

Title: Community pharmacy staff oral health training, training needs and professional self-efficacy related to managing children's dental problems

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1 **Abstract**

2 **Objectives**

3 Few studies have explored the oral health training needs and professional self-efficacy (PSE) in
4 both pharmacy support staff and pharmacists related to managing children's dental problems. This
5 study assessed community pharmacy staff perceptions of their (1) training experiences and
6 interests; (2) PSE and (3) if this was influenced by the pharmacy being part of a minor ailment
7 scheme (MAS), where staff could directly offer advice and issue prescription medications without
8 patients seeing a doctor.

9
10 **Methods**

11 All of the 1851 community pharmacies across London, UK, were invited to participate in an online
12 questionnaire. Staff rated their prior training, perceived need for further training and confidence in
13 giving parents advice related to three dental problems in children (dental pain, mouth ulcers and
14 dental trauma). Information was collected about staff roles and whether the pharmacy was a MAS.

15
16 **Key findings**

17 From 752 community pharmacies, 846 community pharmacy staff participated. Positive
18 experiences of training were variable but interest in further training for all three dental problems
19 was high. Pharmacy support staff had significantly lower PSE scores than pharmacy professionals
20 ($P=0.009$). A significant interaction showed that pharmacy staff who had poorly-rated prior training
21 on advising parents about managing their child's dental pain and who did not work in a MAS had
22 lower PSE scores than staff who had highly-rated training and who worked in a MAS ($P=0.02$).

23
24 **Conclusions**

25 MAS pharmacies may be an optimal environment for frontline pharmacy support staff to develop
26 higher PSE when combined with good quality oral health training.

27

28 **Keywords:** community pharmacy; support staff, professional training; other

29 Introduction

30 The 1982 catchphrase “Ask your pharmacist: you’ll get the help you need” adopted by the National
31 Pharmaceutical Association earmarked the wider role of community pharmacies in England.^[1] By
32 2016, the National Health Service (NHS) pharmacy contract included a vast number of essential
33 services that all community pharmacies carried out in addition to dispensing medicines.^[2]
34 Community pharmacies can also gain further accreditation enabling them to deliver advanced
35 services such as administering flu vaccinations and reviewing patients’ medication use. Enhanced
36 services have also been developed and contracted locally in England based on the needs of the
37 population to assist patients who have minor ailments and injuries. The increasing demands on
38 doctors in primary care and hospital emergency departments managing inappropriate attendances
39 or relatively minor conditions has been a cogent driver for these enhanced services using
40 community pharmacies as the first point of contact for patients.^[3] “Pharmacy First” or pharmacy-
41 based minor ailment schemes (MAS) allow patients who are exempt from paying NHS prescription
42 charges (including children) to register with a pharmacy and receive advice and treatment for
43 specific minor ailments without having to first see a doctor. Minor ailments include pain,
44 constipation, indigestion, hay fever, sore throat, earache, colds and flu, bites and stings.^[4] Of the
45 11,699 community pharmacies in England, 1830 pharmacies (16%) operated MAS in 2016/17.^[5] In
46 MAS, community pharmacists assess patients, give advice and supply prescription-only medication
47 if required.

48

49 Nearly a third of patients who visited pharmacy-based minor ailment schemes had acute pain and
50 61% of consultations were for children aged 16 years and under.^[5] Untreated tooth decay causing
51 toothache is a common reason for acute pain in children.^[6] A study of parents who were seeking
52 over-the-counter pain medications or collecting pain prescriptions for their children (aged 0-19
53 years) from community pharmacies in London, England found that 65% of parents were seeking
54 pain relief for their children’s dental problems, primarily for toothache. ^[7] Thirty percent of
55 community pharmacies in London operate MAS covering toothache. ^[5]

56

57 The large number of parents who visit community pharmacies for children’s dental problems
58 underscores the key role that pharmacy staff could play in providing appropriate advice for parents

59 and children who have dental problems. National Institute of Health and Care Excellence (NICE)
60 guidelines recommend that frontline healthcare staff should be able to provide oral health advice to
61 the public. [8] Moreover, members of the public perceive community pharmacies as acceptable
62 providers of oral health information.[9] While several studies have assessed the oral health
63 knowledge and attitudes of Community Pharmacists towards giving oral health advice, [10-15] only
64 one study in Australia has explored the oral health training needs of other community pharmacy
65 staff. [16]

