3%) were returned but not completed.

**Awareness of (C)APD**
The opening question invited respondents to rate their current awareness of (C)APD. The participants had a combined result of 89.1% (n = 122) indicating poor/very poor awareness of (C)APD (Figure 1). Participants were then...
asked to indicate where they had obtained this awareness of (C)APD. Forty-eight participants (35%) answered this question. The majority of these participants (n = 23) stated that they had acquired their awareness through information from colleagues. Other sources included: literature (n = 14), the media (n = 4) and magazines (n = 2). Eighteen of these 48 participants stated that they obtained information from additional sources. These included: a special education module in university, the internet, observations, health professionals such as SLTs and/or psychologists, and parents of a child with (C)APD.

Responses to the question relating to how participants rate their colleagues’ awareness of (C)APD were similar to the results obtained for their own awareness. The majority of participants (84%, n = 115) indicated that their colleagues’ awareness of (C)APD was in the poor/very poor category. A further breakdown of this shows that 59.9% (n = 82) assessed themselves to have poor and 24.1% (n = 33) very poor awareness. Overall, 10.9% of participants (n = 15) consider their colleagues’ awareness to be adequate. A minority of participants rated their colleagues’ awareness as good (2.2%, n = 3) and very good (0.7%, n = 1). Three respondents reported that they could not comment on this question.

Although it was anticipated that participants might have a limited awareness of (C)APD they were encouraged to indicate whether they had ever considered that a child displayed signs consistent with (C)APD. In total 73% (n = 100) of participants indicated that they had not considered this, while 27% participants (n = 37) stated that they had considered that a child displayed signs consistent with (C)APD. Of the participants who stated that they had considered that a child displayed signs consistent with (C)APD, 35 of the 37 participants outlined what key factors had led them to considering possible (C)APD. Three thematic categories emerged from these responses and the following is an example of participants’ responses under each theme:

Theme 1: Difficulty processing and following instructions (23 participants)

‘Need to have instructions repeated several times and given one at a time.’

‘Have difficulty taking in information and slow to process information.’

‘Have difficulty following directions or tasks with more than one step.’

Theme 2: Delay in responding to questions (seven participants)

‘Have a delay in responding to questions that he/she have the ability to answer.’

‘Have difficulty in responding to questions accurately.’

‘Have delayed reactions.’

Theme 3: Easily distracted and lack concentration (seven participants)

‘Zone out and are not aware of what is going on in his/her environment.’

‘Are easily distracted.’

‘Have difficulty in class participation and find it hard to stay focused.’

Eighty-four respondents indicated that they would refer a child displaying signs consistent with (C)APD to an audiologist. On this question participants were permitted to pick more than one professional. Fifty-four of the total respondents indicated that they would refer the child to an SLT, 53 would refer to a psychologist, while 34 indicated that they would refer the child to a neurologist. Seven participants stated that a child displaying signs consistent with (C)APD should be referred to a professional other than the four listed above, which included physiotherapists, occupational therapists and doctors.

Nearly all participants (97.8%, n = 134) identified which symptom(s) they consider to be an indicator of (C)APD. Participants were permitted to tick more than one symptom. The majority of these respondents (n = 91/134) indicated ‘difficulty remembering spoken instruction’ as a symptom of (C)APD. This was followed closely by 81/134 participants who stated that ‘difficulty staying focused’ is a symptom of (C)APD.

Knowledge of (C)APD

One hundred and thirty-six respondents (99.3%) stated that they had not completed any formal training in (C)APD. The one respondent (0.7%) who did say they had completed formal training in (C)APD did not provide any further details regarding this formal training. A majority (86.1%) of respondents (n = 118) stated that they had not accessed any informal training on (C)APD. Nineteen respondents (13.9%) stated that they had accessed informal training in relation to (C)APD.

Respondents who received informal training were then asked to specify what the training was. These results when analysed revealed seven distinct groups of sources of informal training: discussion with colleagues (n = 6); discussion with an SLT (n = 4); discussion with a psychologist (n = 2); psychological reports (n = 2); reading literature (n = 6); online research (n = 2); and teacher training courses (n = 2).

