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Utilizing stakeholder consultations to identify context-specific professional skills for veterinary graduates in Bangladesh

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ABSTRACT

Despite professional skills being part of the Day One Competences published by national as well as international accreditation bodies, veterinary schools in Bangladesh have limited associated teaching within their curricula. Therefore, our study aimed to identify the most important professional skills for veterinarians in Bangladesh through local consultation to inform future initiatives to change the curriculum. Eleven focus groups were conducted with 45 stakeholders who included veterinarians who supervise students on work placements, faculty, recent graduates, final year students, and clients. The audio recordings were transcribed, translated into English from Bengali and analyzed using an inductive thematic approach. Professional skills were considered essential by all stakeholder groups. The most important professional skills were identified as communication, ethical conduct, teamwork, career options, financial management skills, lifelong learning, time management and self-appraisal. One of the best opportunities to practice many of the skills was identified as being during final year work placements, while participating in extracurricular activities, learning by observing others and self-motivation were also considered valuable. Participants identified a need for more formal professional skills teaching within the curriculum. Challenges included finding space in the curriculum, raising awareness amongst university academics and engaging students and faculty in the new initiatives. This study has identified the most important professional skills in our context. Consultation with relevant regional stakeholders was crucial and will inform curricular change. The results are being used in the development of professional skills courses with the long-term aim of better preparing our graduates for their future careers.

Key words: professionalism, veterinary professional skills, communication skills, veterinary curriculum, veterinary non-technical competencies

INTRODUCTION

Veterinary professionals serve communities and, in this capacity, have a social contract to address the changing needs of society.[1,2]Veterinary education, therefore, has a responsibility to prepare future veterinarians to serve society, which inherently entails constantly re-examining and redefining the skills and attributes that new graduates must possess to perform their duties.[1-9]Veterinary institutions need to teach a combination of scientific and medical knowledge, clinical skills and professional attributes, with the latter consisting of a set of cognitive, social, and personal behaviors important for success in the workplace.[2,10]Professional skills have been consistently and repeatedly identified as necessary requirements for veterinarians by stakeholders, including clients, employers, and recent graduates.[2,11-14]

Professional skills are now an accepted part of veterinary education, are included in accreditation standards and many institutions have introduced mandatory courses in their curricula.[15-20] However, which specific skills constitute professional skills and the definition of professionalism have not been consistently established in veterinary or medical education.[4,8,9,15-22]Relevant stakeholders including clients, veterinary students, faculty, new graduates, and their employers, all agree on the importance of professional skills but different groups value different skills.[6,14,22,23] Despite an increase in research into this topic in both veterinary and medical education, an evidence-based consensus of what skills should be taught, how, and how they should be assessed is still mostly lacking, with the exception of communication skills. The most cited professional skills needed to be a successful veterinarian are: effective communication, ethics and law, leadership and teamwork, business and finance, personal management, lifelong learning, and employability.[1,5,6,9,14,21,24-39] Research on developing veterinary professional skills curricula is limited, but there is research about specific professional skills, the value of teaching them, how to effectively teach and assess them, and the different perspectives on which skills are important.[9,26,27,30,36-38,40,41] Much of the research has been in a North American, European, and Australasian context.[6,9,14,23,42-44]

However, some argue that specifically because professional skills are dependent on the context, time, culture and societal needs, a single shared definition is not appropriate,[1,4,22,32,45] and professional skills have been found to vary across geographic,

cultural and societal contexts.[16,21,46]Additionally, both medical and veterinary education have seen an evolution in professional skills research, with more studies and new topics emerging, such as burnout, wellness, resilience and work-life balance, and a recent shift from personal responsibility to institutional and societal accountability.[8,9,21,37,47,48] Preparing veterinarians for a career to serve their community requires careful evaluation of the context and the needs of the local community, not just adopting a general global standard.[21,46]

In Bangladesh, the veterinary community consists of 13 veterinary schools whose graduates are typically employed by the government and work mostly with livestock although there is a growing private sector for pet animals. The Bangladesh Veterinary Council's Standard for Veterinary Education[19] includes professional skills as part of the Day One Competences required of new graduates, similar to other accreditation bodies globally.[15-18]Additionally, in a recent study on clinical skills in Bangladesh, veterinarians and students listed professional skills as the most important additional skills required by new graduates.[49] Despite the accreditation requirements and views of key stakeholders, specific courses aimed at teaching professional skills have not yet been formally embedded in the Doctor of Veterinary Medicine (DVM) curriculum of any of the veterinary schools in Bangladesh.