66
67 The pharmacy workforce in England includes two pharmacy professionals regulated and registered
68 by the General Pharmaceutical Council (GPhC): Pharmacy Technicians and Community
69 Pharmacists including pre-registration trainee pharmacists. [17] Pharmacy support staff are often the
70 first face-to-face contact for parents.[18] Pharmacy support staff include Medicine Counter
71 Assistants (MCAs) and Dispensers or Pharmacy Assistants. MCAs work under the **supervision of**
72 **pharmacists** and are trained to advise clients about common ailments, in addition to selling over-
73 the counter medicines. Dispensers/Pharmacy Assistants also work under the supervision of a
74 pharmacist. They must complete a GPhC-accredited course with minimum training requirements to
75 gain competencies in offering clients advice about symptoms and pharmaceutical products. [19]
76 Additional duties include overseeing prescription receipts and collections, assembling prescribed
77 items, ordering and storing pharmaceutical stock and preparing pharmaceutical provides (e.g.
78 aseptic products). [19]

79
80 Emerging implementation science research has highlighted the limitation of solely providing health
81 professionals with educational training, which does not necessarily lead to changes in clinical
82 practice. Behaviour change theories have also attempted to move beyond knowledge
83 dissemination, which educates health professionals about what information and advice they should
84 relay to patients, to assessing and building their capability, skills and confidence to deliver advice
85 more effectively. [20] Professional Self-Efficacy (PSE) describes a practitioner's beliefs and
86 confidence in their skills and capability to carry out a designated task. [21] Health professionals with
87 low PSE are less likely to follow clinical guidelines, [22] offer patients lifestyle advice [23] and perform
88 antimicrobial stewardship.[24] Few studies have explored PSE in community pharmacy staff; the

89 studies that have assessed this have been restricted to only **pharmacy students** or community
90 pharmacists providing smoking cessation advice or prescribing medication. ^[25-27] No studies to
91 date have explored PSE in both pharmacy support and pharmacy professional staff specifically
92 related to managing children's dental problems. This study had three objectives to address this
93 research gap. The first objective assessed the perceptions of different community pharmacy staff
94 about their previous oral health training and their **interest** in further training to give parents advice
95 about managing three common dental problems in children: dental pain, mouth ulcers and dental
96 trauma (injuries to the teeth and surrounding tissues). The second objective assessed the PSE
97 scores of different community pharmacy staff related to them giving parents' advice about
98 managing children's dental pain. The final objective compared PSE between staff based on
99 whether or not they worked at a pharmacy based Minor Ailment Scheme (MAS). It was
100 hypothesised that community pharmacy staff working in MAS would report higher PSE in advising
101 parents about managing their children's dental pain than staff not working in pharmacy-based MAS
102 because of their more frequent encounters with patients with acute pain conditions.^[4]

103

104 **Methods**

105 This study was part of the "Oral Health in Community Pharmacy" mandatory public health
106 campaign and additional voluntary audit. ^[28] It was one of the six **public health campaigns** that
107 pharmacies must complete under the NHS Community Pharmacy Contractual Framework
108 Essential Service – Promotion of healthy lifestyles (Public Health) service specification that do not
109 require ethical approval. ^[29-30] **It was carried out in January - February 2017 and invited all of the**
110 **1851 community pharmacies in London, England and their pharmacy staff to participate.**

111

112 A confidential online survey questionnaire was designed to collect information from pharmacy staff
113 (see supplemental material). The survey had questions adapted from previously used or validated
114 questionnaires. ^[31] The pharmacy staff role categories were Community Pharmacists, pre-
115 registration Community Pharmacists, Pharmacy Technicians, Dispensers/Pharmacy Assistants
116 and Medicine Counter Assistants (MCAs). The survey participants were asked about their
117 perceptions about the previous training that they had received on advising patients about
118 managing dental pain, dental trauma and mouth ulcers. These questions were assessed on a six-

