JOURNAL OF HEALTH PROMOTION

Official Publication of Health Education Association of Nepal (HEAN)

VOLUME 6
JUNE
2018

About HEAN

Health Education Association of Nepal (HEAN) is a non-profit making professional organization of Nepal. It was established in 1991 AD. It has more than one hundred active members comprising distinguished members, life members and general members so far.

Improvement of Health status of the people through health education and policy advocacy for creating supportive environment is the motto of the Association. It aims at promoting health of the people by empowering them in informed decision-making. It also intends to facilitate in the professional development of health educators all over the country.

HEAN is bound to organize and conduct different programmes on health promotion and health education such as school health programme, comprehensive sexuality education, environment and community health, mental health, communicable and non¬communicable diseases, nutrition and consumer health and many other health issues and concerns.

Any citizen having Bachelor Degree of education in health or any other health and behavior sciences willing to contribute in the improvement of health education profession may be the member of the association.

Peer Reviewed Journal

ISSN: 2631-2441

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Vol. 6, June 2018

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Kathmandu, Nepal
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Computer Setting & Cover Design: Sahadev Maharjan, 9801000755

Subscription Rates: Rs. 300|-

Message from President

It is an immense pleasure to me to publish new peer- reviewed Journal of Health Promotion as an official publication of Health Education Association of Nepal (HEAN). I would like to heartily thank the editorial board, article reviewers, language editors, managerial team, graphic designer and the authors who have provided valuable contributions. The major objectives of HEAN are to support in developing health policies, effective health education procedure, conducting research on health issues, advocating for preventing health, raising people's health issues, raising health awareness, empowering people to promote their health, developing professionalism among health educators and supporting for health promoting schools.

It is realized globally that curative health service is going to be expensive day by day while prevention is better than cure. Health education is the easiest and cheapest way of achieving health by the people. However, the government of Nepal despite the fact that health education is the most important aspect that empowers people to be healthy with their own initiatives has less prioritized preventive health. Without own initiation and conducting positive health behavior optimum health cannot be achieved. Having a healthy life style is the best way of achieving optimum health. Health education inspires and promotes students and community people to maintain health and healthy, life styles.

Health is the most concerning and valued asset of all human beings. People of all age, sex, caste, class, geographical areas, professions and occupations must have minimum knowledge, consciousness, appropriate skills and practices related to personal, family and community health. People are responsible for their own as well as other's health. Health is achieved through right knowledge, positive attitude, healthy behaviors and rationale decisions including access to health facilities and services.

Health is also recognized as human right. Nobody can neglect to students' and other people's right to health. Neglecting health, health information, healthy behaviors and healthy life styles lead to high risk in life. Access to health information, health education and maintenance of healthy behaviors fall under basic human rights. In contrary to this, Nepal's Ministry of Education, Science and Technology has removed health education from compulsory subject in secondary level through the recent modification of School Curriculum Framework, 2075. It is against students' health rights. With this ground reality HEAN has recently handed over a memorandum to the Education Minister with an intention to retain Health and Physical Education as compulsory subject in School Curriculum Framework, 2075.

Health promotion is the newly developed concept. Ottawa Charter (1986) defines health promotion as a process of enabling people to achieve health through acquiring effective health education, creating healthy environment, developing healthy public policies to conducive health and reorienting health services. This journal also reflects the spirit of health promotion as well as the objectives of HEAN. The present Executive Committee of HEAN (Reformed on Paush 16, 2073) had organized a Seminar cum Workshop on Research Methodology and Academic Writing held in Pokhara in 2074 in association with Health, Physical and Population Education Department under P. N. Campus. It has also organized a talk program on Photo-voice as a Qualitative Research Methodology in Health and Population Education Department, Kirtipur in 2075 which was facilitated by Dr. Alexandra Lightfoot from University of North Carolina. Moreover, a two-day National Seminar was organized jointly by HEAN and SOPHES on Comprehensive Sexuality Education in Hillside Hotel, Kirtipur in the same year.

At the end, the present Executive Committee of HEAN requests distinguished, life and general members, advisors, concerning personnel and agencies to give their hands for its further activities and promoting health of the people.

Prof. Shiva Sharan Maharjan, Ph.D.

President, HEAN June, 2018

Editorial

WHO affirms that health is one of the fundamental rights of human beings to enjoy the highest attainable standard of health without any discrimination of region, sex, age, race, religion, colour, political belief and economic status. However, many people of low income countries are deprived of access to even minimum levels of health service. Humans have been facing several health challenges from ancient to the modern time. In order to mitigate these challenges scientists and researchers have been working rigorously, many health challenges have been addressed, and some are going to be resolved. But new diseases and health challenges have appeared in many communities one after another. In this regard, it is relevant to quote Dubos that "achieving good health is a utopian creation of human mind". To meet these new challenges, most of the countries have changed health education policies and strategies from time to time.

Publishing a scholarly journal on health related issues not only contributes in strengthening public awareness on health but also helps policy makers to formulate policies to promote health and create healthy citizens. The term 'health literacy' coined in the last decade of the 20th century is a new movement and approach in the field of health education." Health literacy is the degree to which individuals gain capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions". Health literacy not only makes people aware of the probable health risks but also helps in capacity building process to cope with the health problems. Thousands of people suffer and die due to the lack of even basic health knowledge. Importantly, 'Health promotion' on another hand is " the process of enabling people to increase control over, and to improve their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions" (WHO).

One of the main objectives of Health Education Association of Nepal (HEAN) is to make people and state aware of health problems and ways for promoting health through advocacy and sharing knowledge and learning. In this connection, HEAN has been publishing Journal of Health Promotion since 2005, which is an academic and professional journal that aims at providing opportunity to health education professionals and researchers to explore in the fields of health education and promotion like latest research developments in the field of health education research, epidemiology, human diseases, sexual and reproductive health, school health, nutrition, environmental health and sanitation. It also imparts knowledge and skills on pedagogy of health education, health education curriculum, community health, health services and facilities, accidents, elderly, healthy life style, mental health, drugs and narcotics, socio-cultural aspects of health and so on. This journal is a platform for health education professionals to share their novel work which are peer reviewed by well known and experienced researchers of Nepal and abroad. With a view to enhance quality of articles further comments provided by reviewers and editors have been incorporated.

It is our immense pleasure to publish this volume with the great efforts of our valued authors and reviewers from Nepal and the abroad and English language editors. We hope this journal is not only helpful to health education professionals but also to the teachers, students and the public to develop understanding of health education as well as health promotion. We welcome your genuine, creative and valuable suggestions to make this journal a more precious resource to broaden knowledge on health education. Finally, the editorial board would like to extend deep gratitude to language editors, reviewers and authors for their contributions.

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Liberating Science of Health Education for Masses

Prof. Dr. Mathura P. Shrestha*

Like any learning principle, health education is to liberate people, especially the deprived and disempowered, with an objective of empowering them to informed decisions and actions with holistic understanding of the subject or the problem or problem concerned, after owning them as integral parts of their own. By 'owning the subject or problems(s)', I mean that the people understand and resolve with confidence that they (subjects or problems) are their own, that they have to solve by themselves and that they can solve.

This is easily said and done. We have to analyze and understand the historical, political, psychological and cultural perspectives in addition to their physical environment. According to Ron Miller, Holistic Education is a philosophy of education based on the premise that each person finds identity, meaning and purpose in life through connections to the community, to the natural world, and to humanitarian values such as compassion and peace. Holistic education aims to call forth from people an intrinsic reverence for life and a passionate love of learning.

In Nepal where so called Guru-chela tradition is entrenched so deeply and so ubiquitously, prescriptive mentality among the givers and receivers of health or any education is a usual norm. With this norm, according Paulo Freire, "education becomes an act of disposing.... This is the 'banking' concept of education" projecting an absolute ignorance on to others, a characteristic of the ideology of oppression (or enslavement), negates education and knowledge as process of inquiry.... This solution (raison d'être of liberation education ... towards solution of problems ... with reconciliation of the teacher student contradiction) is not, nor can it be found in banking concept. On the contrary, banking education maintains and even stimulates the contradiction through the following practices, which mirror oppressive society as a whole:

1. The teacher teaches and students are taught.
2. The teacher knows everything and the students know nothing.
3. The teacher thinks and the students are thought about.
4. The teacher talks and the students listen-meekly.
5. The teacher disciplines and the students are disciplined.
6. The teacher chooses and enforces his choice and the students comply.
7. The teacher acts and the students have the illusion of acting through the action of the teacher.
8. The teacher chooses the program content, and the students (who were not consulted) adapt to it.
9. The teacher confuses the authority of knowledge with his own professional authority, which he sets in opposition to the freedom of the students.
10. The teacher is the subject of the learning process, which the pupils are mere objects.[1]

Earlier record of departure from authoritarian 'Guru-chela' mode of learning occurred in ancient China with theories and practices propounded by Confucius or Qui Zhongni (551-479 BC), philosopher and educationist, followed by many education-philosophers. It started with three streams of theories, like:

* Keynote address by Former Health Minister in the 13th Annual Meeting of HEAN, Kathmandu, September 8, 2011

1. Paulo Freire (Translated by Myra Bergman Ramos). Pedagogy of the Oppressed. Penguin Books, 1985:54-47.

a) Theory of 'no distinction' in education, stressing equality among learners, irrespective of any physical, social, cultural, economic and geographic attributes and between teachers and students.

b) 'Teaching should be given to all people without discrimination towards ranks or social status. Confucius said, "The 'son of Heaven' (emperor/king) has lost control of education and it became available to ordinary people in remote areas".

c) Theory of holism meaning learning should comprise of all aspect around human life, especially the spheres of history, literature and music, philosophy, politics, economics, culture and education.