As already noted, there is a lack of consensus on what professional skills to include in a veterinary curriculum.[5,6,9,15-19,37,47,50] Due to differences in curriculum design, clinical practices, socioeconomic structures, culture, and languages, even if a consensus existed, established professional skills courses from other countries would not be directly transferrable to Bangladesh. Research in professional skills emphasizes the need for context-specific consideration to best equip veterinarians for success in their communities.[21,33,46] Furthermore, ensuring local relevance will improve faculty and student buy-in to professional skills teaching, a critical ingredient to the success of newly implemented professional skills courses, and ensure that the needs of the public who is being served are included.[4,21,26] Best practices in developing new professional skills curricula outline the importance of careful examination of the context and needs of the society through stakeholder consultations (including clients, educators, students, and employers), taking the knowledge gained to develop customized professional skills curricula and to provide faculty development.[4,21,23,26,40,47,50,51]

Despite the lack of consensus of which professional skills should be taught, the importance of teaching professional skills in veterinary education is established.[1,6,9,14-19,37,46,47,50] The Faculty of Veterinary Medicine at Chattogram Veterinary and Animal Sciences University in Bangladesh proposed the development of a professional skills course for the veterinary curriculum and embarked on this study. The aim was to identify the professional skills that veterinarians in Bangladesh need to best serve their society, in order to inform changes to the DVM curriculum. To address this, the research questions were:

- What are the most important professional skills for a veterinarian in Bangladesh?
- How could professional skills be incorporated into the curriculum?

METHODS

Ethical approval

Ethical approval for the study was granted by Animal Experimentation and Ethics Committee (AEEC) of Chattogram Veterinary and Animal Sciences University, Bangladesh (Reference-CVASU/Dir(R&E)EC/2022/405/1; Date: 07/09/2022).

Focus Groups

Focus groups were used to collect detailed information and opinions on professional skills from key stakeholder groups and to encourage discussion. The design and implementation of the focus groups and approach to data analysis were informed by qualitative research guidelines.[52,53] An initial set of questions was developed by the project team, informed by a literature review. The questions were refined through discussion within the team and piloting with local faculty and students, and the final version is included in Table 1. A purposive sampling strategy was used through the local project team's networks with potential participants contacted by phone or in person. If interested in participating, individuals were sent a project information sheet and a consent form to sign and return before the focus group. All participants were informed that their contributions would remain anonymous. Eleven focus groups were conducted with five stakeholder groups: placement providers (veterinarians who oversee final year students on external workplacements), faculty (from CVASU and seven other universities), recent graduates (graduated from CVASU and one other university in or after 2017), students (who were in

their final year from CVASU and two other universities), and clients (farmers and pet animal owners). All focus groups were conducted in August and September 2022. Questions were asked by the lead researcher (NNC), with another team member co-facilitating (MAH) and a note taker was present (NI). All had previous experience conducting focus groups. The focus groups were in Bengali, lasted approximately 2 hours and were audio recorded. Seven focus groups were online using the video conferencing software ZOOM[a] and were conducted following guidelines for using video conferencing in research,[54] and four were in person at CVASU. There was a total of 45 participants (37 male, 8 female, a proportion approximating the veterinary sector in Bangladesh); the largest subgroup was faculty (n=18), which was intentional because of the aim of making changes to the curriculum. Focus group and participant details are summarized in Table 2.

Table 1 (about here) Questions for the focus group participants, with context specific prompts by group

Table 2 (about here) Summary of focus groups and participants

Data Analysis

The audio recordings of the focus groups were transcribed and translated into English (eight by NI and three by NNC). The transcripts were analyzed in an iterative process and using inductive thematic analysis to identify and categorize themes that address the study's research questions. One researcher (SB) read all the transcripts initially to gain familiarity and an overall impression, then re-read while making notes and manually coding the data, and finally grouped codes under major and minor themes. A second researcher (NNC), already familiar with the data having conducted the focus groups, followed the same analytical process on five of the focus group transcripts (one from each stakeholder group). The researchers then met virtually to review the themes, discuss slight modifications, and reach consensus.

RESULTS

The three major themes identified were:

1. Professional Skills of a Veterinarian
2. Acquiring Professional Skills

3. Challenges to Overcome

These are each described below with the associated minor themes and illustrative quotes (labeled by stakeholder group and participant number as per abbreviations in Table 2).

1. Professional Skills of a Veterinarian

Other than veterinary knowledge and clinical skills, professional skills were identified as central to a veterinarian's role in providing a professional service and gaining client satisfaction, as well as contributing to a successful and fulfilling career. The importance and value of the combination of knowledge, skills and professional attributes was recognized:

> *We may have good clinical skills, but without professional skills it would be in vain. RG8*

> *There is a lack of our understanding, what I mean is that we do not have a proper sense of professional skills. But such skills are crucial for our professional and personal life too. FO7*

The following specific professional skills were identified across focus group questions and stakeholder groups.

Communication

Communication was identified as the most important professional skill by all groups and was a recurring topic throughout the discussions.

> *The first skill needed is communication. We may have so many excellent skills but without communication skills, we will not be able to express or execute them. RG6*

The descriptions of communication and the examples provided focused on gathering information (history taking) and explaining diagnoses and treatments while building a rapport and cultivating trust and earning respect (although were not specifically labeled as 'communication' skills by clients). The integral role of communication in the veterinarian's overall toolkit and daily work was exemplified by:

> *If I just diagnosed the patient and wrote a prescription for him, then it is not done. First, I have to make the owner believe that I am attentive to his problems and queries. Even though I first recognized what the disease was, I still need to listen to*

him attentively and obtain the prior medical histories of both this patient and any other cows. Then I can provide him with a prescription and advice. PP4

Clients also raised the importance of communication, and multiple groups commented on the value of shared decision making which included client education and was crucial for the client to follow the veterinarian's advice.

