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# CHALLENGES AND FUTURE DEVELOPMENT OF PHYSIOTHERAPY EDUCATION IN NEPAL

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## ABSTRACT

**Background:** Globally, the culture of health care has been changing. The health professionals must have the best available education and training to improve the health outcomes. Good education is a backbone for an effective physiotherapy intervention and good patient care. Physiotherapy education has evolved widely in developed countries whereas in Nepal, the education has started very recently and the recognition is still under a question.

**Objectives:** To investigate the challenges of Physiotherapy education and to address the strategies

**Methods:** A modified Delphi method was used to obtain information from key informants involved in the area of physiotherapy education in Nepal. In 1st round, an open ended questionnaire on challenges and strategies of Physiotherapy education in Nepal was sent to 20 key informants via email. In 2nd round, themes were listed, ranked in a likert scale and was mailed to the respondents. In 3rd round, the compiled final likert scale responses was mailed to the respondents for further comments.

**Results:** Fifteen out of twenty informants completed all three rounds of Delphi survey. The important challenges highlighted were lack of awareness, lack of job opportunities, lack of leadership of governing bodies, lack of retention of staff, lack of continuous professional development and lack of mentoring.

**Conclusions:** It is concluded that physiotherapy education in Nepal at its initial phase, needs a strong governing policy and leadership to facilitate a rightful place in the health team.

**Key Words:** Delphi, Physiotherapy education, Physiotherapy

## INTRODUCTION

Physiotherapy education has evolved worldwide in different ways. The development of physical therapy as an autonomous profession based on current scientific knowledge was in large part due to Per Henrik Ling of Sweden known as the “Father of Gymnastics”.<sup>1</sup> In 1813, he founded the Royal Central Institute of Gymnastics (RCIG) in Stockholm for the training of gymnastic instructors. In the United Kingdom, Norway and Finland it was introduced through the Society of Trained Masseur, by the work of Ling and with an emphasis on massage training respectively.<sup>1</sup>

A confluence of events and developments around the world led to the formal recognition of physical therapy as a health care profession in the second decade of the 20th century. In the United States, physiotherapy was in-

troduced as a result of the polio epidemics and the need to treat those wounded during World War I.<sup>1</sup> Accordingly, the formal education of Physiotherapy started at different years in different countries like in US (1917)<sup>2</sup>, UK (1894)<sup>3</sup>, Canada (1917)<sup>4</sup>, Australia (1906)<sup>5</sup> & New Zealand (1913)<sup>6</sup>. It took decades to introduce physiotherapy education in developing countries like, Pakistan (1956)<sup>7</sup> and Nigeria (1966)<sup>8</sup>. In Nepal, physiotherapy services started around 30 years ago where few nurses from Bir hospital (Government hospital in Nepal) were provided physiotherapy training and they continued working as a physiotherapist. Gradually, Nepal received support from International volunteers, who started providing physiotherapy training in various hospitals. The first formal Certificate level in physiotherapy course was initiated by Ms. Mary Beatrice Martin (Canada) at the Institute of Medicine (IOM) from 1983-1990. Certificate in Physiotherapy (CPT) course was later commenced in

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Dhulikhel Medical Institute (DMI) at Kathmandu University (KU) from 2003 - 2009. Kathmandu University upgraded the CPT course to Bachelor of Physiotherapy (BPT) in June 2010, to bring the education of physiotherapists in line with the recommendations of the World Confederation of Physical therapy (WCPT).<sup>9</sup>

It is seen that compared to many other countries, the physiotherapy education commenced very late in Nepal. While Nepal is struggling to produce qualified physiotherapist at Bachelor level, other countries have already evolved in producing highly qualified physiotherapist at Masters or Phd level. Physiotherapy education should reflect the health and society priorities of the nation. With the developments and rapid changes of education worldwide, Nepal needs to keep in line the development and recent advances in the education to augment a quality physiotherapy services to the nation. To improve the health outcomes, it is important that physiotherapists have the best available education and training to work in health care teams. In order to provide a quality education, it is important to look into the challenges of physiotherapy education in Nepal. So, the main objective of the study is to investigate the challenges and identify the strategies to the challenges of physiotherapy education in Nepal.