Principle characteristics of ancient Chinese learning traditions emphasised among the learners: 1. Follow truth from facts and respecting ethics (this way, education was made independent of religion), 2. Self control and self cultivation or 'demand much from oneself and little from others', 3 Benevolence, love, filial piety and fraternal duty, or 'Love others', 4. Of being trustworthy and courteous, 5. Of being devoted to the service of the nation, 6. Working for the interest of the public: 7. Controlling desire for personal gain with the sense of righteousness: 8. Hardworking, thrifty and uncorrupted: 9. Down-to-earth and understanding: 10. Striving unremittingly for progress.[2]

Siddhartha Buddha (6^{TH} century BC) experimented on himself to discover the illusion of them traditional ways of thinking, learning and doing. With his enlightenment he found that 'human and only a human can become Buddha. Every human has within himself the potentiality of becoming a Buddha, if he so wills and endeavors ..., Human's position is ... supreme. Human is his own master, and there is no higher being or power in judgment over his destiny.[3]

I brought Buddha's example here for two reasons: Firstly, he after all sufferings in pursuit of enlightenment he experimented on self-learning and succeeded. Secondly, he rather than be engaged in pedantic sermons, involved the listeners in interactive dialogue. Rather than giving answer or solutions he presented the conditions or situations whereby the listener could conceive the answers or solutions actively, clearly and thoroughly. That way, he heralded the effective, participatory and interactive learning practice or method.

Classical education system creates more problems than it solves. Evan Illich, the great critic, philosopher was so disillusioned with current education system that, in his famous article on Deschooling Society, 1971, he suggested, "The current search for new educational funnels must be reversed into the search for their institutional inverse: educational webs which heighten the opportunity for each one to transform each moment of his living into one of learning, sharing and caring." He also wrote in his another articles, Tools for Conviviality, 1973, "Invert the present deep structure of tools" in order to " give people tools that guarantee their right to work with independent efficiency."

Health right and health status have synergistic relationship with rights to educations for all. To me, education is a process of continuous and conscientious learning to become liberated from related ignorance or the myths. One is to be able to take informed, free responsible decisions in transparent and accountable manner. Delearning is often necessary of many values and concepts imposed on us by so called modern or classical education systems. It is a right and responsibility of all humans.

2. Guo Qijia. A History of Chinese Educational Thought. Beijing: Foreign Language Press, 2006.
3. Walpola Rahula. What the Buddha Taught. Dehiwala, Sri Lanka: Buddhist Cultural Centre, 1996.

We must understand that education is not only learning for academic purposes or for academic excellence, or for any ornamental purpose. By learning to be educated a human or all humans must qualify following five elements:

- He/she must comprehend the subject matter (in this case, public health) holistically. Comprehension is not merely learning, but understanding of a subject as fully as possible or in its totality-both macro and microscopically.
- He/she should acquire credible competency with ongoing progression on the subject matters.
- He/she must always be able to examine the subject matter critically. Dogmatism an static knowing and doing antagonize true learning as well as learning spirit. With ability to critical analysis one is also become capable to rational synthesis.
- He/she always be creative or committed to creativity. Creativity is not only to be able to reproduce the learned knowledge or skills but also to develop new knowledge, new ways of thinking and doing, new technology, new systems and new culture. It is also for discarding untrue hypes and myths that came with existing knowledge systems. For this, one has to have a knack to be engaged in continuous, ongoing research, innovation and capacity development.
- Lastly, he/she must develop sufficient confidence to move forward.

Education should not be and cannot be imprisoned in any ways or by any means. The dilemma about the question of so called intellectual proprietary rights (IPR) and patency rights (PR) should be taken under the same general truth and need be denounced. In the past many, ruling or exploiting class, tried to imprison the knowledge by one or other way. They did not succeed. Nor anyone succeed, even with new rhetoric to enslave knowledge. Knowledge is the most precious among the common human-goods or products of civilization. True scientists or artists never hanker to enforce IPR or PR.[4]

Dominating class, particularly the colonialists, imperialists, super power hegemony and exploiting, ruling class, always try to domesticate the people with prescriptive education methodology, systems, institutions and norms. They even dissociate people from their natural environment, roots, languages and culture. Any domination that threats freedom to seek truth from facts, either to teachers or learners and their learning environment must be opposed. Worst kind of enslavement that bars people to learn properly and holistically is the one that suppresses mental and cultural domain. Thus learning process, among other things, is a continued struggle to decolonize mind of self, people. The great African writer, thinker and philosopher, Ngûgi wa Thing'o wrote:

The real aim of colonialism was to control the people's wealth: what they produced, how they produced it and how it was distributed to control in other words, the entire realm of the language of real life. Colonialism imposed its control of the social production of wealth. But the most important area of domination was the mental universe of the colonized, the control, through culture, of how people perceived themselves and their relationship to the world. Economic and political control can never be complete or effective without mental control. To control a people's culture is to control their tools of self-determination in relationship to others.[5]

4. Mathura P Shrestha. Public Health Concept: Theoretical and Philosophical
5. Ngugi wa Thing'o. Decolonizing the Mind-The politics of language in African Literature. London: James Curry, or Harare: Zimbabwe Publishing House, 1986, Reprinted 1987: 28. aFoundations. Second Nepal Public Health Foundation Lecture Series, September, 2011.

To conclude, we together should construct our ability to shift from prescriptive to 'development with together' paradigm. Even educated, experts and professionals are unfortunately susceptible to prescriptive mentality and dictating habits with high sounding discourses. People are kept disabled by our pedantic prescriptions. 'Developing with together' is to develop our concept, purpose, strategy and evaluation systems together with all stakeholders, most importantly, the people, to whom all products of our knowledge and labor is destined. We have to invest our thinking on Lao-Tsu's poem, quoted bellow, to learn from people, from things or conditions and nature to tune up our knowledge and abilities to go ahead. We have got to empower people to take initiatives and evaluate public health services and projects. That is what public participation in real, practical sense.

Go
to the People:
Live among them:
Love them:
Learn from them:
Start from where they are:
Work with them:
Build on what they have.

But of the best leaders,
When the task is accomplished,
The work completed,
The people all remark:
"We have done it ourselves"
Lao Tsu

Teachers' Perception on School Health Services

Arjun Prasad Poudel*

ABSTRACT

Teaching health and physical education by qualified teachers can support the promotion of health among school children. In Nepal, school health programme has not been run effectively as health and any subject teachers teach physical education subject. On the other hand, government policy makers and school management does not seem serious about this issue. In this context, the study intends to explore perceptions of teachers on students' health promotion through school health services. This study was based on qualitative research design specifically phenomenological approach. Qualitative data were collected from twelve purposefully selected teachers of six different community schools of Kathmandu using in- depth interview technique. The collected data were analyzed by applying thematic approach. The study collected perception of Health and Physical Education (HPE) teachers regarding school health services, health promotive activities, water, sanitation and hygiene that play crucial role to promote healthy behaviour of students. In their perception, school health services should be provided to promote students' health, control the epidemics and communicable diseases and to create healthy school environment. In their perception, child friendly school creates an open-learning environment and keeps students mentally sound, creative and well-motivated in learning. Based on the findings of the study, it can be concluded that teachers' perception on school health programme is fairly satisfactory. However, their health activities are limited within the classroom practices and theoretical notions included in the textbook.

Keywords: promotion, perception, comprehensive, appraisal, preventive, curative

Introduction

School health programme refers to those activities that produce healthful environment in the school. It includes school health services, healthful school living, health instruction and school community activities (Keith & Green, 2004). School health programme provides an opportunity to the students to involve in healthy practices for health care. As the joint committee on health education technology defines, "School health programme is the composite of procedures and activities designed to protect and promote the well-being of students and school personnel. These procedures and activities are organized in school health services providing healthful environment and health education," (Macdonald, 1998, p. 171).

In Nepal, students spend about 200 days in the school in a year (JICA, 2003). They spend almost seven hours per day in school. Their mental and physical health is greatly influenced by their interaction in the school environment. The school is one of the agencies that could contribute more than any other institution to promote the health of young people and school personnel. The school setting provides an effective means of enhancing young people's health, self-system, life skills and behaviour (WHO, 1997). However, the status of health of school children in Nepal is not well understood. Nor the school is concerned with children's health because its priority goes in academic matters. The impact of health status to the learning achievement is getting less attention (Nutritional Strategy, 2006).

Different literature and research findings have shown some gaps regarding the meaning of health promotion, teachers' perceptions about it and its implementation through the school health programme for promoting health status of the pupils. In this study, I have made an attempt to trace out these gaps by examining teacher's perception and attitude towards the school health promotion through the school health programme in Nepal.

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Methods

The phenomenological approach is often referred to as one of the main traditional approaches in the qualitative paradigm (Creswell, 2007). It is a way of examining peoples' lived experiences to ascertain critical truths about reality and study phenomena which were subjective to individuals (Parahoo, 2006). This study was based on qualitative research design specifically phenomenological approach. I collected qualitative data from twelve purposefully selected teachers of six different community schools of Kathmandu using in-depth interview technique. Thematic analysis was carried out for the interpretation of data. Braun and Clarke (2006) define thematic analysis as a qualitative analytic method for identifying, analysing and reporting patterns (themes) within data. The collected data were analyzed by applying thematic approach and considering research questions. In this study, I followed all the ethical considerations. Hence I was honest on the whole ethical procedure of the study. I always established good rapport with research participants and I was fully convinced that they believed me. Then I found that informants were highly motivated to share their views.

Result and Discussions

Teachers' perceptions on school-health services

School health service is a service-oriented programme that is implemented to evaluate students' health status, to identify health related problems, to inform the guardians about the health problems of children, to adopt the measures of controlling disease and to suggest effective means of maintaining healthy life of the students (UNICEF, 2011).

On the basis of the information obtained from the discussion about the perceptions of teachers on school-health programme, it is examined that school health programme is a health service that can be provided in a school. It includes improvements in health services, and diagnostic health services. The majority of the teachers agreed on this fact. One of the teachers said, *"In my opinion, school health services refer to an appraisal of the health of the members of school family, adopting the measures to control the various accidents, providing first aid treatment, hospitalizing the patients in case of massive accidents, keeping the existing health status of individuals safe and conducting the necessary activities to improve the healthy life of students."*

The view of teachers indicates that school health service is an appraisal of pre and post health services to the school children and the members of school family. It is also a process or activity of providing safe environment against accidents, emergency care and first aid treatment through the medical personnel, health teachers, social cadres and so on. Besides, promoting health and providing security to the students are also included under school health service.

Regarding the query on school health service and its aspects, one of the teachers presented a bit different views as: "*School health service includes all the health services given in the school; however; you can say the main things are: What is given now? When the students do not have concerns in learning and how can a teacher provide health awareness more than the expectation? We also feel difficulty while teaching the related subject matter. Will we get consistency in exam schedule and comprehensiveness of the events? In our context, it is not possible because we don't have school/subject teacher to manage these school health services.*" However, the respondent has analyzed and interpreted it thoroughly. Health service centers do not have control over on what to teach in the difficult situations, simply,

because the teachers do not have the knowledge of subject matter related to the school health services programmers in any schools.