It's a two-way thing… He should describe the cause of the disease, what management went wrong, why he is giving this treatment, everything. A vet should educate the farmers about antimicrobial resistance also so that the farmers don't blindly go for antibiotics. C4

We should motivate our owners in such a way that they will be convinced to follow the treatment protocol. FC4

Follow-up was mentioned and considered valuable by practitioners and clients although could be difficult to maintain with busy workloads.

It is important for a vet to collect feedback from their respective clients or farmers and make follow-ups with them. It enhances good communication and networking between the clients and vets. RG2

As well as verbal communication, non-verbal components of communication were commonly mentioned. There was reference to being able to demonstrate empathy and kindness to the animal and client, which was particularly valued by clients. Participants were also aware of the impact (positive and negative) of their expressions, attitude and posture. The need to develop patience as part of the veterinarian's skill set and the importance of listening were repeatedly emphasized.

My worst experience was from a vet who lacked empathy.C3

Another thing to keep in mind is to present yourself well, being really gentle with appropriate verbal and body language, gestures, and posture. FO5

We should be gentle and attentive to the owners, listen to their problems and queries patiently, answer them carefully, show care and above all, it is crucial to understand their perspective. SC4

Several challenges specific to communication were identified. Across the country, there are regional dialects and without a common language between veterinarian and client inevitable difficulties and misunderstandings occur. It was also recognized that the use of jargon should be avoided.

> *There are a lot of dialects in the different regions of our county. We need to learn them to thoroughly understand an owner's complaint, to take a history and describe the treatment properly. FC2*

> *Also doctors often use complicated words that some individuals might find confusing. FO2*

Most of the focus was around the client encounter. However, other aspects of communication were mentioned including written documentation for medical records and prescriptions, and presentations to colleagues or by students as part of their coursework. Social media was also recognized for its role in communicating outside of the in-person client encounter.

> *We post different warnings about diseases on our Facebook page, and people share their reviews. These all help to publicize the hospital. RG7*

Ethical conduct

The ethical values and good conduct of veterinary professionals were raised and discussed by the veterinarians (all relevant groups), alluded to by clients and for students were based on observations. including iIntegrity, respect and honesty were highlighted, as was the need to have an awareness of and adhere to legal and professional guidelines. Examples of conduct that was of concern included being perceived to put economic gain above other considerations or influenced by pharmaceutical companies. A responsibility to promote the standing of the profession was considered important, although could be undermined in various ways including when not supporting colleagues.

> *Nowadays criticism is heard about vets prescribing additional unnecessary medicines for patients that are not necessary. Moreover, it is also heard that vets have links or connections to different medicine companies and to promote certain brands they suggest those medicines. In all these cases, the vets should be neutral and ethical. PP5*

There are people who like to backbite and hear bad about others. We should stop doing this. I never liked it. When a client comes to me and tries to say bad things showing the prescriptions of other vets, I try to make them understand. There are a variety of treatments, which can be a bit different from one vet to another. RG6

Working with others

An individual's roles and responsibilities when working with others were described in various ways by all groups except clients and includeding being respectful of fellow professionals and the value and importance of creating a collaborative team environment, in practice and at university.

Of the skills we need, one is how to create a good working environment for all. SC1

The veterinarian also needs leadership and management skills when working in practice and other contexts, and when representing the profession.

I feel leadership skills are crucial. We have many stakeholders to deal with and if we do not develop good leadership, then it will be difficult for us to deal with them. Even during fieldwork, we need leadership qualities. Regarding leadership, I think courage is needed for this skill. RG4

Management includes patient and client management, other staff management and office management skills. RG9

Veterinary profession profile and career options

It was noted, mostly by faculty, that students did not seem to have a good understanding of the roles and responsibilities of veterinary professionals or the career options available upon graduation. This could contribute to a lack of motivation among students. Concerns were aired by some students and veterinarians that veterinary medicine was not seen as a well-respected profession and the DVM was not necessarily the first choice of the student or their family, and this could contribute to students' difficulties in engaging with the course.

> *A lack of respect from the society towards the profession is a problem. FC2*

Lifelong learning

It was recognized that a veterinarian's knowledge and skills need to evolve throughout their career. ~~Participants~~ The veterinarians described engaging in continuing education activities and the importance of engendering a habit of lifelong learning.

> *A willingness to learn and develop knowledge and capabilities is necessary. For that, a person needs to update their skills and knowledge by attending different seminars, training, and practicing self-learning. RG2*

For students, it was noted that being keen and eager to learn was the start of their lifelong learning journey. It was also recognized by students as a way to get the most from placements and other learning opportunities.

Finance and entrepreneurship

Financial skills in various manifestations and contexts were mentioned by multiple stakeholder groups. Practitioners needed business acumen, particularly for the expanding private pet sector, and students sometimes felt unprepared to ask for remuneration from clients.