## METHODOLOGY

A modified Delphi survey was conducted for the study. Ethical approval was obtained from Institutional review committee (IRC), Kathmandu University School of Medical Sciences. The Delphi method is a structured process that uses a series of questionnaires or 'rounds' to gather information which are continued until 'group' consensus is reached.<sup>10,11,12,13</sup> It is a recognized method of deriving expert opinion to determine the degree of consensus where there is a lack of empirical evidence.<sup>13</sup> The study maximizes the benefits of using an expert panel while minimizing the disadvantages acknowledged in the literature from collective decision-making.<sup>14</sup> If the Delphi Survey demonstrates consensus, it provides evidence of both face and concurrent validity. Because of all these reasons, the Delphi design is adopted in this study.

Modified Delphi is useful in reducing the number of rounds to increases the response rate by reducing the respondent's fatigue.<sup>15</sup> How much consensus to be considered is an important aspect of Delphi study. Experts agreement can differ and it would be difficult to gain 100% agreement on all issues. Literatures are evident for varied range of consensus between 50% to 100%.<sup>16, 11</sup> Considering our research area and literature evident on the related topic, we would like to consider the consensus from 70% (likert scale of extremely important and very important).

A purposive sampling method was used for the study, where the key informants view was collected through e-mails. A total of 20 participants were included in the study. Out of 20 participants, one refused to participate and four participants did not participate in all the three-rounds. Prior consent was taken via email.

The modified Delphi study was conducted in three rounds. Round 1) An open ended questionnaire was formulated by the researcher as "What do you think are the challenges and strategies for development of physiotherapy education in Nepal" and was sent via e-mail to physiotherapy educators who had been involved in teaching physiotherapy students in Nepal. Round 2) From the responses received in 1<sup>st</sup> round, list of themes were categorized by the research committee and each theme was ranked in a likert scale of 5. And, the respondents were asked to rate each theme in a likert scale and were invited for any additional comments.

Round 3) Final compiled themes with the highest response was mailed and were asked for further comments. The participants were National & International Physiotherapists who have experience of working in Nepal as Physiotherapy educator or academic mentor in physiotherapy at Kathmandu University School of Medical Sciences (the only physiotherapy school in Nepal). The demographic data of the informants is given in table no.1.

## Statistical Analysis

Data were analyzed qualitatively as well as quantitatively. A level of agreement has been pre-defined as 70%. Therefore,  $\geq 70\%$  of agreement has been established as a consensus for the key elements. The cut off points for items to be included in subsequent rounds had been set as  $\geq 50\%$ .<sup>17</sup>

Demographic data were analyzed using descriptive statistics. Quantitative analysis of this Delphi study was done to describe the percentages of level of agreement for each statement median, range and standard deviations. Spearman's correlations have been calculated to analyze grading of each Physiotherapists on different attributes with median values. The analysis was done using SPSS 19.0 version with the significant level 0.05.

## RESULTS

A total of 15 participants out of 19 completed all the three rounds of delphi. In the 1<sup>st</sup> round, 15 out of 19 informants responded to the open ended questionnaire with at least 6 challenges and strategies. In the 2<sup>nd</sup> round, a total of 17 themes were categorized by the researcher from the responses received in 1<sup>st</sup> round, which were then put in likert scale of 5 for each theme. In the 3<sup>rd</sup>

round the themes were listed according to the rank response from 2<sup>nd</sup> round and was mailed to respondents for any further comments.

The percentages of each level of agreement for different statements as shown in table 2 ranged from 0 to 100%. Agreement of 100% at extremely important level was seen for lack of awareness of physiotherapy. Extremely important was graded by more than 50 % participants for lack of job opportunities (63.6%), lack of retention of staff (54.5%) followed by lack of leadership(45.5%) and lack of curriculum according to Nepal context (45.5%). Very important response was graded by more than 50% participants for lack of licensing and practice standards (72.7%), lack of qualified faculties (54.5%), lack of mentoring (54.5%) and lack of continuous professional development (54.5%). Majority of participants gave moderate level of importance for future bachelor of physiotherapy programs (63.65%), lack of highly qualified students (63.6%), potential creation of future Bachelor of Physiotherapy program (63.6%) and lack of funding (54.6%).

