

BMJ Open Pharmacists' approaches to vaccination consultations in Switzerland: a qualitative study comparing the roles of complementary and alternative medicine (CAM) and biomedicine

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ABSTRACT

Background Many community pharmacies in Switzerland provide complementary and alternative medicine (CAM) approaches in addition to providing biomedical services, and a few pharmacies specialise in CAM. A common perception is that CAM providers are sceptical towards, or opposed to, vaccination.

Objectives Key objectives of this study are to examine the potential roles of biomedically oriented and CAM-specialised pharmacists regarding vaccine counselling and to better understand the association between vaccine hesitancy and CAM.

Design We conducted semistructured, qualitative interviews. Transcripts were coded and analysed using thematic analysis. Interview questions were related to: type of pharmaceutical care practised, views on CAM and biomedicine, perspectives on vaccination, descriptions of vaccination consultations in community pharmacies and views on vaccination rates.

Setting Qualitative interviews in three language regions of Switzerland (German, French and Italian).

Participants We interviewed 18 pharmacists (N=11 biomedically oriented, N=7 CAM specialised).

Results Pharmacist participants expressed generally positive attitudes towards vaccination. Biomedically oriented pharmacists mainly advised customers to follow official vaccination recommendations but rarely counselled vaccine-hesitant customers. CAM-specialised pharmacists were not as enthusiastic advocates of the Swiss vaccination recommendations as the biomedically oriented pharmacists we interviewed. Rather, they considered that each customer should receive individualised, nuanced vaccination advice so that customers can reach their own decisions. CAM-specialised pharmacists described how mothers in particular preferred getting a second opinion when they felt insufficiently advised by biomedically oriented paediatricians.

Conclusions Vaccination counselling in community pharmacies represents an additional option to customers who have unmet vaccination consultation needs and who seek reassurance from healthcare professionals (HCPs) other than physicians. By providing individualised vaccination counselling to vaccine-hesitant customers,

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The qualitative study design provides novel insights into pharmacist-client vaccination consultations from three language regions in Switzerland.
- ⇒ Qualitative analysis allowed for close comparison of complementary and alternative medicine and biomedical pharmacists' experiences with, and perspectives on, vaccination.
- ⇒ Our interprofessional team provides broad, interdisciplinary knowledge for diverse inputs and perspectives.
- ⇒ The study results from a relatively small sample size of community pharmacists in Switzerland cannot be generalised to all pharmacists.

CAM-specialised pharmacists are likely meeting specific needs of vaccine-hesitant customers. As such, research and implementation efforts should more systematically involve pharmacists as important actors in vaccination provision. CAM-specialised pharmacists particularly should not be neglected as they are important HCPs who counsel vaccine-hesitant customers.

INTRODUCTION

Recent vaccination decision-making literature points to people who question the safety, effectiveness and benefits of vaccination.¹ This phenomenon, referred to as vaccine hesitancy (VH), can lead to low vaccination coverage in the population, despite the fact that vaccinations are regarded by authorities and experts as a key preventive measure, in terms of high effectiveness, minimum side effects and favourable cost-benefit ratio.^{2,3}

The WHO in 2019 characterised VH as among 10 threats to global health.⁴ WHO also states that trustworthy healthcare professionals (HCPs) have a major influence on the decision-making of vaccine-hesitant people.⁴ Physicians play a key role in parental

vaccination decisions.⁵ In particular, trust in the physician, the communication style, the kind of information they provide to parents and the time they take for counselling are key determinants of vaccination uptake and sentiment.⁶ On a national level, vaccination rates in Switzerland are relatively high, but vary depending on the canton (state).⁷ Cantonal differences are partly explained by different vaccination attitudes of the authorities and different vaccination programmes.⁸ For example, in cantons where vaccination against human papillomavirus (HPV) is offered at schools, significantly more young women are vaccinated against HPV than in cantons without school vaccination programmes.⁹