Simply, we can educate the students on how to be sustained in healthy environment and healthy physical activities. However, it is not sufficient to bring change in healthy behavior. We have to focus on practical approaches also. Similarly, school health service is related to the disposal of the unnecessary materials and objects in the classroom. Teachers should educate all the students so, the teachers should be designated as doctors. In the same way, the electronic shocks should be minimized through keeping security in classroom. One can avoid the problems simply with due attention on class management. Can we say teachers and students should be educated for change? The management skills need to be developed among them. We know that a person having knowledge of managing the class can manage all forms of learning behaviours so that those behaviours help the students in their health promotion.

Looking at the above view, it can be said that school health service refers to the services given to promote the health of the students in schools. In such a programme, the school has to give emphasis on the health security of the students than any other services. Similarly, health promotion service is also important. The diagnostic and remedial services can also be conducted in the school but it requires many things including the commitment of school family, guardians, and community health units of school's locality, Ministry of Education, Ministry of Health and other health agencies.

Perceptions on appraisal aspects

Among all the components of school health services, students' appraisal is one of the important aspects. Health appraisal informs the positive process of school personnel. In fact, health appraisal is not an account of individuals' health status, it is the fusion of individual's health to the need of life (Naidoo & Will, 2009). While analyzing and interpreting the information obtained from the teachers regarding their cognition on health appraisal and its necessity, a few of them agreed that health appraisal is a process of evaluation and checking-up the health of school family and determining the status of their health. Accepting this point, one of the teachers said, "*Health appraisal is an activity of accounting the current level of healthy status of the school children. Similarly, it is also related to know whether there is progress or problem in the students' health, and to the reflection on the ways of overcoming those problems."*

In the same way, most of the teachers emphasized the appraisal of nutritional status, observation of ear, nose, eye and teeth, and asking questions related to the problems in stomach and other organs of the students. The voices/responses of most of the teachers clarify that it is essential to make an appraisal of teachers' and students' health in a school. Mainly, the nutritional status of students, the problems related to ear, eye, teeth, and the current health status should be included in appraisal. Such appraisal activities assist to promote the students' health properly in time.

Perceptions on preventive aspects

It is said that 'prevention is better than cure'. So it is important to pay attention on preventive aspects of health service in schools. The preventive aspects of school health services deal with the attempts made to prevent the children and school personnel from accidents, and various diseases. Moreover, it includes the controlling mechanisms employed to be safe from diseases and probable accidents (JICA, 2010). Out of the discussions made on teacher's perceptions on preventive aspects and their need in school, it has been found that

preventive aspects are essential to identify and control the infectious problems related to the children, to keep them safe from wounds and accidents or to provide safety education, to prevent them from going downward from their current health status, and to treat and maintain their healthy behaviours.

The majority of the teachers agreed that preventive aspects are important to save the time and expenses related to infrastructure in health management. They are important to avoid the health hazards of the individual students and to make them more aware on their own health. Most of the teachers had similar opinion on preventive aspects. With an agreement on the collective opinions on preventive aspects, one of the teachers said, *"Preventive service is more effective than any other services given in the school, in fact. It is because if we adopt preventive measures in school, our students will be safe and healthy. In such a situation, we do not have to treat them; there will be very few chances of accidents in school, and we can reduce the cases of infections in school. Then, isn't it the state of health prevention?"*

Regarding the discussions on preventive aspects and their need in school, almost all the teachers had an agreement on 'prevention is better than cure'. It also shows that if we provide the preventive services effectively in school, we become able to minimize the most probable cases of accidents in school, the cases of highly infectious diseases, and the negative effects of health hazards in school. Similarly, preventive health services are the controlling measures of health-related problems. So, it can be concluded that preventive aspects are important for providing better school health services.

Perceptions on remedial aspects

Among the health services provided in a school, preventive service provides safety activities which are taken as important services and appraisal aspect that makes an appraisal of the student's health status (SCNSA, 2011). It helps to know the current health status of the students.

Similarly, there might be the chances of accidents, wounds and cases of being much worried even in doing preventive activities. In the same way, we can see the sufferings of diseases and notice the problems of the students even in making an appraisal. So if we adopt some remedial measure to keep them safe and secure in health, then they will be the part of remedial services. It means remedial service is for treating the students gently in their health problems.

After analyzing the information obtained from the discussion on the perspectives of remedial service provided in school, and its need and importance, most of the teachers were found holding the view that it is equally important to provide remedial services to the students along with the appraisal and preventive services. They also responded that remedial service includes the attempts to diagnose or remedy the health problems explored from the appraisal. In an agreement with the same opinion, one of the teachers said, *"In my opinion, it is a misconception that remedial service is provided only by a doctor or nurse. In fact, remedial services are important aspects of school health programme. Remedial service is conducted in accordance with the philosophy of school health programme. In other words, remedial service is a programme for achieving optimal health achievement of each of the students studying in school."*

The above statement also justifies that the remedial service does not mean that it should be provided by a doctor or nurse. Rather, it can be provided from the side of teacher or school personnel working in school. If possible, doctors, nurses or health experts can be appointed in school otherwise, the health

teacher of a school can provide basic remedial service which prevents the students from massive accidents as well.

Regarding the discussion on remedial services, one of the teachers presented a bit different view on it. To quote his statement, *"In my opinion, the remedial service cannot take place in a school. Who has to provide remedial service and how to do that? Even Health Education subject has been taught by the teacher graduated in other subject? In such a situation, is it right to say teacher can provide remedial service in a school? Doctors are not found in the health post near the schools in rural areas. In such a situation, we have to provide remedial service by hiring a doctor or nurse. So what I would like to say is it is not possible to provide remedial service in schools. Simply, we can provide preventive services in school, i.e. referring the students having health problems to the health post soon. Health posts provide the services, whatever required, to reduce the health hazards. So what should we do here in such a situation?"*

On the basis of the analysis of above ideas, it can be said that remedial health service is not exactly identical with the concept of providing medicinal treatment and the treatment given by a doctor in the hospital. In the poor/ developing countries like ours, since there is no provision of first aid treatment in schools, it does not seem effective, relevant or useful for most of the schools. However, as a part of school health service, remedial service can include the services like: providing directions and suggestions to the students who have problematic health, and counseling, guidance and support to the students and guardians who need specific and highly advanced services. In such a case, remedial service can be taken as a service to diagnose the specific health problems. It is for providing counseling to control them and to identify the associated services of health and their proper application.

Perceptions on promotive aspects

The promotive aspect aids to upgrade or enhance the present condition of children's health. It preserves the current status of health and makes necessary efforts for betterment (HKI, 2009). Most of the teachers in this study agreed that promotive aspect has particular importance for improving the current status of health of the children.

While discussing their perceptions on promotive aspects and its role in promoting the health of school children, the majority of teachers viewed that promotive aspect tends to bring about positive changes on personal health programme, health related knowledge, sanitation of classroom and surrounding environment, creation of healthy learning atmosphere and bringing improvements in the healthy habits of the students. 'Promotive aspect has great importance on health promotion' was the main understanding of all the teachers. Being consistent with this view, one of the teachers said, *"In my personal view, promotive aspect plays crucial role to promote the health of students and the members of the community. Its effectiveness is quite valuable as well. It is because the students in school are from the community and they spend most of the time in school in reality. In this sense, the activities related to health promotion promote their health; and in the same way it helps for promoting the healthy condition of the society because the students are from the same society and have specific role in social changes. So it has specific importance."*

The above view also clarifies that the promotive aspect of the school health service programme held in the school has quite constructive role to preserve the present condition of health of the whole school family and contributes to bring changes for improvement. It also has great

importance to promote the health of the social members with the health of school family. They should focus on the availability of physical and sports materials in school.

Conclusion

From the above analysis and interpretation of the data collected so far in this study, it has been concluded that most of the teachers perceived health and physical education as a behavioural discipline that facilitates the application of health related knowledge, skills and ideas in order to promote the healthy status of students and school personnel. Similarly, the health and physical education subject teachers perceived that they need to have a good level of competence in subject matter, training, skills practical and required qualification for teaching health and physical education in school.

It is also concluded that teachers have understanding of remedial health service as the treatment of minor injuries and illness, which in fact includes protective, promotive and curative aspects of students' health. This brings changes to make positive health behaviour of students. Finally, it is concluded that their views are positive on the importance of all forms of school health services in the promotion of students' health.

School health programme is a broader perspective to promote the health status of the students and to develop their healthy behaviour and life style. It is a holistic programme for the health promotion of students and school personnel. Such a programme aims to protect, promote and create healthy learning behaviour of the students which can have long term implications for the development of physically, mentally, socially and morally healthy individuals in the nation. It is a cost effective and highly efficient programme to offer a wide range of opportunities to the students and school staff regarding how they can promote their health.

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Higher Secondary Level Students' Attitude toward Use of E-Learning Materials in Health and Population Education

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ABSTRACT

The study aimed to find out the "student's attitudes towards the use of e-learning materials in health and population education" at higher secondary level. The study adopted descriptive and quantitative survey design. In order to collect information, a set of attitude scale was used for 200 students of higher secondary level in the Kathmandu valley. The collected data were organized, tabulated, analyzed and interpreted by using the simple statistical tools such as percentage and $\chi 2$ -test at 0.05 level of significance. The result of the study showed that the school students have sufficient e-learning tools with suitable existing situation for teaching and learning health and population education. The students have positive attitude towards the use of e-learning materials in health and population education. Most of the students agreed that the e-learning tools are very useful for higher achievement as well as higher study, as they provide basic concept with motivation.

Keywords: hardware, software, learning, virtual learning, multimedia

Introduction

E-learning, a new way of study different from traditional face-to-face learning, is defined as an innovative way of conducting learning activity at flexible times and places through the internet (Sparacia, et al., 2007). Normally e-learning includes most kinds of electronically supported learning and teaching (Mayes, 2004). Web based learning, Internet based learning and Computer based learning are all frequently used terms to mean e-learning (Horton, 2001).

The term 'e-learning' has existed since 1999 in teaching learning. Other words also began to spring up in search of an accurate description such as "online learning" and "virtual learning". However, the principles behind e-learning have been well documented throughout history, and there is even evidence which suggests that early forms of e-learning existed as far back as the 19th century (Zeitoun, 2008).