Similar to the results from the questions on awareness, the majority of participants (92%, n = 126) rated their current knowledge of (C)APD to be either poor or very poor (poor 39.4%, n = 54, very poor 52.6%, n = 72) (Figure 2).

When investigating whether (C)APD can be acquired, 82.4% of respondents (n = 113) indicated that they did not know, while 8.8% of respondents (n = 12) selected yes and no, respectively. Of the total number of respondents
(n = 137), 54.7% (n = 75) indicated that they think (C)APD is a discrete condition; 37.2% (n = 51) of respondents considered (C)APD not to be a discrete condition; while 8.1% (n = 11) responded that they did not know.

Teacher training and experience
Table 1 shows the teaching experience, location of training and current teacher role of respondents. One hundred percent (n = 137) of respondents stated that they had received insufficient information about (C)APD during their teacher training course. Participants were then asked to provide information on what they thought would be advisable to include in teacher training courses. Four thematic categories emerged: general information (n = 54), signs and symptoms of (C)APD (n = 57), teaching strategies (n = 42) and the referral process (n = 33).

Influences on awareness and knowledge of (C)APD
In order to determine whether certain variables have an impact on awareness and knowledge of (C)APD, a correlation test, Spearman’s rank correlation coefficient ($r_s$), was carried out to analyse the results. All items with categorical responses were allocated a numerical code. This was applicable for years qualified in current profession (1 to 5), teaching position in their current school (1 to 3) and whether the school in which they were currently teaching is situated in a rural or urban environment (1 to 2). All items used to rate (C)APD awareness and knowledge were given an a priori score, weighted in a positive direction such that greater awareness is associated with a higher score.

Years qualified and awareness and knowledge of (C)APD
Results indicate that there is a very weak positive correlation between the following variables: years qualified and awareness and knowledge of (C)APD. Teachers who are qualified longer demonstrate a very slightly higher awareness and knowledge of (C)APD ($r_s = 0.105$ and $r_s = 0.119$, respectively).

Teaching position and awareness and knowledge of (C)APD
Results signify that there is a very weak positive tendency for participants who are currently working as classroom-based teachers to demonstrate a slightly higher awareness and knowledge of (C)APD compared to teachers working as learning support or principals ($r_s = 0.071$ and $r_s = 0.079$, respectively).

School location and awareness and knowledge of (C)APD
Results show that there is a very weak positive relationship between the school location participants are currently teaching in and their awareness and knowledge. Teachers who are currently working in a rural school appear to have a slightly greater awareness and knowledge of (C)APD than teachers who are working in urban schools ($r_s = 0.101$ and $r_s = 0.059$, respectively).

Phase 2: comparison of results from the two studies
The results obtained regarding the awareness and knowledge of (C)APD in this research study were compared to results obtained for awareness (Figure 3) and knowledge (Figure 4) in a similar study carried out in Northern Ireland.

Discussion
This study exploring primary school teachers’ awareness and knowledge of (C)APD yielded a good response rate

Figure 3: Comparison of primary school teachers’ awareness of (C)APD

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Very Good</th>
<th>Good</th>
<th>Adequate</th>
<th>Poor</th>
<th>Very Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Ireland</td>
<td>40.6%</td>
<td>46.5%</td>
<td>9.5%</td>
<td>12.9%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>51.1%</td>
<td>40.6%</td>
<td>7.3%</td>
<td>11.3%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Table 1: Number of years’ teaching experience, location of training and current teacher role