Our Swiss National Research Programme 74 (NRP74) on VH and underimmunisation focuses on both biomedical providers and providers of complementary and alternative medicine (CAM).^{10–12} CAM is popular in many countries worldwide,^{13–16} and CAM-use will likely continue to grow in popularity.¹⁶ According to Swiss surveys, 25%–50% of respondents report using CAM services.^{17–19} Studies show a complex relationship between CAM use and VH,²⁰ with a preference for CAM correlating with VH and underimmunisation.^{21–23}

In general, vaccine confidence among HCP in the European Union is high.²⁴ There has recently been developed a validated tool to measure their vaccine confidence/hesitancy.²⁵ Although popular and research discourse often labels CAM users and providers as categorically antivaccine,²⁶ research shows that the reality is more complex. Attwell *et al* describe the relationship between CAM use and VH as symbiotic and explain, ‘VH and CAM exist and function separately, but when combined, provide each other with ‘resources’ that enable them to thrive together.’²⁷ In previous qualitative NRP74 studies based on interviews with biomedical and CAM physicians,^{10 11} we demonstrated that CAM physicians and providers offer individual vaccination advice to parents, which included taking their time for vaccine counselling, involving parents in vaccination decisions and taking their vaccination concerns seriously.¹¹

Since 2015, vaccines can be administered in Swiss community pharmacies as an official component of the Swiss Federal Vaccination Strategy, with the goal of increasing vaccination rates by facilitating access to vaccination services via pharmacies.^{28–32} The authorisation of pharmacists to vaccinate in pharmacies is based on nationally uniform regulations, that is, the pharmacist needs specific pregraduate or postgraduate training,³³ and there is a compulsory continuing education requirement every 2 years.^{34–37}

However, regulations vary between Swiss cantons. Most, but not all cantons authorise pharmacists to vaccinate independently. For example, in the canton of Ticino, pharmacists are not allowed to vaccinate without a physician’s prescription. The range of vaccines that pharmacists are allowed to administer also differs by canton. In early 2023, in 25 out of 26 cantons in Switzerland, vaccinations could be administered to customers ≥16 years of age

without a physician prescription (eg, influenza, tickborne encephalitis [FSME], COVID-19, hepatitis A/B/A+B, measles-mumps-rubella [MMR], dTp(p), HPV, herpes zoster, meningococcal vaccine, pneumococcal vaccine, varicella). In a few cantons, and depending on the type of vaccine, the first dose needs to be administered by a physician.^{38 39}

In response to the COVID-19 pandemic, two mRNA COVID-19 vaccines,⁴⁰ one vector COVID-19 vaccine⁴¹ and one protein-based COVID-19 vaccine⁴² were approved by Swiss health authorities between 2021 and 2022. Community pharmacies were authorised to carry out COVID-19 vaccines as long as they were in line with cantonal strategies and regulations.⁴³ To offer additional training to COVID-19 vaccinating pharmacists, online lectures, workshops and webinars were organised by the local and national pharmacists’ associations.⁴³ A study has shown how customers chose pharmacies as their place of COVID-19 vaccination due to easy access, opening hours and trust, and high satisfaction with pharmacist-administered COVID-19 vaccinations,⁴³ which is comparable to previous study results on influenza vaccine administration in pharmacies globally.^{44–47} But pharmacists were not only involved in vaccination during the COVID-19 pandemic; they were vaccination educators, advocates and providers of routine clinical services, in addition to their normal duties as pharmacists.^{48 49}

As studies have shown an association between CAM use and VH, it is important to understand the impact of vaccine providers on vaccine-hesitant people and on vaccination rates. This topic merits further study, particularly in Switzerland where the opportunity to vaccinate in pharmacies is a relatively recent and evolving development, CAM is popular for customers, and some pharmacists are CAM-specialised or offer a range of CAM products.

Key objectives of this study, therefore, were to examine the roles and perspectives of biomedically oriented and CAM-specialised pharmacists with regard to vaccine counselling and administration in the Swiss context.