## DISCUSSION

### Lack of awareness

Informants reported low awareness about the physiotherapy profession among health care professionals, high school level and general populations. Lee K and Whitfield TWA similarly reported a lack of clear identity and understanding of the scope of the professions role among the public and health professionals.<sup>18,19</sup> A study done by Acharya SR et al reported that there is lack of referral of cases from medical practitioner in Nepal.<sup>20</sup> One of the informants indicated that “the gaps in service providers in Nepal is an immense problem and likely not to be resolve in the immediate future, but continuing to promote the role of physiotherapy and liaising with other organizations slowly and steadily over time will hopefully make a difference”. The informants reported various ways of increasing awareness through, “advertising the potential benefits of the physiotherapy profession, increasing the number of job opportunities for Bachelor and Masters trained physiotherapists in government sectors, giving seminars to other medical professionals about the importance of physiotherapy and increasing public relations and networking”

### Lack of job opportunities

There is a clear lack of workforce data of Nepal as there has not been any prior research done. The Ministry of health and population (MoHP) Nepal, have listed the job opportunity of physiotherapists according to different specialty and the number of job opening, but it is lesser than the actual requirement of the number of physiother-

apists accepted worldwide.<sup>21</sup> A study from Africa reported that the number of requirement of physiotherapists is limited compared to the requirement, documented in 2000, for developed countries i.e the average physiotherapists to population ratio (1:1,400).<sup>22</sup> According to the informal data collection from Nepal Health Professional Council, approximately 500 physiotherapists are registered and they have to serve a population of 23 million. Hence, the data of Nepal showed a dearth of understanding of the profession. Dean<sup>23</sup> stated that it is the responsibility of every health-care practitioner to find ways to prevent common health risks. Traditional and unauthorized practices still prevails in Nepal especially in rural areas which is one of the major drawback of lack of job opportunity. In Nepal there are still short term courses conducted (3 months course) and practicing as a physiotherapists. Moreover, many institutions are looking forward to start a certificate course (3 years course), which is not in line with the WCPT recommendation.<sup>9</sup> Also, in Nepal most of the certificate level graduates are employed as a Physiotherapist (not as a physiotherapy assistant) as the employer/ organization can get the job done in a lesser pay compared to hiring a Bachelor/Masters of Physiotherapists. The future for physiotherapists is daunting as there will be a competition between certificate graduates and bachelor graduates due to lack of job description and further hindrance in the job opportunity. The informants reported that “to achieve a parallel development in demand and supply, health services needs to be provided “to the less attractive rural and remote parts of Nepal’. Informants indicated various views of how job opportunities can be initiated: “ To ensure enough employment, an effective communication with all the players in the health sector (eg politicians, NGOs -both Nepali and foreign, private clinics, etc) needs to be established and maintained, to identify ways to motivate physiotherapists to work in rural areas of Nepal, where there is a great need for physiotherapy, but a lack of well trained physiotherapists (and probably a lack of paid posts) . The informants further stated that “Employment prospects can be secured by monitoring the job availability in Nepal, by seeking out new opportunities and forging links with likely employers – maybe offering placements free of charge to demonstrate the need for therapists in the work place and by linking with government agencies . Furthermore, to consult a local group of experts, who are familiar with Nepal’s structures, to create an environment analysis on the actual demands , to adjust mission, vision, and values to the actual demands in an ongoing process , to find and tap local sources of finance for the creation of physiotherapy jobs and to lobby all stakeholders in the health care sector . The informants also identified the initiation required from Nepal Physiotherapy Association (NEPTA) for the creation of jobs in government hospitals. A study from Africa<sup>24</sup> reported that physiotherapists play a major role in acute

care and rehabilitation but the information should be effectively translated to the stake key holders, policy makers and medical practitioners which can be achieved if physiotherapists are able to show the effectiveness of interventions and the contributions it make to the health and well being of the society.

### **Lack of retention of academic staff**

Retaining of fresh graduate is always challenging to underdeveloped and developing country. Every country emphasizes on retaining its youths for the country however for Nepal, migration is very common, and the total Nepalese nationals working overseas in different capacities is estimated to be about half a million.<sup>25</sup> Physiotherapists are not left alone from this situation. Better job, better pay, better quality of life always seeks attention worldwide. Nepal being vulnerable politically, young physiotherapists from Nepal aims to achieve the summit in the diverse field of physiotherapy. One of the informants strongly commented that the “**exodus**” of experienced staff to countries outside of Nepal results in loss of skills and experience and identified that career progression for academic staff based on both quality teaching and research output with good salary and benefit packages will help retain physiotherapists in the country.