E-learning includes all learning (formal as well as informal) managed through electronic devices for delivery. More precisely, e-learning encompasses both internet based learning and computer based learning, which consists of the components of online learning (Horton, 2001).

Hardware and software are applied to produce and share learning materials for students. Examples of hardware includes: Video input (laptop), video output (monitor or screen), sharing devices (pen drive, mobile), Software is used to produce and share learning materials through different calculation (Selim, 2008).

In 1924, the first testing machine was invented. This device allowed students to test themselves. Then, in 1954, BF Skinner, a Harvard professor, invented the "teaching machine", which enabled schools to administer programmed instruction to their students. It was not until 1960, however, that the first computer based training program was introduced to the world. This computer based training program (or CBT program) was known as PLATO-programmed logic for automated teaching operations. It was originally designed for students attending the University of Illinois, but ended up being used in schools throughout the area (Mayes, 2004).

The first MAC in 1980s enabled individuals to have computers in their homes making it easier for them to learn about particular subjects and

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develop certain skill sets. Then, in the following decade, virtual learning environment began to truly thrive, with people gaining access to a wealth of online information (Kaling, 2007).

Recent figure from the Nepal authority show that around 24% of Nepali people now have access to some form of internet connection. An NTA report, however shows that only around 6 % of the internet users have access to a trustworthy internet connection (wireless modem, optical fibre, cable modem, ADSL, CDMA). It is reported that 93% of the 6.4 million internet users in Nepal are still using unreliable and low-quality internet connection based on GPRS, EDCE and WCDMA technologies. These technologies are used in mobile phones. The report shows that 0.23% of the internet users still use dial up internet. Internet service providers in Nepal only have a market share of less than 2%. N Cell and Nepal Telecom- both of whom are also voice operators collectively have a market share of 98%. Nepal has been ranked in the 142th position among 159 countries in the e-learning development index (IDI) 2010 published by the International Telecommunication Union (ITU), the UN agency for information and communication technologies. The ranking is based on development of information technology and telecom sector of 2008. Nepal was ranked 141st position in the IDI in 2007 (Sapkota, 2015).

MOE has implemented some of the programs related to e-learning in education. Some NGOs have developed interactive digital learning materials for the school students in mathematics. Under the matching grant schemes (2007 to 2010), DEO provided 2 computers and one printer to 3038 schools (DEO, 2010). Under the Formative Research Project of Education for All program 2004-2009, MOE provided one computer and one printer to each 62 schools. Besides, some NGOs, trusts and individuals have provided computers and other accessories to some schools and basic computer training to teachers (e-learning in Education Master Plan 2013), during the fiscal year 2010 and 2011, the government of Nepal has supported for e-learning related infrastructure and internet connectivity to 785 schools. In addition, DOE provided internet connectivity to 85 secondary schools to conduct distance education program for secondary level (MOE, 2013).

The use of web-based teaching materials, multimedia, CD-ROMs, e-mail, educational animation etc. have all been used and being used extensively in developed countries for learning purpose. However, the concept is somehow new to the developing country like Nepal. Nepal's education system relies mostly on the traditional approach to learning, though in recent years e- learning is being adopted in cities (MOE, 2013). MOE accesses the different policy and programme related to e-learning in school level. According to IT policy (2010), SSRP (2009-2015), and three year plan 2011-2013, GON has provided some policy and integration of e-learning in education (MOE, 2013).

Higher secondary level health and population education subjects are completely based on theory, research, contemporary issues, scientific components and quantitative data. E-learning materials like Google drive, you tube, DVD, LMS and so many are being used specially while learning the calculation of morbidity, fertility, mortality, disease prevalence rate, construction of table, graphic presentation etc. related to health and population components. It is also used to learn human anatomy, physiology, sexual and reproductive health, HIV and AIDS, STDs, nutrition, disease prevention, environmental health and health care. So, E-learning as a modern teaching material is useful and attractive for students of higher secondary level health and population education.

Objectives of the study

The main objective of this study was to find out the attitude of students towards the use of e-learning materials at higher secondary level in health and population education subject.

Methods of the study

This study was based on quantitative and descriptive survey design. The higher secondary level health and population education students of Kathmandu valley in the academic year 2073/2074 were the population of this study. Altogether 200 students from ten higher secondary level were the samples of the study. Equally 20 students from each higher secondary school/college studying health and population education were sampled for this study. The convenient sampling technique was applied for the selection of higher secondary schools/college while purposive sampling technique was used for the selection of students. Edward's three point attitude scale with three alternatives (Agree, Neutral and Disagree) was applied as the main tool for data collection.

Results

The significance of each statement was tested by computing corresponding $\chi 2$–value and comparing them with tabulated $\chi 2$ – value 5.991, the value of $\chi 2$ at 0.05 level of significance with two degrees of freedom**.** If the calculated $\chi 2$- value exceeded the tabulated $\chi 2$- value then the statements were considered to have been significant. The gathered data were analyzed, the percentage score of each statement was determined and interpreted by using the conceptual understanding of the study.

Opinion of higher secondary level students towards e-learning

The obtained score of students opinions are represented in percentage and $\chi 2$- value. The response that has greater than 50% opinion score is considered as positive opinion and below 50% opinion score is considered as negative opinion. The detailed analysis of the students attitude is given in the following table.

Student's attitude score with their percentage and $\chi 2$- value towards E-learning (N=200)

S.N.	Statements	No. of students	Agree	%	Neutral	%	Disagree	%	$\chi 2$-value
1	Using computer at school/ college improves my learning.	200	133	66.5	26	13	41	20.5	100.69
2	E-learning makes learning more interesting.	200	144	72	6	3	50	25	149.08
3	I can get access to computers at school/college whenever I need.	200	102	51	10	5	88	44	73.72
4	I think e-learning is essential for education.	200	104	52	10	5	86	43	74.68
5	I enjoy lessons which embede an e-learning.	200	136	68	44	22	20	10	112.48
6	I feel comfortable working with computer.	200	106	53	24	12	70	35	50.68
7	The more often I use computer, the more I will enjoy.	200	112	56	47	23.5	51	50.5	40.31

8	I have better information sources than e-learning.	200	0	0	6	3	194	97	298.41
9	E-learning is very helpful in learning process.	200	109	54.5	13	6.5	78	39	72.01
10	Computers scare me.	200	6	3	15	7.5	179	89.5	284.53
11	I need help from teachers to learn with e-learning.	200	34	17	24	12	142	71	128.44
12	Computers are difficult to use.	200	16	8	10	5	174	87	259.48
13	Using e-learning is time consuming.	200	101	50.5	53	26.5	46	23	26.89
14	Working with computer makes me nervous.	200	9	4.5	86	43	105	52.5	77.53
15	I wish e-learning is unwanted to use for teaching.	200	0	0	26	13	174	87	197.61

In response to the first statement, the significant with $\chi 2$ –value is 100.69 at 0.05 level of significance and 66.5% students have agreed saying that the response is positive, 13% students are neutral and 20.5% students are disagreed with this statement. This shows that most of the students have agreed that using e-learning at school/college improves learning. In response to this statement students said, "*We can improve our health and population education if the school/college provides e-learning and teach us through it*."

In response to the second statement, the significant with $\chi 2$ –value is 149.08 at 0.05 level of significance and 72% students are agreed i.e. the response is positive, 3% students are neutral and 25% students are disagreed with this statement. This shows that most of the students are agreed with the statement that e-learning makes learning more interesting. At that time the students replied, *"Like in other subject's now I do not have problem in quantitative techniques regarding the missing contents because I can easily recover those contents by watching the video"*.

In response to the third statement, the significant with $\chi 2$ –value is 73.72 at 0.05 level of significance and 51% students are agreed i.e. the response is positive, 5% students are neutral and 44% students are disagreed with this statement. This shows that the majority of students are agreed with the statement 'I can get access to computers at school/college whenever I need.' They said, *"We have sufficient amount of e-learning materials in our school/college and we can use them whenever needed."*

In response to the fourth statement, the significant with $\chi 2$ –value is 74.68 at 0.05 level of significance and 52% students are agreed i.e. the response is positive, 5% students are neutral and 43% students are disagreed with this statement. This shows that majority of students have agreed that ICT is essential for education. They replied that '*e-learning is very essential in the modern context of learning*.'

In response to the fifth statement, the significant with $\chi 2$ –value is 112.48 at 0.05 level of significance and 68% students are agreed i.e. the response is positive, 22% students are neutral and 10% students are disagreed with this statement. This shows that most of the students are agreed with the statement 'I enjoy lessons with computer.*"Some students said that they become very interested when they are taught with computer."*

In response to the sixth statement, the significant with $\chi 2$ –value is 50.68 at 0.05 level of significance and 53% students are agreed i.e. the response is positive, 12% students

are neutral and 35% students are disagreed with this statement. This shows that majority of students are agreed with this statement. They replied that it is very comfortable to use computer and learn through it.

In response to the seventh statement, the significant with $\chi 2$ –value is 40.31 at 0.05 level of significance and 56% students are agreed i.e. the response is positive, 23.5% students are neutral and 25.5% students are disagreed with this statement. This shows that majority students are agreed with the statement, '*I believe that the more often teachers use computers, the more I will enjoy school /college.'*

In response to the eighth statement, the significant with $\chi 2$ –value is 298.41 at 0.05 level of significance and 3% students are neutral while 97% students are disagreed i.e. the statement was negative. This shows that the most of students are disagreed with the statement, *'I have better information sources than e-learning.'*

In response to the ninth statement, the significant with $\chi 2$ –value is 72.01 at 0.05 level of significance; and 54.5% students are agreed i.e. the response is positive, 6.5% students are neutral and 39% students are disagreed with this statement. This shows that majority students have agreed that *'e-learning is very helpful in learning process.'*

In response to the tenth statement, the significant with $\chi 2$ –value is 284.53 at 0.05 level of significance and 3% students are agreed, 7.5% students are neutral and 89.5% students are disagreed i.e. the statement was negative. This shows most of the students are disagreed with the statement, *'Computers scare me.'*

In response to the eleventh statement, the significant with $\chi 2$ –value is 128.44 at 0.05 level of significance and 17% students are agreed, 12% students are neutral and 71% students are disagreed i.e. the statement was negative. This shows that most of the students are disagreed with the statement, *'I need more and more help from teachers to learn e-learning.'*

In response to the twelfth statement, the significant with $\chi 2$ –value is 259.48 at 0.05 level of significance and 8% students are agreed, 5% students are neutral and 87% students are disagreed i.e. the statement was negative. This shows that the most of students are disagreed with the statement, *'computers are difficult to use.'*

In response to the thirteenth statement, the significant with $\chi 2$ –value is 26.89 at 0.05 level of significance and 50.5% students are agreed i.e. the response is positive, 26.5% students are neutral and 23% students are disagreed with this statement. This shows that most of the students are agreed with the statement, *'It is time consuming using e-learning in learning.'*

In response to the fourteenth statement, the significant with $\chi 2$ –value is 77.53 at 0.05 level of significance and 4.5% students agreed, 43% students are neutral and 52.5% students disagreed i.e. the response is negative with this statement. This shows that the most of students are disagreed *'Working with computers makes me nervous.'*

In response to the fifteenth statement, the significant with $\chi 2$ –value is 197.61 at 0.05 level of significance and 13% students are neutral and 87% students disagreed i.e. the response is negative with this statement. This shows that most of the students are disagreed *'e-learning is unwanted to use for teaching.'*

Discussion

The above data show that the use of e-learning can change teaching techniques in several ways. With e-learning, teachers are able to create their own materials and thus have more control over the materials used in the classroom than they have had in the past.