<table>
<thead>
<tr>
<th>Number of years’ teaching experience</th>
<th>Location of teacher training</th>
<th>Current teaching position</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5 years</td>
<td>Republic of Ireland</td>
<td>Classroom based</td>
</tr>
<tr>
<td>6–10 years</td>
<td>United Kingdom (England, Wales, Northern Ireland)</td>
<td>Learning support teachers</td>
</tr>
<tr>
<td>11–15 years</td>
<td>Location of school</td>
<td>Principals</td>
</tr>
<tr>
<td>16–20 years</td>
<td>Urban school</td>
<td>2.2% (n = 3)</td>
</tr>
<tr>
<td>&gt;20 years</td>
<td>Rural school</td>
<td>28.5% (n = 39)</td>
</tr>
</tbody>
</table>
The information sheets provided with the questionnaire aimed to ensure accurate reporting by acknowledging an expectation of limited awareness and knowledge among primary school teachers regarding (C)APD. Low levels of self-rated awareness and knowledge on the questionnaire suggest that the participants sampled did generally have a lack of understanding regarding (C)APD and they appeared to recognise this gap. The fact that several respondents voluntarily reported that they had never heard of (C)APD suggests honest reporting.

**Awareness and knowledge**

The analysis of the data established that primary school teachers who participated in this study self-reported a lack of awareness and knowledge regarding (C)APD. These results were not surprising given that there is limited epidemiological information available regarding (C)APD. The results are also in line with findings from previous research investigating other professionals’ awareness and knowledge of (C)APD (Baldry & Hind, 2008; Chermak et al., 2007; Hind, 2006). The findings of this study, however, are of particular concern as primary school teachers are often the first people who may observe that a school-aged child is having difficulty hearing. As one participant stated, ‘Usually teachers are first to notice a problem with hearing therefore knowledge is vital’.

In addition, this study revealed that the majority of participants rated their colleagues’ awareness and knowledge of (C)APD as poor/very poor. This suggests that not only do individual teachers have a lack of awareness and knowledge of (C)APD but also that there is a general lack of knowledge and awareness regarding (C)APD among school staff.

Although respondents indicated a lack of understanding of (C)APD, a high proportion of them identified the key symptoms of (C)APD. This included 91 respondents choosing ‘difficulty remembering spoken instructions’. Although respondents self-reported a poor/very poor awareness and knowledge of (C)APD, the responses to this question highlight that respondents may recognise the key features of (C)APD in a school-aged child.

It is interesting to note that 84 out of the 137 respondents identified audiologists as the professional to whom they would refer a child with suspected (C)APD. Research indicates that audiologists are the professionals who are chiefly involved in the assessment, diagnosis and management of (C)APD (Chermak et al., 2007; Hind, 2006). As participants were allowed to choose as many options as they thought appropriate, 54 respondents chose SLTs and 53 chose psychologists. International literature indicates that (C)APD involves an interdisciplinary approach comprising these three professionals (AAA, 2010; Bamiou, Campbell & Sirimanna, 2006; Friel-Patti, 1999; Musiek, Bellis & Chermak, 2005).

**Influences on awareness and knowledge**

Three questions were designed to determine whether the number of years qualified as a teacher, current teaching position and location of the school had any influence on teachers’ awareness and knowledge of (C)APD. Based on the correlation analysis carried out, the number of years qualified did not appear to affect reported levels of (C)APD awareness and knowledge within the profession to any great extent as there was no significant correlation between these variables. However, given the smaller number of respondents in the 11 to 15 years and 16 to 20 years range of professional teaching experience, it is not possible to rule out entirely the possibility of some influence on the outcome.

In this research the vast majority of participants were classroom teachers (73.7%). Results indicated that these participants had slightly higher awareness and knowledge of this disorder in children than participants working as learning support teachers and principals. However, overall there is no significant correlation between the following variables (current teaching position and awareness and knowledge of (C)APD) so it is difficult to say anything definitive on this. One might have anticipated a strong correlation between learning support teachers and levels of awareness and knowledge of (C)APD. This is due to the possibility that school-aged children with (C)APD in the Republic of Ireland are already receiving learning support for their additional communication and/or educational difficulties.

From the correlation of results, teachers who are currently working in rural schools appear to have slightly higher awareness and knowledge of (C)APD. However, the statistical analysis carried out indicates that this relationship is very weak. As there was no significant difference between the level of awareness and knowledge regarding (C)APD in rural and urban schools it could be concluded that neither...
type of school is disadvantaged by location or access to services. However, it is important to note that only 28.5% of the participants stated that they are currently teaching in a rural school as opposed to 71.5% of participants who stated that they are teaching in an urban school.