> *I have an issue asking for an honorarium. Suppose I was providing some treatment to a patient, over the phone or face to face. But I feel I don't know how to ask for the honorarium that I deserve. I feel shy about it. SC1*

Clients appreciated when the veterinarian demonstrating consideration for their financial situation and veterinarians described being aware of the need to adapt treatment and advice accordingly. Having knowledge of the economic situation was important, particularly when working with farmers.

As I am a farmer, if a treatment is not economic to me, I cannot use it. C1

The need for greater entrepreneurship skills among graduates was also recognized and seen as likely to be a future priority.

We may want to start a business in the future and want to become an entrepreneur. SC2

Time management

The students listed time management as a professional skill in the context of their academic work including group assignments and preparing for exams. They also found time management could be challenging during final year workplacements and when interacting with clients and had gained insight when observing the veterinarian managing their daily workload. Other stakeholder groups alluded to student time management skills, mostly where a lack thereof caused issues.

Another weakness is time management while seeing the patient. When I try to give good time to a patient then a crowd is created among the waiting patients. I do not know how exactly to use time in an effective way. SC1

I am pleased when they [students] show up on time and are organized. PP2

Self-awareness

Various aspects of self-awareness were identified by the data coders and manifested as awareness of the need for and importance of professionalism as a veterinarian, insight into one's strengths and weaknesses (self-appraisal), self-care and wellbeing (e.g., dealing with stress and depression), the need to adapt to different situations, and planning for personal and professional growth and development.

Theme Summary

The 'Professional Skills of a Veterinarian' theme encompassed the skills and attributes that complement veterinary knowledge and clinical expertise and underpin a veterinarian's daily work and career success. The most important professional skill was communication and covered all aspects of veterinarian and client encounters. Additional professional skills related to other interactions including ethical conduct and being part of a team, the challenges around the profession's profile and a need for greater awareness of career opportunities, specific skill development in lifelong learning, finance and entrepreneurship, and a particular challenge for student was time management. Aspects of self-awareness were identified across the data.

2. Acquiring Professional Skills

Having identified and discussed the professional skills of a veterinarian, participants in all groups except the clients reflected on how they had developed the associated skills and proposed ways in which such skills could be taught to students in the future.

How professional skills were/are acquired

It was frequently noted by the practitioners, faculty and students that there had not been, and still were no formal opportunities or courses within the curriculum that focused on professional skills.

> *Professional skills are somewhat lacking among our students because we do not teach them about these subjects specifically. FO8*

Participants described situations and activities when they had opportunities to acquire and further develop their professional skills. At university extracurricular activities were recognized as providing valuable and transferable skills. These included activities where students could learn communication, teamwork, adaptability and leadership when participating in clubs e.g., sport, debating, cultural, drama and international student associations, and when having a job e.g., at the hostel and in shops.

> *I have been involved in different organizations [e.g., IVSA] and extra curriculum activities. So, I interact with different people which helps to grow and improve my communication and leadership skill. SC1*

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> *I worked in a grocery shop. There I had to deal with at least 250 to 300 customers a day. This helped me to develop communication skills with people. SC2*

Although it was acknowledged that the time commitment and lack of official recognition of such contributions may limit participation and therefore the benefits would not apply to all students.

The main opportunity for students to learn professional skills was during the final year workplacements. Specific examples included communication skills in the context of handling clients and dealing with clinical cases, recognizing workplace 'norms' (behavior), including dress code, working with other members of the veterinary team, time management and patience.

> *For students, the internship [final year workplacements] plays an important role for learning professional skills. PP2*

> *During the internship, I developed problem-solving skills, patience and owner handling, effective teamwork and communication. SO1*

Practitioners and faculty~~articipants~~ recognized that much of their learning had been and continued to occur 'on the job' which was repeatedly referred to as a valuable and important way to develop professional skills throughout one's career. Most was informal although some had attended courses.

> *I learnt 70 to 80% of the professional skills after graduation. FC1*

Learning by observing people in all aspects of life, at university and in the workplace was a recurring theme. For example, teachers, practitioners, colleagues, family and fellow students could demonstrate good (and sometimes less exemplary) aspects of professionalism including ethical behavior, time management and leadership. Participants particularly valued good role models.

> *As a student, I observed my teachers who were best at their work, and I wished to be like them. I not only learn clinical skills from them but also their strategies for handling clients, motivation skills, and so on. RG1*

> *I had an exceptional boss, I learned leadership from him, and he trained many other leaders. FC5*

Students recognized that some parts of their current formal education were helpful in learning relevant professional skills although noted that there was a lack of specific courses dedicated to professional skills. Examples mentioned included a rural sociology course when students learn about rural and farming communities, a marketing project and courses that incorporated problem-based learning and group work.

> *It [group work] helps us to learn how to make connections with new people, communicate with them and work together in an effective way. SO2*

There was also a sense of 'self' in contributing to motivation, developing awareness of the need for lifelong learning, and as part of one's ongoing development of professional skills.