Students associated with e-learning would raise interest and increased motivation on their part. Interactive courseware was popular amongst students – particularly games and simulations seen as combining practical challenges with learning opportunities. Some comments suggested that such interest and motivation led not just to harder work on the part of pupils but to a changed quality of engagement. Students also saw e-learning tools as helpful to overcome the difficulties they experienced in producing work to a good standard – notably where this involved scribing by hand – so also reducing scope for criticism by teachers. Equally however, without the capacities required, ineffective use of e-learning tools could be highly de-motivating to the students. For some students, use of e-learning tools could diminish the sense of capability and accomplishment they gained from carrying out tasks without assistance.

According to the theory of constructivism, knowledge is not taught but is learned by the learner themselves through constructing new knowledge on the basis of old knowledge, under a certain setting, with the help of others such as teachers or study partners, and utilizing certain study resources. Students being the centre of teaching and learning process while teacher works as organizer, facilitator and motivator, utilizing setting, cooperation and dialogue to motivate students for self and better learning.

Conclusion

It can be concluded that the attitudes of student's towards use of e-learning materials in health and population education at higher secondary school/ college level in Kathmandu valley is significantly positive. They are in favour of using e-learning. Their responses show that e-learning is needed for better learning to take place.

Only a negligible number of students have negative perceptions, misconceptions, misunderstanding and illusions towards e-learning. School/college students believe in e-learning whether it increases student's health and population education achievement and learning.

Students were enthusiastic in learning health and population education with the help of e-learning. The various aspects of e-learning tools visually, dynamic in nature help students to provide more depth understanding of quantitative techniques. The students received immediate feedback with the help of e-learning. Students were very much impressed and excited to know about the quantitative techniques based on software. They also emphasize in publicizing the information about e-learning throughout the country. It appeared that e-learning can be a useful tool that can be interpreted for teaching and learning of health and population education at higher secondary schools/college in Nepal.

It is obvious that in general information technology and in particular, calculators, computers and softwares do not actually mean major changes in how to teach rather than what to teach. A typical way does so is to replace older ways of communication with new possibilities offered by information technology and the internet. The use of web pages to disseminate information and e-mail for two-way communication with students can be very effective as it can reduce time, costs needed to transfer information and also noise in communication. In this regard, the former teacher centred educational activities began to turn into learner-centred activities. Thus, e-learning helps the students to become more active in the education process. Particularly, calculators and computer technology have also a great potential to affect presenting the contents of the higher secondary school/college level health and population education.

So, the researcher comes to the conclusion that perception about any system, process and event depends upon the knowledge and clear understanding about it. It is recommended that there is necessity of training, orientation and discussion programs about e-learning to apply in teaching health and population education. Moreover, the researcher comes to the conclusion that government, MOE, CDC and other concerned bodies should provide information about the implementation of E-learning in higher secondary level.

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Nutritional Status of Pre-School Children of Pokhara-Lekhanath Metropolis, Kaski

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ABSTRACT

The study is aimed at finding out the nutritional status of pre-school children with relation to occupation, annual income and education status of their parents. The study is based on descriptive research design. Weight for height, height for age, and weight for age were the main areas of nutritional status of children which were measured using primary data only. The study has been carried out in Ward no 9, 10 and 11 of Pokhara Lekhnath Metropolis, Kaski. There were 15 pre-schools in the study area. Among them, 6 pre-schools were taken by the convenient sampling method and from each pre-school 20 children were chosen by the lottery method. Their parents were also included in the population of the study. The study reveals that the majority of the respondents are engaged in different services in Nepal and the nutritional status of their children was found better than Nepal's national nutritional standard. The children, whose parents have yearly income of 2 to more than 6 lakhs, have better nutritional status. Likewise, in this study, not a single mother is illiterate; it has been revealed that the mother's educational standard is the reason behind children's poor nutritional status.

Key Words: under weight, wasting, weight for age, weight for height.

Introduction

Nutrition is the sum total of the processes involved in the taking in and the utilization of food substances by which growth, repair and maintenance of the body are accomplished (Hrookoner, 2009). Nutritional status of our country is very poor. Nutrition is most important for children because it is directly linked to all aspects of their growth and development factors which have direct ties to their health status as adults. Pre-school children are more vulnerable to this case because of their high nutritional needs for growth and development. Nutrient requirements of different groups of population are influenced by age, sex, physical activities, physiological status, and environmental factor (Bhandari & Chhetri, 2013). Moreover, number of factors, which affect acceptability and the utility of food, are also related to habit, availability of food, family members, cultural practices and knowledge about food's connection with health.

Sound nutrition can change children's lives, improve their physical and mental development, protect their health and lay a firm foundation for future productivity. Here, the main concerning subject is the pre-school going children for whom nutritious food is most important and the basic need. Maternal and child mortality have declined significantly in Nepal to the extent that Nepal is on track to meet the Millennium Development Goals for Maternal and Child Mortality (DOHS, 2013-2014). Similar improvements have not been seen in general nutrition status of them. Still under five year child mortality rate is 35.80 per thousand (NDP, 2017). Under five year children belong to preschool age children. The pre-school period is a time when children develop concepts and lifelong habits. Nutrition experience at a young age influences nutritional habits in adulthood (Timilsena, 2012). This means nutritional knowledge also contributes to developing habits.

The general health condition of the population of Nepal is poor. Particular concern is the ill health, retarded growth and disability found among helpless children, because of which every year plenty of children die in the world due to malnutrition and this number is larger in undeveloped and developing countries. Especially in the South Asian countries, nutritional status of children depends on various

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factors such as health knowledge and practice of mother, occupation of parents, economic condition, infections disease, immunization (Mishra, 2009). So, the researcher has tried to find out the relation between nutritional status of pre-school children aged between 2-5 years and occupation, economic status and educational status of parents. The study area was purely urban. The study is supposed to reflect the nutritional status of pre-school children in Pokhara. It shall be helpful for the further researchers as well as the country's policy makers who are at the level of formulating policy to develop the human resources.

Methods and procedures

The study is based on a descriptive nature with analytical data focused on obtaining the information about the nutritional status of pre-schools children. The study area is Pokhara-Lekhanath Metropolis, Kaski. There are 33 Wards and 70 pre-schools in this study area. Among them, 6 pre-schools are selected from the Ward no. 9, 10 and 11. 6 pre-school and Ward no.9, 10 and 11 have been taken by the use of convenience sampling method. From selected each pre-school, 20 children were chosen through lottery method of simple random sampling and their parents (either father or mother) are also included as sample of the study. Interview schedule form has been used to collect the data from the parents and observation, weighing scale and non-stretching measuring tape were used to get the information about weight and height of the selected children. Nutritional status of the children was assessed by anthropometric measurement.

Result and discussion

According to census 2011, literacy rate of Pokhara valley is 83 percent which indicates the people are well educated. Guardians have knowledge about health and nutrition of children but the condition of job, business and the other engagement of parents link to the children and their nutritional status .

Nutritional status of children on the basis of occupation of parents

Occupation is one of the main contributing factors of the nutritional status of the children which is also the main source of income.
The following table shows the prevalence of wasting, stunting and under weight on the basis of occupation of the parents.

Table 1. *Nutritional status of children on the basis of parent's occupation*

Measurement	Nutritional Status	Service in Nepal (%)	Service in Foreign countries (%)	Business (%)	If any (%)
Weight for Height	Severe wasted	4 (3.33)	2 (1.67)	2 (1.67)	3 (2.5)
	Wasted	8 (6.67)	2 (1.67)	6 (5)	2 (1.67)
	Normal	38 (31.67)	36 (30)	14 (11.67)	3 (2.5)
	Total	50 (41.67)	40 (33.34)	22 (18.34)	8 (6.67)
Height for Age	Severe stunted	4 (3.33)	3 (2.5)	3 (2.5)	2 (1.67)
	Stunted	5 (4.17)	5 (4.17)	6 (5)	5 (4.17)
	Normal	41 (34.17)	32 (26.67)	13 (10.83)	1 (0.83)
	Total	50 (41.67)	40 (33.34)	22 (18.34)	8 (6.67)
Weight for Age	Severe underweight	2 (1.67)	1 (0.83)	2 (1.67)	2 (1.67)
	Underweight	6 (4.17)	2 (1.67)	4 (3.33)	2 (1.67)
	Normal	42 (35)	37 (30.83)	16 (13.33)	4 (3.33)
	Total	50 (41.67)	40 (33.33)	22 (18.34)	8 (6.67)

The table 1 demonstrates that, among 120 respondents, 50 parents have been involved in different services in Nepal. Among their children, 3.33 percent, 6.67 percent and 31.67 percent children are found severely wasted, wasted and normal respectively. Likewise, 3.33 percent, 4.17 percent and 34.17 children are found severely stunted, stunted and normal, respectively. Similarly, 1.67 percent, 4.17 percent and 35 percent children are severely underweight, underweight and normal respectively.

Among 40 respondents who are engaged in foreign service, 1.67 percent 1.67 percent, and 30 percent are severe wasted, wasted and normal respectively. Two and half percent, 4.17 percent and 26.67 percent are severely stunted, stunted and normal, respectively and similarly, 0.83 percent, 1.67 percent and 30.83 percent are severely underweight, underweight and normal respectively.