METHODS

We conducted this study in the context of our Swiss NRP74 on vaccine-hesitant patients and physicians in Switzerland.^{10 50} Following the study’s approval by the local ethics committee, 32 pharmacists were contacted between January and March 2020 via email and phone communication by the study director (PET). We purposively sampled for CAM-specialised and biomedically oriented pharmacists. The CAM specialisation of the pharmacists was tentatively predetermined before interviews and based on recommendations from CAM physicians in our research networks and from information available on pharmacies’ websites. We confirmed the CAM specialisation and biomedical orientation of pharmacists during the interviews by explicitly asking pharmacists about their relationship to CAM and the recommendations they

make to their customers. We also asked if they had any specific training in CAM. Out of the 32 contacted pharmacists, 18 consented to the study, representing a participation rate of 56%.

Our sample includes both biomedical pharmacists (n=11) and CAM pharmacists (n=7). For simplicity, we will use the terms 'CAM pharmacists' and 'biomedical pharmacists' when referring to 'CAM-specialised' and 'biomedically oriented' pharmacists.

We designed a semistructured qualitative interview guide based on previous projects of the NRP74 VH programme,^{11 51} and adapted and modified it for the context of pharmacy vaccination consultations. We finalised the interview guide after several pilot interviews and revised and optimised it by team members for length, coherence and clarity before conducting the interviews with study participants. The guide included questions about participants' professional background and perspectives on vaccination counselling, advantages and disadvantages of vaccinating in pharmacies, their perspectives on CAM therapies and services, and views of vaccination rates and approaches to improving vaccine access (online supplemental file 1).

In early 2020, when qualitative data collection of this study took place, it was possible in 22 cantons for pharmacists to administer vaccinations without prescriptions.⁵² At that time, pharmacists were limited more in terms of the vaccinations they were able to offer in pharmacies (early 2020: influenza, FSME, hepatitis A/B/A+B, MMR, HPV, dTp).⁵²

From January to March 2020, we conducted face-to-face semistructured qualitative interviews with community pharmacists (n=18) in the French-speaking, Italian-speaking and German-speaking parts of Switzerland (FR-CH, IT-CH and GE-CH, respectively). All participants were interviewed once; one interview was conducted with two participants simultaneously (a biomedical and a CAM pharmacist from the same pharmacy; opinions of the two simultaneously interviewed pharmacists allowed for direct comparisons between their perspectives and experiences).

Two senior pharmacy students trained in qualitative methods conducted the interviews (author JT and author MAdA). They introduced themselves prior to the interviews and stated the study objectives. They carried out the interviews at each participant's working pharmacy. Apart from the interviewer and the pharmacist, no other person was present during the interview. All interviews were audiorecorded and transcribed verbatim in the original language of utterance. Field notes were taken during and after interviews. The French and Italian interviews were then translated into German by native bilingual research team members.

We regularly discussed findings among our research team during the process of transcription, data analysis and interpretation. We coded and analysed data using thematic analysis, following Braun and Clark's six phases for thematic analysis: familiarising yourself with your data,

generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report.⁵³ For coding and organising data, we used the qualitative data analysis software MAXQDA. The coding scheme and themes were analysed and reviewed independently by three group members. Data saturation was reached after nine interviews and confirmed with the following interviews.⁵⁴

We grouped similar codes into themes and organised them into three main themes: (1) pharmacists' attitudes towards vaccination, (2) pharmacists as vaccination counsellors and (3) pharmacists' role as public HCPs on vaccination.

Discrepancies in coding were discussed in the research team. Our data are based on quotes from participants, and all quotations were translated into English. Consensus on translations was reached between bilingual research team members. Pseudonyms are used throughout to ensure anonymity. We used the Consolidated criteria for Reporting Qualitative research checklist as guidelines for reporting qualitative results, which applies to all aspects of qualitative research (online supplemental file 2).⁵⁵

Patient and public involvement

No patients were involved in this study.

RESULTS

We conducted 17 qualitative, semistructured interviews with 18 pharmacists (table 1). One interview was with two participants simultaneously. On average, the interviews lasted 35 min and ranged from 20 to 60 min.