119 point Likert scale (i.e., excellent, very good, good, fair, poor, no training received). The question
120 about their interest in further oral health training was assessed on a four-point Likert scale (i.e.,
121 very interested, interested, somewhat interested, not interested). Professional Self-Efficacy related
122 to being confident about advising parents about managing their child's dental pain was assessed
123 by asking participants "how confident do you feel about giving parents advice about managing your
124 child's dental pain?" This question had five response categories (not at all confident; somewhat
125 confident; moderately confident; very confident; completely confident).^[32] Information about
126 whether community pharmacies were a MAS pharmacy was obtained centrally from the regional
127 commissioning team (NHS England London Region) based on the pharmacy unique ODS code.
128 The online survey questionnaire was piloted in November 2016 on a group of community
129 pharmacy staff for face validity.

130

131 The 1851 community pharmacies in London were sent an introductory email in January 2017 with
132 a link to the online survey. All staff working in the pharmacy were invited to complete the survey,
133 accessed from their pharmacy or home computer or laptop, smartphone, tablet or smart watch.
134 Community pharmacy staff had four weeks to complete the survey. A biweekly reminder follow-up
135 email was sent out until the survey closed.

136

137 Survey responses were automatically collated into an Excel spreadsheet (Microsoft Excel 2013)
138 and analysed using the Statistical Package for Social Sciences (SPSS version 24 (SPSS Inc.,
139 Chicago, IL, USA). Descriptive statistics were reported as frequencies and percentages for the
140 main outcomes: staff perceptions about their previous training related to giving advice about
141 managing dental pain, dental trauma and mouth ulcers and their confidence in giving parents
142 advice about managing their child's dental pain. These outcomes were dichotomised for the
143 bivariate analyses using Pearson Chi-square tests. Previous training was dichotomised as
144 excellent/very good/good versus fair/poor/no training received). Interest in further training was also
145 dichotomised as very interested/interested versus somewhat interested/not interested.

146 Professional self-efficacy (PSE) was scored on an one to five scale where "1" represented "not at
147 all confident" and "5" represented "completely confident." The independent (explanatory) variables
148 for the Chi-square bivariate analyses were pharmacy staff role and Minor Ailment Scheme status.

149 An Analysis of Variance (ANOVA) and a General Linear Model (GLM) were run using PSE as the
150 dependent variable and pharmacy staff role, minor ailment scheme status and previous oral health
151 training on dental pain as independent variables including significant interactions in the GLM
152 model. The level of statistical significance for all tests was set at $P < 0.05$.

153

154 **Results**

155 Eight hundred and forty-six community pharmacy staff participated in the survey from 752
156 pharmacies in London (40%). Ninety-one percent (765/846) of participants were Community
157 Pharmacists; the remaining participants were MCAs (3.5%, 30/846); Pre-registration Community
158 Pharmacists (2.5%, 21/846); Dispensers/Pharmacy Assistants (1.9%, 16/846), and Pharmacy
159 Technicians (1.7%, 14/846). Eighty-one percent of participants worked in pharmacies that did not
160 participate in a minor ailment scheme (Table 1).

161

162 Table 2 shows the community staff perceptions' about their previous oral health training on
163 advising parents about common dental problems experienced by children. While 79% (658/841) of
164 all community pharmacy staff rated the previous training that they had received on advising about
165 managing dental pain as excellent/very good, only 44% (373/841) of all community pharmacy staff
166 gave high ratings for their previous training on managing dental trauma (Table 2). Sixty-four
167 percent of Pharmacy Technicians (9/14) gave high ratings for training related to managing dental
168 trauma compared to only 31% (5/16) of Dispensers/Pharmacy Assistants. In contrast, MCAs gave
169 higher (77%, 22/29) ratings for their previous training on managing mouth ulcers than Pharmacy
170 Technicians (57%, 8/14), (Table 2). However, none of differences between the different community
171 pharmacy staff related to their previous training on managing dental pain, dental trauma or mouth
172 ulcers were statistically significant ($P > 0.05$). There were also no statistically significant differences
173 between the previous training ratings of staff working and not working in MAS (Table 2).