Comparison of research results
Results from this research study conducted in the Republic of Ireland are in line with results from a similar study carried out simultaneously in Northern Ireland. The results from both studies showed very similar results in the main area of knowledge and awareness of (C)APD among primary school teachers. The majority of the respondents in both studies reported that they have poor to very poor awareness and knowledge of (C)APD (Figure 4). The closeness of the main findings is an interesting aspect of both studies and highlights the validity of the results obtained.

Implications
In line with results obtained in this study, recommendations are proposed to increase awareness and knowledge of (C)APD among primary school teachers. The recommendations are possible ways forward to improve teachers’ awareness and knowledge of (C)APD and ultimately to improve the opportunity for school children who display signs consistent with (C)APD to have their needs identified.

- Establish professional development programmes for existing primary school teachers to assist them in identifying and supporting children with (C)APD and in the planning and implementation of appropriate interventions.
- Develop and deliver a module on (C)APD for all trainee teachers including early identification (C)APD in a school-aged child and training in effective, research-based strategies that support children with (C)APD.
- Further develop courses for learning support teachers to include a core module on (C)APD to be delivered by trained and/or experienced personnel.
- Carry out further research, commissioned by the Department of Education and Science, into effective forms of (C)APD training programmes targeted at primary school teachers.
- Provide continuing professional development (CPD) that focuses not only on teachers’ classroom practices and beliefs, but also on the teacher’s own classroom environment as the essential site of change in order to ensure effective ongoing improvement with regard to (C)APD.
- Information for primary school teachers regarding appropriate services and the referral process for children with suspected (C)APD.
- Collaboration between the North South Ministerial Council and relevant parties to establish a common goal in addressing the lack of awareness and knowledge regarding (C)APD among primary school teachers in the Republic of Ireland and Northern Ireland.

Strengths and limitations
Limited research has been conducted to date in relation to (C)APD in the Republic of Ireland. This research attempted to bridge this gap in the literature by exploring the awareness and knowledge of primary school teachers regarding (C)APD. Furthermore, similar results were noted across the island of Ireland, thereby increasing the validity of the results obtained.

Although changes were made to the questionnaire following feedback from the pilot study, it emerged from responses in the main study that question 10 (‘Do you think (C)APD is a discrete condition?’) was somewhat ambiguous. The question should have been further expanded to include an additional option, such as ‘don’t know’.

Conclusion
(C)APD is a relatively new area of expertise worldwide. However, there have been considerable advances in professionals’ knowledge of (C)APD in recent years. The accumulating body of literature supporting the existence of (C)APD and the methods of diagnosing and treating the disorder should not be ignored. With continual advances in knowledge of (C)APD it is important to remember that classroom-based teachers, learning support teachers and other educational professionals need to participate in training programmes on (C)APD. Furthermore it would be beneficial for teachers to be involved in the development and implementation of the child’s management programme regarding (C)APD. This would empower educational professionals to identify confidently and assertively those children requiring possible (C)APD screening or assessment. In addition, this would enhance the likelihood that appropriate educational modifications would be established in classrooms to meet the needs of school-aged children with (C)APD.

Health and educational professionals, such as primary school teachers, have an overlapping and interdependent role to play in the education and management of students with (C)APD. It is important that the Irish government departments, statutory agencies and voluntary organisations, all of which have an important contribution to make to the education, training and management of children with (C)APD, co-ordinate their efforts to support such children.

To date in the Republic of Ireland the majority of training and (C)APD-specific meetings have been aimed at audiologists, SLTs and psychologists – the professionals who are considered to be chiefly involved in the diagnosis, monitoring and intervention of (C)APD. Clearly there is a need for more specific training in (C)APD aimed at professionals who may be the first to observe a child display signs consistent with (C)APD, such as primary school teachers. Those with knowledge and expertise in (C)APD, such as audiologists and SLTs, now need to engage actively and appropriately with educational professionals to address this identified need and ultimately to provide enhanced or appropriate services for children with (C)APD.
References


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