All participants are licensed pharmacists with university degrees in biomedical pharmacy. The pharmacists' orientation/specialisation was confirmed by the pharmacists' statements during the interviews. CAM pharmacists expressed enthusiasm for CAM services and products and described regularly offering CAM services and products in their pharmacies. Some biomedical pharmacists also applied CAM approaches, sold CAM medication in their pharmacies, and some had limited amounts of CAM training (eg, attended evening classes or lectures). In contrast, all CAM pharmacists had obtained additional training in CAM of several years' duration. Therefore, we will only refer to pharmacists with extensive CAM training as CAM pharmacists. Information about participating pharmacists' backgrounds is reported in table 1.

Of the 18 pharmacists we interviewed, the 7 CAM pharmacists all reported extensive (several years) additional training in CAM. The other 11 pharmacists mainly employed biomedical approaches and differed regarding their attitudes towards the various types of complementary medicine. While some biomedical pharmacists also regularly recommend and use CAM in their practice, others described CAM (eg, homeopathy) as not evidence based, and therefore, out of the question for them to recommend to customers.

Table 1 Participant characteristics

Pseudonym	Swiss language region	Orientation/specialisation	Vaccination available in pharmacy	Personally performs vaccinations
Mr. Farni	German	CAM	No	No
Mr. Kronegger	German	CAM	No	No
Mr. Schäfer	German	CAM	Yes	No
Ms. Bergmann	German	Biomedical	Yes	Yes
Ms. Schulze	German	CAM	Yes	No
Mr. Keller	German	CAM	Yes	No
Ms. Fritschi	German	CAM	Yes	Yes
Ms. Schilling	German	CAM	No	No
Mr. Gasser	German	Biomedical	Yes	Yes
Ms. Gschwind	German	Biomedical	Yes	Yes
Ms. Biland	German	Biomedical	Yes	Yes
Mr. Hofmann	German	Biomedical	Yes	Yes
Ms. Hegi	German	Biomedical	Yes	Yes
Mr. Schneider	German	Biomedical	Yes	Yes
Ms. Allard	French	Biomedical	Yes	Yes
Ms. Bouille	French	Biomedical	Yes	Yes
Ms. Béringer	French	Biomedical	Yes	Yes
Ms. Bianchi	Italian	Biomedical	Yes	Yes

N=18.

CAM, complementary and alternative medicine.

FINDINGS

Based on our main coding scheme, we first illustrate pharmacists' attitudes towards vaccination in general. Second, we highlight customers' vaccination-related questions facing pharmacists and describe participants' different approaches on counselling vaccine-hesitant customers. We then illuminate pharmacists' public health roles as HCPs who provide vaccine counseling and administer vaccinations. In each section, we first highlight similarities between biomedicine and CAM and then subsequently compare them. A selection of quotes is presented in [table 2](#) for each subsection.

Participants' overall favourable, yet concerned attitudes towards vaccination

All participants reported favourable vaccination attitudes. In general, it was mainly biomedical participants who reported proactively promoting vaccinations via advertisements, flyers or posters in their pharmacies and shop windows.

CAM pharmacists were not as enthusiastic advocates of vaccination as the biomedical pharmacists we interviewed. Instead, they tried to give their customers the best possible individual vaccination advice and did not always recommend following the Swiss vaccination plan.

During interviews, CAM pharmacists were not reluctant in expressing doubts and concerns about the risks of vaccination.

Questions facing biomedical pharmacists were logistics-related, while questions facing CAM pharmacists were hesitancy related

In general, both CAM and biomedical pharmacists considered questions about vaccine side effects to be among the most common questions that customers had about vaccinations.

Furthermore, biomedical pharmacists explained how customers' questions about vaccination typically included logistical concerns, including the availability of vaccines in the pharmacy, requests for an electronic vaccination record, travel-associated vaccines and requesting booster doses.

On the other hand, CAM pharmacists reported different questions from customers who typically wished to obtain vaccination counselling in pharmacies. In particular, these customers asked for some room for interpretation regarding the official vaccination schedule. CAM pharmacists described how their customers were more oriented towards CAM, how they typically expressed VH and went to the CAM pharmacist for individual, nuanced vaccination advice. Many CAM pharmacists also described how it was mainly mothers who come to the pharmacy to talk about their questions about childhood vaccinations.