174

175 Despite giving high ratings for their previous training on managing dental problems, almost all
176 MCAs (97%, 29/30) and Dispenser/Pharmacy Assistants (94%, 15/16) were interested in receiving
177 further training on giving patients advice about managing dental pain (Table 3). A statistically

178 significant higher percentage of front-line pharmacy support staff were interested in further training
179 on managing dental pain compared to Community Pharmacists ($\chi^2 = 5.88, P = 0.02$) (Table 3).

180

181 Table 4 shows the mean PSE scores for community pharmacy staff related to giving parents'
182 advice about managing children's dental pain. There were significant differences between
183 community pharmacy staff where Community Pharmacists and Pre-registration Pharmacists had
184 the highest PSE scores (ANOVA $F = 3.79, P = 0.005$). Post-hoc comparisons showed that pharmacy
185 professionals had significantly higher PSE scores than Dispensers/Pharmacy Assistants (Table 4).
186 There was no significant difference between pharmacy staff working and not working in MAS
187 (ANOVA $F = 0.81, P = 0.34$). However, there was a significant interaction between MAS and
188 previous training, demonstrating differences between PSE scores based on whether staff had
189 previous training in managing dental pain and worked or did not work in MAS (ANOVA $F = 2.69,$
190 $P < 0.001$)

191

192 A General Linear Model analysis tested the relationship between PSE (dependent variable) and
193 the pharmacy staff role and previous training and MAS interaction as independent variables (Table
194 5). It showed a significant main effect for pharmacy role: pharmacy support staff
195 (Dispensers/Pharmacy Assistants and MCAs) had significantly lower PSE scores than Pharmacy
196 Technicians, Pharmacists and Pre-registration Pharmacists (ANOVA $F = 4.72, P = 0.009$).
197 Pharmacy staff who worked in MAS and who had previous training rated as excellent/very
198 good/good had statistically significantly higher PSE scores than staff who did not work in a MAS
199 and who had no or poor training (ANOVA $F = 2.26, P = 0.04$) (Table 5).

200

201 **Discussion**

202 This is the first study to include both pharmacy support and pharmacy professional staff to explore
203 differences between their perceptions about their prior oral health training specifically related to
204 managing children's dental problems. Community pharmacy staff reported relatively favourable
205 perceptions about their prior learning, giving higher ratings for their training related to advising
206 parents about managing children's dental pain compared to advising parents about managing
207 dental trauma. Pharmacy support staff (Dispensers/Pharmacy Assistants and MCAs) had

208 significantly lower PSE scores than pharmacy professionals (Pharmacy Technicians, pre-
209 registration Pharmacists and Pharmacists). Community pharmacy staff who had poorly rated prior
210 training and who did not work in MAS had statistically significantly lower PSE scores related to
211 giving parents' advice about managing their children's dental pain than staff who had highly rated
212 training and who did work in MAS, demonstrating a significant interaction.

213

214 Despite the novel findings, this study had several limitations. Less than 10% (81/846) of our survey
215 participants identified as pharmacy support staff, which may illustrate the contrast in role
216 expectations of frontline staff with pharmacy professionals. We also did not collect information on
217 potential confounders such as gender or years of practice. Future research work will need to
218 explore how to engage all pharmacy staff when redesigning services and include potential
219 confounders. Our study only assessed the perceptions of community pharmacy staff about their
220 previous training rather than their actual knowledge of common dental problems. We do not know
221 whether previous training has enabled them to provide parents with correct and evidence-based
222 advice.

223

224 The findings related to previous oral health training from our study support a questionnaire-based
225 study of 593 pharmacies in London, England, which found that only 26% of community
226 pharmacists felt that they had sufficient knowledge to advise patients about dental trauma
227 compared to 93% of community pharmacists who had sufficient knowledge to advise about mouth
228 ulcers. ^[33] Only two studies have assessed levels of knowledge in pharmacy counter assistants.
229 ^[34-35] Steel and Barton found that most counter assistants felt confident about providing advice
230 about preventing tooth decay and tooth erosion in children, despite their lack of training in oral
231 health promotion. Interestingly, this study also reported no association between PSE and
232 knowledge with many counter assistants who felt confident about giving advice actually giving
233 incorrect advice. Even though this study had a small sample size (n=35), it does emphasise the
234 need for further research that assesses perceptions of training and its effect on clinical practice.