> *Finally, I would like to say we need to learn for ourselves, and we need to have a receptive mind and take help from others when needed. RG1*

How student professional skills could be developed in the future

It was recognized by the practitioners and faculty in particular that changes to the DVM curriculum were needed, with greater emphasis on professional skills and a long-term goal to include formal professionalism courses in the curriculum with an associated list of learning outcomes.

> *As a DVM student I was inclined more toward clinical subjects. However, we have to give more emphasis to subjects like these [professional skills], make a proper course and make students understand the value of these skills and their future utilization, so that students feel interested enough to learn these in a serious manner. RG6*

Activities that could be beneficial were proposed. For example, inviting successful alumni and leaders from different areas of the veterinary profession to deliver seminars at various stages in the curriculum e.g., during induction and when preparing for job applications, to provide a better understanding of the profession, career opportunities and motivate students.

If universities can arrange seminars with speakers who motivate the students for their career and other important skills, thus, the students get inspired and think differently about their future. PP2

The importance of communication skills was raised again and the associated need to provide more opportunities for students to learn and practice such skills. Some were aware of communication skills workshops used in other countries.

We can also instruct students through role-playing, in which an expert actor will portray the owner of the patient, and the student will play the doctor. FO1

Other suggested activities included a session from Bangladesh Veterinary Council (BVC) to raise awareness of the professional expectations of a veterinarian and the guiding code of conduct, which would help promote ethical behavior.

BVC can help educate about the laws and ethics of the profession and place a stronger emphasis on these skills. We should introduce them [students and vets] to the code of veterinary ethics. PP1

Some existing activities such as group work, problem-based learning and field visits should be increased, as well as continuing to capitalize on less-formal opportunities to develop professional skills including learning through extracurricular activities, observation of others, role models, social and cultural awareness, and personal responsibility.

It was noted that the final year workplacements will continue to be the best time to apply and further develop professional skills, but to optimize students learning professional skills should be taught earlier in the curriculum. A specific professionalism course just prior to final year would be particularly helpful, which could also raise awareness of how to utilize placement learning opportunities to further develop skills and career prospects.

We can set up a three to a four-day training session for students before sending them off to internship programs. Relevant professionals would teach students about various placements, each placement's goals, the range of learning, how to make use of time, how to adjust to new situations, etc. The students will benefit from this by gaining more focus for their learning on the internship. FO4

The need to provide better support for students during their studies including from professional counselors, was mentioned and increasing awareness among both faculty and students of the issues and ways to promote wellbeing. This was particularly emphasized by recent graduates and students.

> *I think it will be also better if a professional counselor talks with students, who understands their psychology and issues and explains options. RG3*

> *To tackle students' depression and frustration we may invite respected personalities who have faced the same kind of stuff in their life and share their motivational stories of how they overcame these disturbing feelings. SC3*

There continued to be a thread around 'self-appraisal' and personal responsibility for learning.

> *We need to learn to self-evaluate ourselves, this is for both the teachers and the students, and help each other to develop such skills. FC9*

Theme Summary

The 'Acquiring Professional Skills' theme involved participants reflecting on both past and current experiences. There had been no formal professional skills courses within the curriculum, instead participants noting opportunities to learn during extracurricular activities, workplacements and on the job. The need for curricular change in the future was identified together with some suggested approaches.

3. Challenges to Overcome

Both personal and institutional challenges were discussed by practitioners, faculty and students in relation to the changes that will be needed to support the further development of professional skills of future veterinarians in Bangladesh.

Preparing all stakeholders

As part of the planning process to change the DVM and place a greater emphasis on professional skills and introduce more teaching, it will be important to work with and prepare the relevant groups i.e., teachers, students, placement providers, and institutional leaders. Without a good understanding of why it is important and necessary to incorporate

specific teaching on professional skills in the DVM, the initiative is unlikely to be accepted or successful.

> *Unless we explain the importance and prioritize these subjects [professional skills] both the teachers and the students will ignore the courses. FC9*

The teachers will also need training in the topics and in the approaches e.g., seminars, workshops, communication skills role-play scenarios.

> *Training teachers and fostering their resourcefulness is going to be essential. FO1*

> *To develop the students' professional skills, it is important to ensure the respective teachers will have the skills and know the subjects and how to present it. RG2*

Preparing other key stakeholder groups such as placement providers, who continue to play an essential role during final year work-based learning, will be important but challenging with them spread over the country. ~~It~~ Faculty~~was~~ suggested that it would be better to outsource some topics to alumni, leading members of the profession, BVC, etc. but this will also require resourcing and planning.

> *If we [teachers] merely impart theoretical knowledge about business and entrepreneurship to vet students, they won't understand its significance and be inspired. It will be more successful if we bring in a skilled professional who has excelled in this sector, is inspiring and will motivate the students. FO3*

Barriers

It was recognized primarily by faculty but also by students that current curriculum is overloaded and adding more content or courses would be challenging on many levels including faculty resistance to change, time in the schedule, tiredness of faculty and students, and facilities. Addressing overcrowded curricula was going to be a challenge and, although participants were optimistic that some changes could be made, focusing on a course prior to final year workplacements was considered the initial priority. Faculty noted that b~~B~~ringing about the required changes will be a large task and take time, and it may be that a comprehensive curriculum review will be necessary before professional skills can be fully embedded in the curriculum.