CAM pharmacists' individualised vaccination counselling

Many biomedical pharmacists indicated that they proactively recommended vaccinations to customers and that

Table 2 Selected quotes by identified theme in the results section

Theme	Orientation/specialisation	Pseudonym	Quote
Pharmacists' attitudes towards vaccination	Biomedical	Mr. Gasser	[Vaccines are] absolutely necessary, the best preventive measure that exists, the greatest medical achievement besides penicillin.
	CAM	Mr. Keller	[For every medical therapy] you need to perform a risk-benefit analysis. But with vaccines, pharmacists simply vaccinate without asking any questions, according to the [official] recommendations. And I don't think this is OK when you look at the issue scientifically (...): [The customer] is not able to obtain an actual opinion [from the pharmacist], any neutral counselling. I am really surprised by the eagerness of pharmacists to vaccinate. I've never heard any critical views [on vaccines] from pharmacists, they never ask whether what we do is right and good.
		Mr. Kronegger	Vaccinations are one of the biggest successes in medicine, (...) especially with how many lives have been saved. This is incredible.
		Mr. Schäfer	Vaccines are an enormous achievement of medicine (...). [Vaccines] can improve our lives (...) and protect us against disease. Like with antibiotics, where are the limits? Where do difficulties arise? (...) Not only the germ reacts (...) but also the human being (...). Polio has practically disappeared, which is really thanks to polio vaccine. On the other hand, I think you can see that over the years, difficulties can arise. We have seen some effects, like for example, we have seen an increase in allergies.
Customers' vaccination-related questions facing pharmacists	CAM	Ms. Fritschi	Those who come to us to get vaccinated usually don't have many questions. They might ask: 'I was sick recently, can I vaccinate now, or should I wait?' It tends to be the vaccine-hesitant people who ask more questions [about vaccines].
		Mr. Keller	We actually have many customers who are rather sceptical about vaccination or are simply unsure or have questions about it. Especially mothers with their children.
		Ms. Schulze	I would say you realize rapidly that someone has normal views, they don't have many questions (...). When the physician tells those customers to vaccinate, then that's what they're going to do. (...) I put [customers] who ask questions [about vaccinations] into a more vaccine-hesitant group. Only very rarely someone does want to get neutral information. If questions [about vaccinations] are asked, the person [customer] is vaccine-hesitant. (Mothers often ask questions such as:) Are there side effects? Why [vaccinate] now? Is there no single [monovalent] vaccine? Can I vaccinate later? Can you recommend a physician who will support me, even if I tell them I do not want to vaccinate according to the official schedule?
		Mr. Farni	[Our clients] are generally skeptical and hesitant. (...) They ask the same questions [as about vaccinations] about beta-blockers: 'Do I really need to take it?'
Participants' different approaches on counselling vaccine-hesitant customers	Biomedical	Ms. Biland	I find it problematic when parents don't have their children vaccinated. Children cannot fight back (...). I tell this to these mothers: 'It is unfair for the child that [being unvaccinated] they have to go through all these illnesses, like it is unfair to give a toothling child no painkillers.'
	CAM	Mr. Farni	If I have the right basic knowledge and I can teach it adequately to the patient, then I can trust them to make their own [vaccination] decisions (...). Patients need to find the best decision for themselves, and what I can do is to add some aspects. But I will certainly not give any final recommendation, no 'yes or no.' (...) I will only provide the arguments, so that they can decide. So, the question they ask is, 'Do I really have to get vaccinated against ticks [tick borne encephalitis]?' Then I say, 'You don't have to do anything. You have to find the best [option] for yourself, and I can give you a few points of view'.
		Ms. Fritschi	When a customer is vaccine-hesitant I will not intervene but will try to take up and understand this aspect.