235

236 In our study, pharmacy support staff gave high ratings about their prior learning despite the lack of
237 oral health teaching in the training curricula of recognised qualifications. The National Vocational

238 Qualification Certificate in Pharmacy Service Skills only requires pharmacy support staff to have
239 knowledge of how to sell commonly used non-prescription medicines and prescribed medications
240 for dental conditions. ^[36] It is therefore plausible that their ratings about their previous oral health
241 training were related to some informal and experiential learning rather than any formal training.
242 Almost all frontline pharmacy support staff were interested in receiving further training in giving
243 patients advice about managing dental pain, which highlights a high level of interest and potential
244 training needs. The lack of specific training requirements for pharmacy staff who work in MAS may
245 be one possible explanation for the non-significant difference between staff working and not
246 working in MAS. Furthermore, none of the recommended training and resources for MAS cover
247 managing common oral conditions affecting children. ^[37] This suggests a potential training gap.
248

249 Dispensers/Pharmacy Assistants had the lowest PSE compared to other staff. Steel ^[34] also found
250 that counter staff reported barriers to providing oral health advice that included not only lack of
251 training but also uncertainties about not knowing when to refer children with dental problems. Our
252 previous research showed that only 30% of children who had visited a community pharmacy
253 seeking pain medication for toothache had already seen a dentist. ^[7] Providing guidance about
254 where and when community pharmacy staff should refer children with dental pain would enhance
255 their role as care navigators, facilitating children's access to local dental services. ^[38]
256

257 Our hypothesis that community pharmacy staff who worked in MAS would report higher PSE was
258 partly supported by the observed significant interaction. Community pharmacy staff who had poorly
259 rated prior training and who did not work in MAS had significantly lower PSE scores related to
260 giving parents' advice about managing their children's dental pain than staff who had highly rated
261 training and who did work in MAS. According to Bandura's social cognitive theory, mastery
262 experiences, vicarious learning, verbal persuasion and positive affective and physical states at the
263 time of the behavioural opportunity are four elements that can enhance self-efficacy. ^[39] Mastery
264 experiences means having successful experiences that build personal efficacy. ^[40] Community
265 pharmacy staff who work in MAS may have more mastery experiential learning opportunities
266 through their encounters with parents seeking their advice about managing their children's dental
267 problems. Community pharmacy staff working in MAS could also learn vicariously by observing

268 other community pharmacy staff, who serve as role models when they manage difficult encounters
269 with parents. This has implications for developing training opportunities for community pharmacy
270 staff based on social cognitive theory that move beyond purely knowledge-based training. Such
271 training should include a combination of teaching strategies, problem-solving approaches,
272 modelling, practice and performance feedback to increase PSE related to giving oral health advice
273 within their scope of practice. [26]

274

275 We know that health professionals who exhibit high PSE are more likely to give patients public
276 health advice such as smoking cessation [41] and healthy eating advice. [42] However, studies
277 involving community pharmacies in advisory roles have found that training and improving PSE is
278 not sufficient to produce effective changes in professional practices because of implementation
279 barriers. [43-44] Such barriers included lack of time and staff, fear of negative responses from
280 patients, and their tendency to engage only with clients who are more likely to accept advice. The
281 Normalisation Process Theory (NPT) [45] has been used in implementation science to develop a
282 better understanding of the factors involved in implementing changes in healthcare practice. [46]
283 Further research using the NPT may help to identify implementation barriers and facilitators that
284 could bridge the gap between knowledge, PSE and giving oral health advice to parents in
285 pharmacy practice.

286

287 **Conclusion**

288 There is a high level of interest and a potential training need for frontline pharmacy support staff to
289 provide advice about managing children's dental pain. This training need seemed reinforced by the
290 finding that community pharmacy support staff had significantly lower PSE scores than pharmacy
291 professionals. MAS may be an optimal environment for frontline pharmacy staff to develop higher
292 Professional Self-Efficacy when combined with good quality oral health training.