Similarly, 22 respondents are involved in business. Among their children, 1.67 percent and 5 percent are severely wasted and wasted; 2.5 percent and 5 percent are severely stunted and stunted. Likewise 1.67 percent and 3.33 percent are severely underweight and underweight respectively. Rests of them are normal.

Among remaining 8 respondents, 2.5 percent and 1.67 percent children are severely wasted and wasted, 1.67 percent and 4.17 percent are severely stunted and stunted, and 1.67 percent and 1.67 percent children are severely underweight and underweight respectively. Rest of them are normal.

The study shows that the most of the children's nutritional status is normal. Thus the children, whose parents are in service in Nepal, are more wasted and underweight and the children, whose parents are in business, are stunted. The study area is urban area and one of the largest cities of the country. That's why most of the parents are involved in service in Nepal or foreign or business in Nepal. Among them, the children, whose parents are in foreign service, have better nutritional status.

Nutrition status of children on the basis of income

Good income helps to maintain good health. Low economic status cannot meet the nutritional need. The following table represents the status of wasting, stunting and underweight on the basis of annual income.

Table 2. *Prevalence of nutrition status of children on the basis of parents' annual income*

Measurement	Nutritional Status	2-3 Lakhs (%)	3-6 Lakhs (%)	6 Lakhs Above (%)
Weight for Height	Severely wasted	6 (5)	3 (2.5)	2 (1.67)
	Wasted	8 (6.67)	6 (5)	4 (3.33)
	Normal	19 (15.83)	20 (16.67)	52 (43.33)
	Total	33 (27.5)	29 (24.17)	58 (48.33)
Height for Age	Severely stunted	4 (3.33)	5 (4.17)	3 (2.5)
	Stunted	10 (8.33)	7 (5.83)	4 (3.33)
	Normal	19 (15.83)	17 (14.17)	51 (42.5)
	Total	33 (27.5)	29 (24.17)	58 (48.33)
Weight for Age	Severely underweight	3 (2.5)	2 (1.67)	2 (1.67)
	Underweight	8 (6.67)	4 (3.33)	2 (1.67)
	Normal	22 (18.33)	23 (19.67)	54 (45)
	Total	33 (27.5)	29 (24.17)	58 (48.33)

The above table 2 reveals that 5 percent and 6.67 percent children are severely wasted and wasted and 3.33 percent and 8.33 percent children are severely stunted and stunted. Likewise, 2.5 percent and 6.67 percent children, whose parents' annual income is 2-3 lakhs, are severely underweight and underweight respectively. Similarly, 2.5 percent and 5 percent children are found severely wasted and wasted, 4.17 percent and 5.83 percent children are severely stunted and stunted and 1.67 percent and 3.33 percent children, whose parents' income is 3-6 lakhs, are severely underweight and underweight respectively. Moreover, 1.67 and 3.33 percent children are severely wasted and wasted, 2.5 and 3.33 percent children are severely stunted and stunted, 1.67 and 1.67 percent children, whose parents income is 6 lakhs above, are severely underweight and underweight.

Yadav, Gupta, & Shrestha (2011) reported that economic status is a strong predictor of the prevalence of malnutrition in the children. Children from the family of poor economic status are almost four times affected as much as the children from the rich economic status. The above table shows there are 3 categories of annual income i.e. 2-3 lakhs, 3-6 lakhs and more than 6 lakhs of respondents parents. The result shows that if parents have high income, the nutritional status of the children is relatively is better.

Prevalence of nutritional status of children on the basis of mother's education

Mother's education is the major factor that directly affects to the nutritional status of children. The following table represents the prevalence of wasting, stunting and underweight on the basis of mother's education.

Table 3. *Prevalence of nutritional status of children on the basis of mother's education*

Measurement	Nutritional Status	School Level Education (%)	Higher Secondary Level (%)	Higher Secondary Level above (%)
Weight for Height	Severely Wasted	8 (6.67)	2 (1.67)	1 (0.83)
	Wasted	7 (5.83)	8 (6.67)	3 (2.5)
	Normal	42 (35)	26 (21.67)	23 (19.17)
	Total	57 (47.5)	36 (30)	27 (22.5)
Height for Age	Severely Stunted	6 (5)	3 (2.5)	3 (2.5)
	Stunted	10 (8.33)	7 (5.83)	4 (3.33)
	Normal	41 (34.17)	26 (21.67)	20 (16.67)
	Total	57 (47.5)	36 (30)	27 (22.5)
Weight for Age	Severely Underweight	3 (2.5)	2 (1.67)	2 (1.67)
	Underweight	6 (5)	4 (3.33)	4 (3.33)
	Normal	48 (40)	30 (25)	21 (17.5)
	Total	57 (47.5)	36 (30)	27 (22.5)

The table 3 shows that 57 respondent parents have school level education. Among their

children, 6.67 percent and 5.83 percent are severely wasted and wasted, 5 percent and 8.33 percent children are severely stunted and stunted and 2.5 percent and 5 percent children are severely underweight and underweight respectively.

Among the children of 36 respondent parents who passed higher secondary level, 1.67 percent and 6.67 percent children are severely wasted and wasted, 2.5 percent and 5.83 percent children are severely stunted and stunted and 1.67 percent and 3.33 percent children are severely underweight and underweight.

Among the children of 27 respondent parents who passed higher secondary level and above, 0.83 percent and 2.5 percent are severely wasted and wasted, 2.5 percent and 3.33 percent children are severely stunted and stunted and 1.67 percent and 3.33 percent children are severely underweight and underweight .

Nepal Demography and Health Survey 2011 has reported that children, whose parents are illiterate and who only have primary level education, are more stunted, wasted and underweight. In this study area, all children's mothers are literate. The above result shows if the mothers have higher education the nutritional status of children is found better except wasted and stunted in school level and higher secondary. Therefore, the educational level of mother is a strong factor in determining the health status of children.

Conclusion

On the basis of the above findings, it can be concluded that most of the parents are involved in other occupations rather than agriculture and it helps to increase the nutritional status of children. Likewise, 48.33 percent of respondent's parents earn more than 6 lakhs per year and their children nutritional status seems better. This study also reveals that the children, whose mothers have school level education, are more affected from malnutrition. So, it can be concluded that the education of mothers is the major cause to determine the nutritional status of their children. It is also concluded that the nutritional status of pre-school children aged 2-5 years of the study area is better than the national data.

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Perceived Health Impacts of Teenage Pregnancy among Married Adolescents in Peri-urban Areas of Kathmandu Valley

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ABSTRACT

Teenage pregnancy is an issue that calls for more education and support to encourage girls to delay motherhood until they are ready. The developing countries have a large proportion of young people in the world and teenage pregnancy has emerged as one of the major public health problems. The objective of this research paper is to identify the health problems, and social consequences associated with teenage pregnancy with particular reference of peri-urban dwellers in the Kathmandu Valley. A rural health centre based cross sectional study was done with 15-19 years old 300 teenage pregnant girls as subject of the research. Peri-urban areas were purposively selected from Lalitpur District and the samples were selected from the health care centre records. The sampled units were interviewed by using standardized semi-structured questionnaire at their place of residents.

Keywords: consequences, age at marriage, adolescents, reproductive health, substance abuse.

Introduction

Teenage pregnancy is a public health concern both in developed and developing countries (Lawlor and Shaw, 2004; Jonhson and et al., 2001; Chedraui and et al., 2004). About 19 per cent of young women in developing countries become pregnant before age 18. About 95 per cent of the world's births to adolescents occur in developing countries. Every year in developing countries, 7.3 million girls under the age of 18 give birth. When a girl becomes pregnant or has a child, her health, education, earning potential and her entire future may be in jeopardy, trapping her in a lifetime of poverty, exclusion and powerlessness (UNFPA, 2013). According to the global report an estimated 16 million girls between 15 - 19 years old give birth each year, 90 percent of adolescent births among 15-19 year olds occur within marriage and in the poorest regions of the world, birth rates for 15-19 year olds is still four times higher than in the high-income regions (UNFPA, 2017). Thus, the problems are prominent in the developing countries. The risk of death due to pregnancy-related causes is double among women aged 15-19 compared to women in their twenties (PRB, 2002). Young women are also at risk of unwanted pregnancies, sexually transmitted infections and unsatisfactory or coerced early sexual relationships (Sing, 2000 and Wight et al., 2000) and these issues are have significant effects on health promotion in the developing countries in the world. Health promotion is the process of enabling people to increase, control over and to improve their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions (WHO 2017).

In the developing countries, one-third to one-half of women become mothers before the age of 20 and pregnancy related complications have become the leading causes of death among them (UN, 1997; Viegas et al., 1992). South Asian countries like India, Pakistan, Sri Lanka, Nepal, Maldives, Bhutan and Bangladesh have high proportions of teenage pregnancies, since early marriage is common and there is a social expectation to have a child soon after marriage (Stone et al., 2003; Mathor et al., 2004 and Adhikari et al., 2004). A study showed that nearly 60 percent of all girls are married by the age of 18 years and one fourth is married by the age of 15 years in South Asian countries (Mehra et al., 2004). In most areas

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women who attain more formal education are more likely to delay childbearing, as well as marriage, than their peers with little or no schooling (Barker, 1992). Teenage marriages are predominant in developing world including Nepal. Study shows that the median age at first marriage among women and men has increased by 1 year over the past decade. On average, women marry 4 years earlier than men (17.9 years versus 21.7 years) (NDHS, 2016).

Among the various health concerns, adolescent fertility is major one. They are more likely to suffer from severe complications of pregnancy and children (NDHS, 2001). Report shows that among women age 15-19, 17% have begun childbearing, the same proportion reported in 2011. Thirteen percent have had a live birth, and 4 percent are pregnant with their first child (NDHS, 2016). There are some extrinsic factors such as inadequate prenatal care, illiteracy and poor socio economic condition that affect the outcome of pregnancy in teenage girls. This article examines the perceived health impacts of teenage pregnancy among married adolescents girls living in peri-urban areas of Kathmandu valley.