### **Lack of leadership governing bodies**

Informants indicated that the major drawback in physiotherapy education and profession is due “to lack of policies and standards of practice in the physiotherapy profession, lack of its own governing body to regulate the profession and keep it safe for public. Lack of appropriate licensing criteria and credential evaluation of the candidate graduating from a physiotherapy school/university from within and outside Nepal was identified by the informants. Accreditation, Registration and Licensing exam ensures the quality of the health practitioner. Countries like Australia<sup>26</sup>, USA<sup>27</sup>, Canada<sup>28</sup>, Singapore<sup>29</sup>, and Dubai<sup>30</sup> have a strict regulations of physiotherapy practice. Lack of adequate regulatory standards was reported from Kuwait as the main reason for the inconsistencies of practice.<sup>31</sup> The informants indicated that “lack of professional leadership and attitude of NEPTA (which is understandable considering its financial situation and that of physiotherapists in the country) and lack of vision of NHPC, more specifically the inadequate understanding of international trends and developments with respect to physiotherapy education and employment has mentioned to be the shortcoming of the physiotherapy education.

One of the informants strongly mentioned that “lack of priority to the course or feeling of inclusiveness by the top level administrators/other medical fraternity personnel” led to the lack of job opportunity in the country. The recommendation for the challenges identified by the

respondents were: “communication with all the players in the health sector (eg politicians, NGOs -both Nepali and foreign, private clinics, etc) needs to be established and maintained, to distinguish physiotherapy job responsibilities from similar and related professions (eg physio assistants, etc). The informants further reported that Nepal Health Professionals Council(NHPC) need to be responsive to changing health needs and changing requirements for undergraduate training.

### **Standards of curriculum and lack of curriculum according to Nepal context**

Every country is different in terms of geographical presentation, language, culture and technology. Likewise Nepal being a very different country in its own ways, our informants viewed that “the physiotherapy curriculum must addresses the specific health care context of Nepal and the content needs to address the quality clinical practice in rural and underprivileged populations through specific student study.” Also further stated that “education needs to be provided as same quality as the international universities, but ensuring the students are taught in a way that their clinical practice matches the needs of the Nepalese patient population” The informants also mentioned that it is important “to maintain a balance between research and “hands on” treatment and to train the students according to the needs in Nepal. Similarly in a study done in Afghanistan, the study reported that the physiotherapy curriculum needs updating and links with ongoing research need to be established to keep abreast of new developments.<sup>32</sup>

### **Lack of licensing/ practice standards**

Every profession needs accreditation to enroll for certain academic program or to upgrade a career in a profession through means of a licensing exam. The governing body for Physiotherapy profession in Nepal is NHPC (Nepal health professional Council). In order to practice legally as a physiotherapists, every physiotherapists needs to register to Nepal Health Professional Council (without licensing exam).

Maximum of our respondent felt the need of licensing exam to ascertain quality physiotherapy practice in Nepal like how it is practiced in various countries.<sup>26, 27,28,29,30</sup> Other medical practitioner in Nepal (MBBS/BDS) graduate needs to give a licensing exam to qualify for practicing as a Doctor/Dentists.

### **Lack of mentoring and qualified faculty**

Most of the physiotherapists in Nepal are trained from India (which meant the same kind of education background) and there seems to be a lack of role model. One of the informants reported that “Potential for professional isolation of academic staff in Nepal due to current

low numbers in teaching roles and relatively small physiotherapy workforce in Nepal lead to dependence from international input and support (both intellectually and logistically). Informants viewed that there is lack of efficient and experienced teachers. The respondents further stated that in recruitment of staff the tutor needs to be clinically fit and not only academically. Informants also indicated that tutors should be exposed to new teaching methods, to continue bringing in expert faculty, to consider exchange programs or sending faculty abroad for short time periods to other university programs so that they can see other aspects of running courses/programs (administration, group work, clinical placements, etc.) and liaising with an overseas professional physiotherapy organization the tutors

The reason that the respondents felt for lack of mentoring was lack of resources and expertise/ expert tutors for teaching, mentoring, and clinical reasoning. Lack of mentoring can put a question on quality and evidenced based practice leading to “lack of modern teaching methods and facilities”. A continuous mentoring to assist faculty is considered to be an important issue from the respondents.

### Lack of CPD

Higgs J, reported in his study that continuous education for physiotherapists is essential to increase professional standards as well as to facilitate educational developments.<sup>33</sup>

Continuous Professional development and its credibility are well accepted worldwide. However in country like Nepal it is still in a phase of trials. Well established council like Nepal Medical Council is in the phase of adapting it. Physiotherapy profession still lacks a platform to continue the professional development other than NEPTA annual conference. Our informants provided various recommendation of improving the quality through “collaboration with International universities, by conducting workshops/continuing education by overseas and local physiotherapists in each region and not just in Kathmandu, to provide more educational videos for physiotherapists, to offer online teaching courses for the students using international faculty, to set up dialogue with physiotherapy education programs/experts in other “like countries” and an active participation of KUSMS( Kathmandu University School of Medical Sciences, only physiotherapy school in Nepal) staff and students.