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Table 1: Number (%) of participants by pharmacy role and whether the staff member worked in a Minor Ailment Scheme (MAS) pharmacy

	Number (%) of participants who worked in a MAS pharmacy	Number (%) of participants who did not work in a MAS pharmacy
Medicine Counter Assistants	6 (20.7)	23 (79.3)
Dispensers/Pharmacy assistants	3 (18.8)	13 (81.3)
Pharmacy technicians	4 (28.6)	10 (71.4)
Pre-registration community pharmacists	5 (25.0)	15 (75.0)
Pharmacists	146 (19.1)	618 (80.9)
All pharmacy staff	164 (19.5)	679 (80.5)

* Missing data from 3 participants (1 Community Pharmacists, 1 Pharmacy Technician and 1 Pre-registration Pharmacist)

Table 2: Community pharmacy staff ratings of the previous oral health training that they had received on advising patients about managing dental pain, dental trauma and mouth ulcers by pharmacy role and Minor Ailment Scheme

	Previous oral health training on advising patients about managing dental pain ¹	Previous oral health training on advising patients about managing dental trauma ²	Previous oral health training on advising patients about managing mouth ulcers ³
Pharmacy role	Excellent/very good/ good training Number (%)	Excellent/very good/ good training Number (%)	Excellent/very good/good training Number (%)
Medicine Counter Assistants	24 (80.0)	17 (56.7)	23 (76.7)
Dispensers/Pharmacy Assistants	12 (75.0)	5 (31.3)	12 (75.0)
Pharmacy technicians	10 (71.4)	9 (64.3)	8 (57.1)
Pre-registration community pharmacists	16 (80.0)	7 (33.3)	13 (61.9)
Community Pharmacists	596 (78.8)	335 (44.0)	520 (68.8)
	Previous oral health training on advising patients about managing dental pain ⁴	Previous oral health training on advising patients about managing dental trauma ⁵	Previous oral health training on advising patients about managing mouth ulcers ⁶
Minor Ailment Scheme (MAS)	Excellent/very good/ good training Number (%)	Excellent/very good/ good training Number (%)	Excellent/very good/good training Number (%)
Staff working in a MAS	124 (76.1)	81 (49.4)	110 (67.1)
Staff who did not work in a MAS	531 (79.3)	289 (42.8)	463 (69.1)
All pharmacy staff	658 (78.7)	373 (44.2)	576 (68.8)

¹Comparing pharmacy roles and previous training on managing dental pain: Pearson Chi-Square Test $P=0.96$

²Comparing pharmacy roles and previous training on managing dental trauma: Pearson Chi-Square Test $P=0.18$

³Comparing pharmacy roles and previous training on managing mouth ulcers: Pearson Chi-Square Test $P=0.64$

⁴Comparing Minor Ailment Schemes and previous training on managing dental pain; Pearson Chi-Square Test $P=0.38$

⁵ Comparing Minor Ailment Schemes and previous training on managing dental trauma; Pearson Chi-Square Test $P=0.12$

⁶Comparing Minor Ailment Schemes and previous training on managing mouth ulcers; Pearson Chi-Square Test $P=0.64$

Table 3: Community pharmacy staff interest in receiving further training about advising patients about managing dental pain, dental trauma and mouth ulcers by pharmacy role and Minor Ailment Scheme

	Interest in receiving further training on advising patients about managing dental pain ¹	Interest in receiving further training on advising patients about managing dental trauma ²	Interest in receiving further training on advising patients about managing mouth ulcers ³
Pharmacy role	Very interested/interested Number (%)	Very interested/interested Number (%)	Very interested/interested Number (%)
Medicine Counter Assistants	29 (96.7)	27 (90.0)	28 (93.3)
Dispensers/Pharmacy Assistants	15 (93.8)	12 (75.0)	15 (93.8)
Pharmacy technicians	12 (85.7)	12 (85.7)	13 (92.9)
Pre-registration community pharmacists	18 (90.0)	21 (100.0)	15 (75.0)
Community Pharmacists	624 (82.3)	665 (87.8)	634 (83.8)
	Interest in receiving further training on advising patients about managing dental pain ⁴	Interest in receiving further training on advising patients about managing dental trauma ⁵	Interest in receiving further training on advising patients about managing mouth ulcers ⁶
Minor Ailment Scheme (MAS)	Very interested/interested Number (%)	Very interested/interested Number (%)	Very interested/interested Number (%)
Staff working in a MAS	141 (86.0)	143 (88.3)	143 (87.7)
Staff who did not work in a MAS	555 (82.6)	591 (87.7)	560 (82.8)
All pharmacy staff	698 (83.8)	737 (87.8)	705 (83.8)