We [as teachers] don't like to reduce credit or remove parts of a course that is repetitive to give time and a place for a new important course. FC10

Role models had been cited as a positive influence and helpful in learning about valued professional skills. However, an individual's attitude and behavior could have negative effect particularly on professional skills and might undermine new teaching initiatives. It was considered the responsibility of those who could influence student's personal and professional development to reflect on the potential impact of their behaviors and actions.

It happens that some of the teachers appreciate the effect of what they do on us, but I think others don't. SC3

Another potential barrier was an apparent lack of understanding of ethics, legal requirements and associated professional responsibilities. It was recognized that bringing about change will take time, but as ethics is linked to and underpins so many professional skills it was considered important to ensure it is emphasized in the curriculum.

More than teaching in the DVM…

The majority of the discussion was around what and how to teach professional skills. However, it was recognized <u>by all groups</u> that without a broader perspective e.g., from admissions to assessment, a process for monitoring ethical conduct, the effect of the new initiatives would not be maximized.

We don't have a proper system to handle any unethical activities. FC4

I also think if we are to grow our communication, presentation and leadership skills, our tests and exams should focus on these skills. SC3

Many participants cited the value of extracurricular activities but the challenges of relying on these to develop students' professional skills were raised, including balancing the benefits, which only applying to those involved, with time commitments.

Extra curriculum activities help to enhance communication skills, networking, and so on. But our students have so much pressure with the classes, exams, and practicals that many students do not get involved in these activities even if they want to. FO5

Involving all those connected to the student's time at university, not just teachers, but also the administration and support networks e.g., peers and family, was considered important. Finally, although the focus of the discussion was on students, a need to consider the wider profession was recognized including raising awareness of professional skills among veterinarians, how to help students and junior colleagues, and one's own ongoing career development and opportunities.

Theme Summary

The 'Challenges to Overcome' theme identified the need to involve and prepare all stakeholder groups for any changes to enhance professional skills in the future and that training for the teachers would be required. Particular barriers were noted as the overloaded curriculum and the time and effort that changes would require. Beyond specifics related to teaching, a need to consider any professional skills initiative within the wider context, whether at university or beyond, was noted.

DISCUSSION

Professional skills are fundamental to a veterinarian's daily work in the service of clients, local communities, and society. It is now widely recognised that professional skills teaching needs to be included in veterinary curricula, helping to ensure graduates are equipped with the range of Day 1 competences as defined by accrediting bodies around the world.[6,14-19,36,37,47,2] Context is important to ensure any teaching initiative is relevant, culturally and socially, and acceptable to local faculty and students.[4,9,21,26,33,46,05,55] The veterinary education literature has researched specific skills extensively, but further research on professionalism curricula are needed, and the research that is present has a North American- European-Australasian focus.[6,9,14,23,42-44] The current study consulted key stakeholders to identify the most important professional skills for veterinarians working in Bangladesh to ensure any changes in teaching would be informed by, and relevant to our regional situation.

Professional skills were clearly identified as an important part of a veterinarian's toolkit by all our stakeholder groups with the list of specific skills being communication, ethical conduct, working with others, career opportunities, finance and entrepreneurship, lifelong learning, time management and self-awareness. Similar to other studies communication

skills were identified as the most important,[5,6,9,14,33] and our participants described the many aspects of communication including the stages of a consultation (e.g., gathering and giving information), building a rapport and empathy, and the rationale for its importance e.g. to client education. Bangladesh has an extra communication challenge, as different dialects are spoken across the country. The need for a veterinarian to learn local terms to be able to converse effectively was raised by the practitioners; there is unlikely to be an easy solution but raising awareness among students will be important.

Ethical conduct was identified as fundamental to the behavior of a veterinary professional, and some overlap between ethics and communication was identified. In the discussions around ethical conduct, which was recognized as being fundamental to the acceptable behavior of a veterinary professional, some issues were identified if a veterinarian undermined the position of another member of the profession. It will be important to promote discussion within the profession and raise awareness of the code of veterinary ethics published by the Bangladesh Veterinary Council with veterinarians and students. It could be argued that linked to ethical conduct is the need to work effectively with others in different situations, roles and career stages, and teamwork was highlighted by veterinarians reflecting on their own development and by students for fostering a good learning and working environment.