Continued

Table 2 Continued

Theme	Orientation/specialisation	Pseudonym	Quote
Pharmacists' role as public healthcare professionals on vaccination counselling and administration	CAM	Mr. Keller	My attitude is that I want to accompany the individual [customer] [through their decision-making process]. (...) the individual [customer] has the choice [regarding vaccination decisions]. I keep a neutral stance [in vaccination consultations] (...) and my personal opinion only becomes important when I am asked for it [by the customer] (...).
		Ms. Schulze	Mothers tell me that their pediatrician simply tells them, 'You need to do it [vaccinate] that way [the official way]'. And then I tell them, 'well, actually you don't. You may decide [for yourself]'.
		Mr. Keller	We have an increasing number of [customers], (...) who no longer have a family physician because they have moved to live or study in a new city, and who then are underserved medically and manage everything [i.e., preventive and acute medical care] themselves. The availability of vaccinations in pharmacies is a low-threshold, complementary offer for today's mobile, digital people. I've repeatedly had mothers who were faced with a choice. If they do not want the vaccination done, they are told they should no longer come to see [the paediatrician] again and that they should look for a new paediatrician.
		Mr. Kronegger	It's a problem of [not having enough] time, of course also for doctors. For a doctor to really discuss vaccines with a vaccine-critical patient. Who has the time for that? Doctors oftentimes hide behind the official vaccination schedule and only tell [parents] what vaccines to get and at what age (...). Many [parents] don't dare to ask questions (at the doctor's) and then come to us [to the pharmacy] with questions. (...) We have to be a bit careful not to become a voice between the physician and the parent in what we say. These situations can be quite delicate.
		Ms. Schulze	It [getting a second opinion in the pharmacy] is (...) a great need of mothers.
CAM, complementary and alternative medicine.			

they regularly attempted to get customers vaccinated. They also described how they rarely encountered vaccine-hesitant customers, and some biomedical pharmacists expressed clearly critical views of vaccine-hesitant mothers who do not want to vaccinate their children according to the official schedule.

On the other hand, the great majority of CAM pharmacists stated that their approach is rather to provide information about vaccinations and to, from their perspectives, provide 'neutral' advice, so that customers could make an informed decision for themselves. It is of note that 3 out of the 11 interviewed biomedical pharmacists also advocated for this approach. Moreover, two CAM pharmacists explained that they adapt their vaccination consultations to their impressions of the customers.

Pharmacists' importance as public HCPs on vaccination counselling and administration

Most participants explained how they felt their role to be that of a vaccination counsellor. They also viewed vaccination in pharmacies as a low-threshold approach that facilitates access to vaccination for their customers. Pharmacists explained how their customers appreciated the fact that they can come in for vaccinations without an appointment. This was especially attractive to customers

who do not regularly see a physician. The availability of vaccination in pharmacies was seen by pharmacists as an opportunity to reach certain subgroups of customers.

Most participants believed that better access to vaccination in pharmacies increases vaccination rates. Also, some of them pointed out that pharmacists are not competing with physicians, but rather cover people intending to vaccinate who would not have gone to the physician for the vaccination in the first place.

Some biomedical pharmacists emphasised proactively that they make an important contribution to public health through vaccinations and vaccination counselling in pharmacies. For their part, CAM pharmacists made clear that they make an important contribution to public health as well. They described sometimes providing a second opinion for vaccine-hesitant customers who were dissatisfied with their experiences with biomedical physicians.

DISCUSSION

In this qualitative study, we provide in-depth understanding of Swiss community pharmacists' vaccination attitudes, typical vaccine-hesitant customers' questions

and concerns, and descriptions of pharmacists' vaccination advice in community pharmacies. Our study has three major findings: First, ours is the first study, to our knowledge, to provide a detailed characterisation of CAM specialised pharmacists vaccination practices and perspectives in comparison to biomedically oriented pharmacists. Second, similar to previous findings with CAM physicians in Switzerland,¹¹ we provide insights into CAM pharmacists' roles as HCPs who provide vaccination counselling and administration. This finding contests common research and cultural narratives that CAM-specialised providers are categorically opposed to vaccination.^{11 56} Third, our findings demonstrate how pharmacists, including CAM pharmacists, play an important public health role by providing both official and nuanced views on vaccination, counselling vaccine-hesitant customers and reassuring vaccine-hesitant parents seeking a second opinion.