### Limitation of the study

The limitation of the study is that there was no focus group for the study. Furthermore, as there is only one physiotherapy school in Nepal, the participants were very limited.

### Conclusions

The important challenges highlighted were lack of awareness, lack of job opportunities, lack of leadership of governing bodies, lack of retention of staff, lack of CPD and lack of licensing exam. The results of the analysis highlighted the importance of prioritizing development and growth of the Physiotherapy education. In order to overcome the challenges, the regulatory bodies (Nepal Physiotherapy Association and Nepal Health Professional Council) should facilitate to influence the policy makers for a better future of the profession. Furthermore, the regulatory bodies need to establish a strong policy, and standards of physiotherapy education and profession for a better education, service and good health outcome in Nepal.

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**Table 1: The demographic detail is provided in Table no.1**

Informants ID	Gender	Professional education	Year of experience	Country	Working years in Nepal	Physiotherapy experience outside Nepal
P1	M	Master	5yrs	Canada	2 ½ yrs	Canada
P2	F	Master	14 yrs	UK	3 months	UK
P3	F	Master	61/2 years	Nepal	61/2 yrs	None
P4	M	PhD	25 yrs	Australia	7 yrs	Australia, Iraq, India
P5	F	PhD	37 yrs	Canada	2 mnths	US, Canada
P6	F	BSc PT	14yrs	Switzerland	14 yrs	Switzerland
P7	F	Master	30	Australia	14mnths	Ethoipia, Mexico,Vietnam
P8	M	Master	5 years	Nepal	5 years	None
P9	F	Master	20 yrs	Germany	3 yrs 2 mnths	Egypt, Switzerland, Germany
P10	F	Master	37 years	Canada	3 years	Canada
P11	F	Master	5 years	Nepal	5 years	None
P12	F	Master	2 years	Nepal	2 years	None
P13	M	Master	4 years	Nepal	4 years	None
P14	F	Master	2 years	Nepal	2 years	None
P15	M	Master	2 years	Nepal	2 years	None

**Table 2: Agreement of the themes, Mean, Range and Standard deviation**

Challenges	Agreement	Mean	Range	SD
Lack of awareness	Extremely important- 100%	5	0	0
Lack of job opportunities	Extremely important- 63.6% Very important- 36.4%	5	1	0.50
Lack of Retention of academic staff	Extremely important: 54.5% Very important- 36.5%	5	4	1.19
Lack of leadership of governing bodies	Extremely important- 45.5% Very important- 36.4% Moderately important- 18.1%	4	2	0.78
To have curriculum standards according to Nepal context	Extremely important- 45.5% Very important- 45.5%	5	4	1.16
Lack of mentoring and qualified faculty to develop the academic sector in physiotherapy	Extremely important- 18.2% Very important- 54.5% Moderately important- 27.3%	3	2	0.70
Lack of continued professional development among physiotherapists	Extremely important- 18.2% Very important- 54.5% Moderately important- 27.3%	4	2	0.70
Lack of licensing/ practice standards	Extremely important- 27.3% Very important- 72.7%	4	1	0.46
Need of high quality students	Extremely important- 27.4% Very important- 9% Moderately important- 63.6%	3	2	0.92

**Table 2: (Continued)**

Challenges	Agreement	Mean	Range	SD
Potential creation of future BPT programs	Extremely important- 9% Very important- 27.4% Moderately important- 63.6%	3	3	0.83
Lack of funding/resources	Extremely important-18.2% Very important-18.2% Moderately important-54.6 Minimally important-9%	3	4	1.12
Existence of low quality short term physiotherapy courses and possibilities of new diploma course	Extremely important-18.2% Very important- 27.3% Moderately important- 45.5% Minimally important- 9%	3	3	0.93
Inadequate number of physiotherapy educational programs	Extremely important- 0% Very important- 18.2% Moderately important- 36.4% Minimally important- 27.3%	3	3	1.03
Cost of education for the students	Extremely important- 9% Very important- 36.4% Moderately important- 36.4% Minimally important- 18.2%	3	3	0.92