Business and financial skills were also discussed by the different groups. The importance was raised by clients and veterinarians in relation to the need to be aware of and sensitive to different economic situations. Students felt ill-prepared for conversations about an honorarium (fee), as has been found elsewhere.[24,56-58] Unlike some other regions, most veterinarians in Bangladesh are employed by the government but the value of business acumen and the potential to become an entrepreneur were seen as increasingly important with the rise in private pet practices. It appeared that there was limited awareness of career options and the opportunities available to veterinarians among students which, combined with the perceived lack of respect for the profession by families and the public in Bangladesh could impact student motivation for their future careers. Additionally, a lack of career awareness may impact veterinary graduates exploring and taking up the range of options available.[59]

The importance of lifelong learning to the professional development of a veterinarian was recognized and, interestingly, throughout the discussions the participants demonstrated the associated skill of self-awareness. Although not alluded to as a specific professional skill, self-awareness was modelled through insight and reflection on one's performance, ongoing professional development, needing to adapt and a growing interest in wellbeing. For students, having a positive attitude to learning would allow them to make the most of their studies, particularly during final year workplacements. However, time management was identified as a challenge for students, possibly due to a lack of such skills and any associated training, which could be compounded by the overcrowded curriculum and managing the associated workload.

While in some other regions of the world, professional skills have been embedded in veterinary curricula for some time,[9,15-19,37] when asked about how the identified professional skills had been learned our participants referred almost exclusively to various types of extra-curricular activities or informal learning opportunities. Valuable skills including communication and teamwork, could be developed by those students who participated in clubs or had a job, but such activities were self-selected and therefore not a way for everyone to acquire these skills. The final year workplacements were considered the most valuable opportunities for learning and further development of the range of professional skills relevant for a veterinarian. After graduation, many valuable and ongoing opportunities to learn on the job were described, which was probably partially linked to the attendees' self-awareness and engagement in lifelong learning. When veterinarians and faculty reflected on their careers, the value of learning from role models (who could be positive and negative) was identified and a continuing part of the support network available at various stages in an individual's career.

It was clear that currently in Bangladesh there is a lack of specific formal training in professional skills, and this was regarded as an issue that needs to be addressed through the introduction of specific courses and curriculum change. As well as identifying the important professional skills, participants suggested ways that the topics could be taught e.g., group work, problem-based learning, and role-play (for communication skills), and who would be appropriate to deliver sessions in addition to faculty e.g., alumni, motivational speakers.

There will also be opportunities to draw from experiences elsewhere while adapting to the local socio-cultural context. Importantly, it was noted that embedding courses early in the curriculum would help students make the most of the valued learning opportunities in the various veterinary workplaces during final year.

However, bringing about the required changes in a curriculum are known to present challenges, both personal and institutional.[8,9,21,26,33,38,54,60] The DVM curricula in Bangladesh tend to be overloaded and introducing extra courses will further burden students and faculty. Facilitating the change will ideally involve curriculum review as well as identifying opportunities to reduce unnecessary repetition and finding ways to persuade faculty to give up some existing content. Such challenges are well documented and recognised by others. An important factor for successful introduction of professional skills teaching will be faculty and student buy-in, highlighting the importance (including dissemination of the current projects results) and the importance of providing faculty with support and training as formal teaching of such skills was not part of their student education.

There was general agreement between stakeholder groups about the importance of professional skills for veterinarians, what constitutes such skills, and a particular emphasis on communication skills. Clients valued empathy, building rapport and trust, and sensitivity to their situations, including economic circumstances. Although the students were in final year and had spent time on workplacements, much of their focus was on the time at university and time management was an important skill to include in the list. Students were keen for time management skills to be introduced early and to see professional skills teaching throughout the DVM to prepare them for the transition to final year workplacements and starting a career as a new graduate in the workplace. Faculty were able to identify benefits of introducing professional skills but also challenges in implementation. As introducing such courses was one of the aims of the project, their views were particularly important in this regard and one of the reasons for this being the largest stakeholder group.

The present study identified the professional skills that are most important for a veterinarian in Bangladesh, aiding in the development of a veterinary professional skills curriculum at a teaching institution in Bangladesh. The methods described in this study

contribute to the existing literature for designing veterinary professionalism curricula, describing how to achieve a context-appropriate best fit.[9,26,27,30,40,41] Now that the skills needed locally have been identified, veterinary teaching institutions in Bangladesh can look to the research on teaching and assessing specific professional skills for guidance.[41,47,57,61-68] For example, the extensive veterinary literature on communication skills can be examined with the knowledge gained in the present study to identify a teaching method that will work in the local context, from simulation with actors, to simulation with students, to workplace-based communication training.[61,62,65,67]

There are several opportunities for future work. As a result of the study, a new 1-week professional skills course is being designed and piloted at CVASU for final year students. The long-term aim is to embed professional skills throughout the curriculum, but an initial, more achievable step has been to adopt a proof-of-concept approach, to gather feedback and hopefully encourage faculty and student buy-in. The 1-week course is using a blended approach with online preparatory work in Google Classroom followed by in person presentations, panel discussion and group work. The course will be evaluated, and the findings and resources shared with other veterinary schools in Bangladesh. A follow-up research study is being planned to assess the impact of the course on final year student experiences during work placements, from the perspective of students and placement providers, and 1-2 years after entering employment with a comparison to those who did not participate in the course. Additionally, initiatives are being planned across the curriculum that should, over time, raise awareness of veterinary careers and improve the perception of the profession among students and the public. Examples include more information on career opportunities and inviting contributions from motivational speakers, alumni, and entrepreneurs.