Methods

This article is based on primary data which were collected in August, 2017. Primary data were collected by using standardized semi-structured questionnaire whereas secondary information was collected from published and unpublished literature. To collect primary information, a list was prepared through the health centre records of teenage pregnant girls of age between 15-19 years. All such 300 teenage pregnant girls were selected for interviews. Interviews were conducted in privacy without presence of family members to extract correct information on sexuality, pregnancy and its socio-cultural and other aspects through a trial-tested semi-structured questionnaire. Female trained interviewers were mobilised to get insight of the issues to be discussed in the interview. The collected data then organised and systematically entered into SPSS software to draw precise tables.

Result and Discussion

The total 300 respondents (subjects) were selected from Lubhu, Lamatar and Godamchaur VDCs of Lalitpur district within the Kathmandu Valley. Those VDCs were purposively selected as peri-urban areas of the district. All respondents (subjects) were between 15-19 years old pregnant girls. The marital status of the teenage pregnancy in 90.67 per cent cases is found to be married whereas in 4 (2.67 per cent) was found to be living together with delay marriage (Table -1). Similarly, 1.33 per cent, 2.67 per cent and 0.67 per cent of teenage pregnant girls were found divorced, separated and widowed respectively. On the other hand Demographic Health survey of 2016 had shown that out of total 15-19 years women, 72.5 percent were never married, 27.1 percent were married and in union, 0.1 percent were divorced, 0.2 were separated and no widow women were found.

Table 1. *Percentage Distributions of Teenage Pregnancy Related Matters*

Outcomes or variables	Status/variables	No.	Percent
Marital status among teenage pregnancy	Married	272	90.67
	Living together	14	4.67
	Separated	8	2.67
	Divorce	4	1.33
	Widow	2	0.67
	Total	**300**	**100.00**
Substance abuse status among teenage pregnancy	No addiction	164	54.67
	Cigarette	90	30.00
	Alcohol	24	8.00
	Both	22	7.33
	Total	**300**	**100.00**
Perceived impacts of early pregnancy	School dropout	56	28.87
	Bearing the health risk	46	23.71
	Handicapped in getting job	38	19.59
	Polygamy marriages	26	13.40
	Infertility	12	6.19
	Separations	10	5.15
	Divorce	4	2.06
	Widowed	2	1.03
	Total	**194**	**100.00**
Perceived complications of teenage pregnancy on health promotion	Frequent bleeding	172	57.33
	Abortion	92	30.67
	Preterm delivery	36	12.00
	Total	**300**	**100.00**
Number of pregnancy amongst the teenage girls	One pregnancy	144	48.00
	Two pregnancy	136	45.33
	Three pregnancy	16	5.33
	Four and more	4	1.33
	Total	**300**	**100.00**

The data (Table 1) also reveal that more than 90 percent teenage girls were married with their consent, forcefully or due to various, socio-economic factors. Moreover, with divorce (1.33 percent), separation (2.67 per cent), living together without marriage (4.67 per cent) and widow (0.67 per cent) indicate the ill health of the society revealing unsafe health consequences with teenage pregnancy due to the cause of early marriage.

Substances abuse was observed in teenage but exact percentage could not be determined as 164 (54.67 per cent) were not involved in substances abuse. However, cigarette use is commonly found in 90 (30.0%), alcohol in 8 per cent and both (alcohol and cigarette) in 7.33 per cent (Table -1).

If we look at the social impact (Table-1) 56 (28.87 per cent) had school dropout problem, followed by bearing the health risk (23.71%), handicapped in getting job (19.59%) along with least in widowed (1.03%). State of world population 2013, world widely had shown that when a girl becomes pregnant or has a child, her health, education, earning potential and her entire future may be in jeopardy, trapping her in a lifetime of poverty, exclusion and powerlessness. There were more or less

similarities in social as well as health related impact. There may be more complication in rural and Nepal like developing countries as the study indicated.

Similarly, if we look at the complications of teenage pregnancy, frequent bleeding in 172 (57.33 per cent) indicates as most prevalent among the respondents which may cause anemic problem. The complication of preterm delivery was found in 36 (12 per cent) and abortion in 92 (30.67 per cent) was found with early marriage problems (Table-1). WHO report shows 36-40 per cent is anemic in the developing countries due to iron deficiency and it is common complication of teenage pregnancy (WHO 2005). Anemic status of the pregnancy within the respondent indicates the serious health and social problems though it is found common phenomena in the study area.

Looking at the frequency of pregnancy amongst the studied respondents, it was observed that 144 (48 per cent) with first pregnancy, 136 (45.33 per cent) with second pregnancy, 16 (5.33 per cent) with third pregnancy and 4 (1.33 per cent) with forth pregnancy or more than four (Table:1). This means more than 50 percent respondents were found having with more than one pregnancy. The figure also indicates the risk factors associated with health and teenage pregnancy. NDHS shows that among teenage of 15-19 years, 30.2 percent had live birth and 5.2 percent were pregnant with first child at the age of 19 while at the age of 18, 22.4 percent of teenage had live birth and 5.8 per cent were pregnant with first child. This percentage was found in ascending order as age reduces. This also shows the vulnerable situation of teenage pregnancy.

Conclusion

Marriage at adolescence and conception at these age is often referred to as 'at risk pregnancy' and cause of great concern. The risk is very much high for poor socio economic, anemic, literates a poor utilization of health services. The problems increase if they fall victims of traditional healer care taker in rural areas. The problem of teenaged motherhood is linked with child survival, maternal mortality.

The age of marriage is different region to region and in rural area as of Nepal due to traditional beliefs (Adhikari, 2003). Like family needs to reduce expenditure and to take care of other sibling while parents are at work in field. Most of rural adolescent are unaware of family planning methods.

This study shows that illiteracy, poverty, lack of sexuality education (family life education) were more prevalent factors especially in peri-urban area among teenagers. This requires the need for enhancing family life education to delay age at first pregnancy. This can prevent complications in teenage pregnancy. The culture determines the meaning of pregnancy among young women is due to social status, health and gender relations.

The increasing trend of prevalence of teenage pregnancy suggests us to take care of adolescent group in such peri-urban and rural areas and implement a community based activities like information, education and proper communication to vulnerable social high risk groups. Family Life Education is only wide spread programme for young adults to improve attitude toward health behavior.

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Pesticide Uses and its Effects on Public Health and Environment

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ABSTRACT

Pesticide's manufacture, use, storage and disposal should be strictly regulated to reduce its negative effects on environment and public health. The reports show that the pesticide use increasing every year globally and currently its national use in average is 0.39 kg a. i/ha. It has been found that the quantity of consumption of pesticide in Nepal in agricultural field is very low in comparison to the other countries of the globe but due to its haphazard use in some commodity and ignorance of waiting period after its application has increased the risk of the exposure of farm families to pesticides and intake of pesticides by consumers, which are becoming major health threat.

Keywords: pesticide, human health, environment

Introduction

Definition of pesticide varies with time and countries. However, the essence of pesticide remains basically constant, i.e., it is a (mixed) substance that is poisonous and effective to target organisms and is safe to non-target organisms and environments. A pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest (insects, mites, nematodes, weeds, rats, etc.), including insecticide, herbicide, fungicide, and various other substances used to control pests (EPA, 2009).

Different chemicals have long been used to control pests. Sumerians already employed sulfur compounds to control insects and mites 4500 years ago. Pyrethrum, a compound derived from the dried flowers of *Chrysanthemum cinerariaefolium*, has been applied as an insecticide for over 2000 years. Salt or sea water has been used to control weeds. Inorganic substances, such as sodium chlorate and sulfuric acid, or organic chemicals derived from natural sources were widely employed in pest control until the 1940s (Unsworth 2010). Identification of Dichloro Diphenyl Trichloroethane (DDT) as a potential pesticide by Paul Herman Muller in 1939, for which a Nobel Prize was awarded, opened the doorto the extensive use of the chemicals for various purposes. During World War II (1939-1945), the development of pesticides increased, because it was urgent to enhance food production and to find potential chemical warfare agents. Consequently, the1940s witnessed a marked growth in synthetic pesticides like DDT, aldrin, dieldrin,endrin, parathion, and 2,4-D. In the 1950s, the application of pesticides in agriculture was considered advantageous, and no concern about the potential risks of these chemicals to the environment and the human health existed at that time.

In Nepal, during the 1950s, DDT was introduced for malaria eradication program which was later imported by the Government of Nepal. Later on, other pesticides like Gammexene and nicotine sulfates were imported for the same purpose. Gradually, new kinds of pesticides like organochlorines, organophosphates and carbamates and syntheticpyrethroids were introduced for agricultural, public health and other purposes. The worldwide consumption of pesticides is about two million tons per year and out of which 45% is used by Europe alone, 25% is consumed in the USA, and 25% in the rest of the world (EPA,2011

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cited in Dhital et al, 2015). Despite their benefits, pesticides can be hazardous to both humans and the environment. In 1962, Rachel Carson published the book "Silent Spring", in which she mentioned problems that could arise from the indiscriminate use of pesticides. This book inspired widespread concern about the impact of pesticides on the human health and the environment. In the 1970s, pest resistance emerged and combined with influence of the book "Silent Spring", and accumulated evidence on the effects of pesticides, culminated in banning of the use of DDT in the United States in 1972. Thereafter, other countries discontinued the use of DDT, as well (Lengoods et al, 2007, cited in Bernands et al., 2015). Some other pesticides are also environmentally stable, prone to bioaccumulation, and toxic can persist in the environment, they can remain there for years. Environmental contamination or occupational use of pesticides can expose the general population to pesticides residues (Mostafalou, et al., 2013).

Methodology

This report is based on the review of secondary information published by the relevant organization and authors in Nepal and beyond. Especially the data are been reviewed from Plant Protection Directorate (Department of Agriculture), Pesticide Regulation and Management Program, Food and Agriculture Organization, Pesticide Action Network and World Health Organization's website and publications. The research reports of different national and international journal that is available on online also have been accessed and reviewed to prepare the report .

Result and Discussion

Global Consumption of Pesticide

Pesticide is one of the major inputs in modern agriculture and its uses is increasing annually. Around in 2007, about 2363 million kg of pesticides was used in the world with herbicides constituting the highest share of 950.7 million kg followed by 404.6 million kg of insecticides followed by 262.17 million kg of fungicides. Other pesticides like nematicides and fumigants etc also constituted the share of 773.37 million kg (EPA, 2011 cited in Dhital et al, 2015). Though world average uses of pesticide is 0.5 kg ai/ ha (PPD, 2015) , but some industrial and developed countries use pesticide more than world average and it is upto 17 kg in Taiwan, 14 kg in Republic of Korea, 12 kg in Japan, 9.4 kg in Netherlands and 7 kg in the USA . The average use of pesticide in the Nepal is far below than those developed countries and also below the global average and it is 0.396 kg a.i./ ha (Table 1). But the pesticide use in certain crop like in vegetable is higher than national average that is 1.6 kg a.i/ha (PPD,2015) in Nepal.