¹Comparing pharmacy roles and interest in further training on managing dental pain: Pearson Chi-Square Test $P=0.02$

²Comparing pharmacy roles and interest in further training on managing dental trauma: Pearson Chi-Square Test $P=0.23$

³Comparing pharmacy roles and interest in further training on managing mouth ulcers: Pearson Chi-Square Test $P=0.26$

⁴Comparing Minor Ailment Schemes and interest in further training on managing dental pain; Pearson Chi-Square Test $P=0.30$

⁵ Comparing Minor Ailment Schemes and interest in further training on managing dental trauma; Pearson Chi-Square Test $P=0.89$

⁶Comparing Minor Ailment Schemes and interest in further training on managing mouth ulcers; Pearson Chi-Square Test $P=0.16$

Table 4: Mean professional self-efficacy (PSE) scores related to their pharmacy staff confidence in giving parents advice about managing children's dental pain by pharmacy role and working in a Minor Ailment Scheme (MAS) pharmacy

Pharmacy role	Mean Professional Self-Efficacy (PSE) score (S.D)
Medicine Counter Assistants	3.5 (0.86)
Dispensers/Pharmacy Assistants	3.1 (0.72)
Pharmacy Technicians	3.9 (0.92)
Pre-registration Community Pharmacists	3.7 (0.80)
Community Pharmacists	3.7 (0.81)
Minor Ailment Scheme (MAS)	
Staff working in a MAS	3.8 (0.71)
Staff who did not work in a MAS	3.8 (0.85)
All pharmacy staff	3.8 (0.82)

Post-hoc Bonferroni comparison for pharmacy role: PSE scores for Pharmacy Technicians were significantly higher than PSE scores for Dispensers/Pharmacy Assistants; $P=0.04$; PSE scores for Pharmacists were significantly higher than PSE scores for Dispensers/Pharmacy Assistants; $P=0.006$

Table 5: General Linear Model to show the relationship between mean Professional Self-Efficacy (PSE) scores for pharmacy staff giving parents advice about managing children’s dental pain and pharmacy role, working in a Minor Ailment Scheme (MAS) and previous oral health training and managing dental pain

	Mean PSE (S.D)
Pharmacy role*	
Pre-registration Community Pharmacists/Community Pharmacists	3.7 (0.71)
Pharmacy Technicians	3.5 (0.92)
Pharmacy support staff*	3.1 (0.82)
Previous oral health training in managing dental pain and working in a pharmacy-based Minor Ailment Scheme (MAS) interaction	
Excellent/very good/good previous training in managing dental pain and staff working in a MAS	3.8 (0.59)
Excellent/very good/good previous training in managing dental pain and staff not working in MAS	3.7 (0.77)
No training/fair or poor training in managing dental pain and staff working in a MAS	3.3 (0.95)
No training/fair or poor training in managing dental pain and staff not working in a MAS	2.8 (0.91)

* Pharmacy support staff include Medicine Counter Assistants, Dispensers/ Pharmacy Assistants

Post-hoc Bonferroni comparisons for pharmacy staff role: PSE scores for Pharmacy Technicians were significantly higher than pharmacy support staff; $P=0.03$; PSE scores for Pharmacists and pre-registration Pharmacists were significantly higher than pharmacy support staff; $P<0.001$

Post-hoc Bonferroni comparisons for previous oral health training and MAS interaction: PSE scores for staff who had excellent/very good/good previous training in advising parents about managing dental pain who also worked in MAS were significantly higher than staff who had no training/fair or poor training in managing dental pain and who did not work in MAS: $P=0.01$.