There is an interesting difference between Bangladesh and some other regions of the world, such as North America and Europe, as the gender profile of our veterinary sector is still predominantly male, few women work as practitioners in the field and only about 10% of our faculty are women. There has been a recent slight change in the student population and our current cohorts have between 25 to 35% women. The focus group participants were approximately representative of the current proportions. However, in view of the changes occurring elsewhere in the world and potentially in our region, future work should explore

women's roles in the profession, specific challenges that might be encountered e.g., around business, work-life balance, and what support will be required in the workplace and the curriculum.

There are several potential limitations of the study. Focus group methodology with a purposive sampling technique was ~~chosen~~ used. T~~rather than, for example, a survey to allow for discussion and in-depth exploration of topics. As a result, the sample is fairly small, and~~herefore, ~~individuals selected~~participants were likely to have an interest in the topic, ~~with~~ introducing the risk that views more representative of the wider population may not have been captured. For practical reasons, most of the focus groups were conducted online which may have affected the level of discussion compared to an in-person meeting, and occasional connectivity issues occurred. However, the benefits of people being able to attend more easily e.g. faculty from other universities and the practitioners, facilitated participation for some stakeholder groups. It would have been beneficial to involve more clients, but internet access and travel were factors in only having one group. Any future work should find ways to facilitate greater input and involvement of clients. Another limitation related to the recordings being in Bengali and transcripts in English and although the transcribers were fluent in both languages some nuances may be missed in translation and words do not always have an exact equivalent. Participants were not given the opportunity to comment on the accuracy of data or the interpretation, which may affect the validity of our findings e.g., the facilitator could have provided an oral summary at the end of focus group questions, and transcripts and/or themes identified in the analysis could have been sent to participants for comment. Also, the team members who undertook the thematic analysis both had prior knowledge of professional skills (SB through previous curriculum design, NNC had conducted the literature search) and therefore may have introduced some bias in identifying the list of skills within the data sets.

In conclusion, through consultation with a range of local stakeholders we have been able to identify the most important professional skills that our graduates will need in the workplace. There were many similarities to the professional skills identified in other countries, but also some regional differences including challenges around dialects and awareness of ethical standards, and the lack of formal teaching in the DVM. Currently, ~~such~~ professional skills are

primarily learned through experience in the workplace (as a student and veterinarian), extracurricular activities and self-directed learning. The topics identified are currently being incorporated into the first bespoke professional skills course at CVASU with the aim of sharing the resulting resources and our experience with other veterinary universities in Bangladesh, and the long-term aim of better preparing our graduates for their future careers. The local context of the study and associated findings should assist with buy-in from faculty and students.

ACKNOWLEDGEMENTS

CONFLICT OF INTEREST

The authors have no conflicts of interest to report.

NOTES

a. Zoom Video Communications, San Jose, California, USA, https://zoom.us

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Table 1: Questions for the focus group participants with context specific prompts by group

Groups	Final year students	Placement providers	Recent graduates	Teaching faculty	Clients
Main question	Context specific prompts for groups *(where applicable)*				
1. What professional skills are most important for a veterinarian?	For your future job?	For you in your job? Valued by your clients?	For you in your job? Valued by your clients?	For a field veterinarian to do their job?	That you value most? Describe your best & worst experiences
2. Which skills are final year students and new graduates good or not good at?	You feel most un/prepared for in your future job	Based on final year students supervised, new graduates worked with	At the time you graduated	Based on your university's final year students and new graduates	Not asked (N/A)
3. How did you learn these skills?	During final year and before	As a student and since graduation	As a student and since graduation	As a student and since graduation	N/A
4. How should these skills be taught in the future?	At your university	To students during the DVM	To students during the DVM	To students at your university	N/A
5. What are / were the constraints to learning professional skills?	During your time as a student	During your time as a student and since	During your time as a student and since	At your university	For vets

Table 2: Summary of focus groups (numbered in date order) and participants

FG N	Stakeholder Type	Participants N [M:F[a]]	Abbreviation[b]
1	Placement providers	3 [3:0]	PP (1-3)
2	Placement providers	3 [3:0]	PP (4 – 6)
3	Faculty (other universities)	4 [4:0]	FO (1 – 4)
4	Faculty (other universities)	4 [3:1]	FO (5 – 8)
5	Recent graduates	5 [4:1]	RG (1 – 5)
6	Recent graduates	4 [4:0]	RG (6 – 9)
7[c]	Final year students (CVASU)	4 [2:2]	SC (1 – 4)
8	Final year students (other)	4 [3:1]	SO (1 – 4)
9[c]	Clients	4 [3:1]	C (1 – 4)
10[c]	Faculty (CVASU)	4 [3:1]	FC (1 – 4)
11[c]	Faculty (CVASU)	6 [5:1]	FC (5 – 10)

[a] Overall proportion M:F approximating the veterinary sector in Bangladesh

[b] *Abbreviations used for quotes in the Results section*

[c] *Conducted face-to-face rather than online using video conferencing software*