Ever since 2015, when Swiss legislation began allowing pharmacists, in addition to physicians, to provide vaccination services,²⁹ pharmacists have become major players in providing vaccination counselling and administering vaccines, as shown in a previous study of ours on 'perspectives of professional stakeholders on vaccination in pharmacies'.⁵⁷ Studies show that access to vaccination has increased by establishing vaccination services in pharmacies.^{31 58 59} Recently, the COVID-19 pandemic has shown that the availability of vaccines in pharmacies reduces the workload on physicians' offices and vaccination centres and enables higher vaccination rates in the population.³⁹

In our study, participating pharmacists also agreed that vaccination in pharmacies improves access to vaccination and may serve to increase vaccination rates. While Swiss studies recorded that the majority of patients continue to be vaccinated in physicians' offices, researchers also note that vaccination coverage has increased since the introduction of vaccination in pharmacies.^{30 60}

Similar to others' findings,³⁰ biomedical pharmacists' vaccination counselling roles in our study centred on closing vaccination gaps and answering customer questions seeking seasonal (e.g. influenza, tickborne encephalitis) and pretravel vaccination advice by offering advice in line with the official Swiss recommendations. Here, we show how CAM pharmacists, in contrast, preferred providing individual and nuanced vaccination advice that may not strictly adhere to the Swiss vaccination plan. Their communication approaches included a focus on shared vaccination decision-making, understanding their customers' vaccination wishes, and taking their vaccination concerns seriously. CAM pharmacists particularly discussed attempts at strengthening vaccine-hesitant customers' decision-making by involving them actively in vaccination decisions. Such findings reflect those of Attwell *et al* who describe the relations of CAM users and providers among each other and to vaccination reluctance as symbiotic.²⁷

A recent study focusing on Swiss HCP revealed their discomfort in managing vaccine-hesitant customers and

patients, underscoring the urgent need for additional education in vaccination expertise and communication strategies.⁶¹ By counselling vaccine-hesitant customers, CAM pharmacists, similar to CAM physicians, are likely meeting specific communication needs of vaccine-hesitant customers. Previous research in Switzerland has shown how parents may choose to no longer consult with biomedical physicians after being dissatisfied with their vaccination consultations, with some parents subsequently consulting with CAM practitioners.^{62 63} Biomedical physicians' and pharmacists' focus on adherence to the official vaccination recommendations likely does not always address the communication needs of vaccine-hesitant customers.^{11 64 65} A number of CAM pharmacists discussed how their customers still had questions about vaccination after having previously consulted their paediatrician and came to their pharmacy for a second opinion. Vaccine-hesitant customers often prefer vaccination communication that biomedically oriented physicians may not always be able to meet.^{11 51} This is similar to what Dubé *et al* described when comparing the roles of physicians and midwives in vaccine consultations.⁶⁵ These researchers found that physicians tended to try to convince patients to vaccinate, whereas midwives took a 'neutral' position and let the parents decide. CAM pharmacists were willing to support vaccine-hesitant customers' decisions to deviate from official vaccination schedules in their attempts at remaining 'neutral'. It is of note that this neutrality was self-described by participating CAM pharmacists and does not necessarily mean that their vaccination advice was in fact neutral or unbiased.

Vaccine-hesitant customers often, through vaccination discussions with CAM providers, opt for vaccination, even if it is not carried out according to the official vaccination recommendations. This argument was made by CAM and biomedical physicians in our previous qualitative studies, whereby the interviewed providers argued that by maintaining dialogue with vaccine-hesitant patients, CAM providers adopt 'better-late-than-never' vaccination attitudes as a preference over turning patients away.^{11 51}

In our interviews with both biomedical and CAM pharmacists, we recorded overall positive attitudes towards vaccination. The positive vaccination perspectives of CAM pharmacists in particular may come as a surprise, particularly considering popular and research discourses that associate CAM-specialised HCPs with being vaccination opponents.^{66–68} While CAM pharmacists supported vaccination to combat serious infectious diseases, they were not reluctant to also express doubts and concerns about vaccinations when counselling their individual customers. It may be exactly this cautious, nuanced stance towards the merits and potential risks of vaccines that may increase confidence among vaccine-hesitant customers towards CAM pharmacists.^{11 51} However, it would be interesting to further investigate how such discussions might potentially reinforce customers' vaccine-hesitancy, similar to the findings described by Attwell *et al*.²⁷

Strengths and limitations

A strength of this study is that our qualitative, semistructured interviews allowed us to obtain important novel insights into pharmacists' (CAM and biomedical alike) approaches to vaccination counselling. Qualitative analysis allowed for close comparison of CAM and biomedical pharmacists' experiences with, and perspectives on, vaccination. We interviewed pharmacists from 3 language regions of Switzerland and covered 13 cantons in total, in order to get a broad picture of Switzerland (as different cantons have different rules regarding vaccination in pharmacies).

Our study has some limitations. Our findings are deduced from the interviews and opinions of pharmacists from a diverse but limited sample in Switzerland. We conducted fewer interviews in the smaller Italian-speaking and French-speaking regions than the large German-speaking region of Switzerland in our sample. Translating all the interviews into German and translating some statements into English might have changed some nuances in the statements; however, this was done by our fluently bilingual researchers (MAa and PET). Furthermore, we did not interview CAM pharmacists in Italian-speaking and French-speaking regions of Switzerland, and of all the CAM pharmacists, only one administered vaccinations personally. As described in previous literature, the distinction between biomedicine and CAM is difficult to clearly ascertain, as the boundaries are often blurred, and definitions are not universal.^{69 70} This was also the case of the pharmacists included in this study because many biomedical pharmacies in Switzerland nowadays also apply CAM approaches and offer CAM services and products. Nonetheless, the perspectives on vaccination we have collected in this study show clear differences between pharmacists with extensive CAM training and those without.

Our findings require verification on a wider scale; 18 pharmacists cannot represent all pharmacist perspectives in Switzerland. More rigorous approaches to studying the pharmacist–client interactions, such as ethnographic observations of vaccination consultations in pharmacies, could add to the qualitative understanding of pharmacists' role in vaccination-counselling. As part of a previous project, we were able to use this method to observe such vaccination consultations in CAM physicians' offices.¹¹ Future research could also take a closer look at the customers' perspectives on vaccinations in pharmacies, since our results only consider pharmacists' perspectives and their experiences with customers. Interviewees' responses may have been influenced by the personal presence of the researcher, so they may have embellished statements, creating a desirability bias. Finally, our data need to be contextualised for when it was collected: the interview data are from early 2020 and concern a time period when COVID-19 vaccination was not yet available and when vaccination in Swiss pharmacies was not as common as today. Results from a large, longitudinal study conducted in the USA, suggest that VH regarding childhood vaccines appear to have increased during the

COVID-19 pandemic from 2020 to 2022,⁷¹ which demonstrates how vaccination consultation and addressing vaccination in pharmacies may be growing in importance.

CONCLUSION

Our research provides novel insights into vaccination in Swiss community pharmacies by qualitatively comparing and contrasting CAM and biomedical pharmacists' experiences with, and perspectives on, vaccination. All pharmacists interviewed reported favourable attitudes towards vaccination. However, CAM pharmacists expressed more doubts and concerns about the risks of vaccination than biomedical pharmacists. CAM pharmacists provided more individualised vaccination counselling to customers in their attempts to offer 'neutral' vaccination counselling. Biomedical pharmacists reported being more enthusiastic advocates of the Swiss vaccination recommendations. Access to vaccinations and vaccination coverage has increased through pharmacists in Switzerland. Vaccine counselling and administration in pharmacies represents an additional option to customers who have unmet communication needs and who seek reassurance from other HCPs. Pharmacists, especially CAM-specialised pharmacists, should be included in future research, as they play an important role in addressing VH.

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