Table 1. *Status of pesticide use in selected countries (kg a.i/ha)*

Country	Pesticide use (a.i. kg/ha)
Japan	12
Netherlands	9.4
USA	7
India	0.5
Taiwan	17
France	5
Republic of Korea	7
China	14
Nepal	0.396 (National average) 1.6 (vegetable) source: PRMP, 20

Source: (Arora et al., 2011)

Pesticide consumption in Nepal

The domestic consumption of pesticide in Nepal is lower i.e. 0.392 a.i. kg/ha (kilogram per hectare) (PPD, 2015) as compared to other developed countries. Among different pesticides, fungicide is the dominant form of

pesticides used in Nepal. In the year 2016/17, more than 43% of pesticides were used in the form of fungicides followed by insecticide (31.58%) and herbicide (23.38%).The share of rodenticide , bactericides and bio pesticide is very low as compared to above mentioned pesticide and it shares 1.91% ,0.01% and 0.001% respectively (PRMP,2073). Total active ingredients used in the pesticides during 2015/16 were about 574 metric tons kg or liters of which very minimal amount has been used for public health that is about 174 mt (Table 2).

Table 2. *Share of different types of pesticide imported or formulated in FY 2015/16 in Nepal*

Types of pesticide	Active ingredient (MT)
Insecticides	181.27
Fungicides	247.475
Bacteriacides	0.011
Herbicides	134.232
Rodenticides	11
Biopesticides	0.063
Total	574.06

Source: PRMP, 2073

Until the 1950s, the people of Nepal remained unaware of modern chemical pesticides and were dependent upon traditional organic techniques for killing pests. Chemical pesticides were first introduced to Nepal in 1952, when Paris green, Gammaxene, and Nicotine sulphates were imported from the USA for malaria control. DDT made its first appearance in 1956. This was soon followed by a variety of other organochlorines (in 1950s), organophosphates (in 1960s), carbamates (in 1970s), and synthetic pyrethroids (in 1980s) (Koirala et al., 2009b). Along with the green revolution and malaria control program, pesticides started to use in agriculture and public health purpose and after that the trend of pesticide use is increasing in Nepal (PRMP, 2073) (Figure 1). Studies have shown that more than 90% of the total pesticides are used in vegetable farming (Atreya and Sitaula, 2011). Another study showed that chemical pesticides are used by 25% of Terai households, 9% of mid Hill households and 7% of Mountain households (Sharma et al., 2012). In certain mid hill pockets close to urban markets, the pesticide use is considerably higher. In Nepal, organ chlorine was more popular in the past and organophosphate at present (PRMP, 2073).

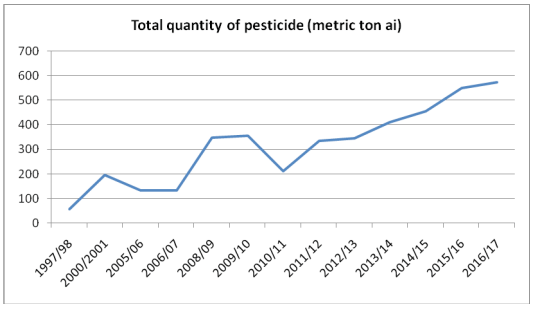

Figure 1. Total imported and formulated pesticide in Nepal during different time span.

Source: PRMP (2073)

Along with the increasing consumption pesticides, its misuse is another major problem in Nepalese environment and public health. Especially the uses of broad spectrum pesticide cause pests to adapt and become resistant to the pesticides (Yadav and Lian, 2009, cited in Sharma et al., 2012)). Then it requires at higher doses to achieve the same level of control. Farmers generally do not follow the pre-harvest waiting period too. They apply pesticides near harvesting time, and some farmers even dip vegetables in pesticides before selling (Sharma et al., 2012). Misuse of insecticides is common in Nepal. Unregistered and illegal products, open air sales, sales of banned products, cases of decanting and reweighing, fake pest control products using counterfeit labels, sales of expired products with modified expiry dates are among the misuse cases that have been reported in Nepal.

Effects of pesticide on human health and environment:

Pesticide has both beneficial and harmful effect for human and environment.

a) Beneficial effects

i) Improve production and productivity of agriculture commodity to feed the ever growing population,

ii) Control vector borne disease like malaria and reduce mortality and morbidity and make better place to live, and

iii) Other like sports (cricket ground, golf lawn), road, building (against termites) etc.

b) Harmful effects

Pesticides are designed to kill pests, but some pesticides can also cause negative health effects in people and damage ecosystem. Pesticide residues absorbed by inhalation, ingestion, and dermal contact can lead to acute and chronic toxicity. Such kinds of the toxicity depend on types of pesticides, port of entry, dose, metabolism, accumulation and so on. Acute toxicity is due to short-term exposure and happens within a relatively short period of time, whereas chronic toxicity is due to repeated or long-term exposure and happens over a longer period. Mainly it interrupts the metabolic and systemic functions of the human body. The chemical compound of pesticide disrupts the neurological function. It is injurious to the immune and endocrine systems as well (Wesseling, et al., 1997).

Wide use of these pesticides can cause both acute and chronic adverse health effects in human. Studies in the past have revealed the association of organochlorine and organophosphate with diabetes mellitus (Paudayl, 2008). Organophosphate inhibits the neurotransmitter acetyl cholinesterase and can affect the central and autonomic nervous system. Few leading symptoms related to the autonomic nervous system are abdominal cramps; nausea, diarrhea, salivation, miosis and symptoms related to the central nervous system are dizziness, tremor, anxiety, and confusion. Symptoms usually occur within hours of exposure and typically disappear within days or weeks as new cholinesterase is synthesized (Aryal et.al., 2016). In many developing countries like Nepal, most pesticides are associated with adverse effects on human health and environment due to inappropriate use and handling of pesticides by inadequately trained farm workers (Naidoo et al., 2010). Majority of pesticides users, being unaware of pesticide types, their mode of action, potential hazards and safety measures, and the problem is becoming more havoc.

The pesticides are widely applied in agriculture sector of Nepal. Farmer had considerable knowledge regarding health impacts of pesticide; however, they did not adopt the safety precaution resulting higher risk of exposure with pesticide intoxication. As a result, nearly 51% farmers experienced an acute toxicity syndrome of pesticides and one of ten farmers reported several kinds of chronic diseases of which 24% farmers had chronic neuropathic diseases (Aryal et.al., 2016).

The other major harmful effects of pesticide in human and environment are:

Direct impact on human

The credits of pesticides include enhanced economic potential in terms of increased production of food and fiber, and management of vector-borne diseases, and then their debits have resulted in serious health implications to man and environment. There is now overwhelming evidence that some of these chemicals do pose a potential risk to humans and other life forms and unwanted side effects to the environment (Forget, 1993; Igbedioh, 1991; Jeyaratnam, 1981 cited in Aktar et.al., (2009)).

No segment of the population is completely protected against exposure to pesticides and the potentially serious health effects. Accurate statistics on health effects of pesticides are not available. However, it is estimated that globally, every year, between 1 and 41 million people suffer from exposure to pesticides (PAN International, 2007).WHO (2009) estimated that a minimum of 300,000 people die from pesticide poisoning each year, with 99% of them from low- and middle- income countries. In 2008, the World Bank put the number of deaths at 355,000. However, FAO (2005) referring to recent data from Sri Lanka indicated that 300,000 deaths per year may occur in the Asia-Pacific region alone due to pesticide poisoning.The epidemiology of pesticide exposure globally is not fully understood and most of the time underdiagnosed, according to the Pan American Health Organization, an international public health agency based in Washington, D.C. "Pesticide poisoning cases are under-reported by 50 percent to 80 percent regionwide," reported the PAHO in 2011, referring to the Americas.

Impact on environment

Pesticides have severe impact on environment too. Some are mentioned below:

i) Surface and ground water contamination:

Pesticides are included in a broad range of organic micro pollutants that have ecological impacts. Different categories of pesticides have different types of effects on living organisms, therefore generalization is difficult. Although terrestrial impacts by pesticides do occur, the principal pathway that causes ecological impacts is that of water contaminated by pesticide runoff. The two principal mechanisms are bio concentration and bio magnification.

Bio concentration: This is the movement of a chemical from the surrounding medium into an organism. The primary "sink" for some pesticides is fatty tissue ("lipids"). Some pesticides, such as DDT, are "lipophilic", meaning that they are soluble in, and accumulate in fatty tissue such as edible fish tissue and human fatty tissue. Other pesticides such as glyphosate are metabolized and excreted.

Bio magnification: This term describes the increasing concentration of a chemical as food energy is transformed within the food chain. As smaller organisms are eaten by larger organisms, the concentration of pesticides and other chemicals are increasingly magnified in tissue and other organs. Very high concentrations can be observed in top predators, including man.

The ecological effects of pesticides and other organic contaminants are varied and are often inter-related.Pesticides can contaminate soil, water, turf, and other vegetation. In addition to killing insects or weeds, pesticides can be toxic to a host of other organisms including birds, fish, beneficial insects, and non-target plants. Ecological effects of pesticides extend beyond individual organisms and can extend to ecosystems. Swedish work indicates that application of pesticides is thought to be one of the most significant factors affecting biodiversity. WWF reports that the increased rate of disease, deformities and tumors in commercial fish species in highly polluted areas of the North Sea and coastal waters of the United Kingdom since the 1970s is consistent with effects known to be caused by exposure to pesticides (FAO, 1996).

Pesticides can reach surface water through runoff from treated plants and soil. Contamination of water by pesticides is widespread. The results of a comprehensive set of studies done by the U.S. Geological Survey (USGS) on major river basins across the USA in the early to mid- 90s have shown the alarming situation that is more

than 90 percent of water and fish samples from all streams contained one, or more often, several pesticides (Kole et al., 2001).

Similarly, groundwater pollution due to pesticides is a worldwide problem. According to the USGS, at least 143 different pesticides and 21 transformation products have been found in ground water, including pesticides from every major chemical class . During one survey in India, 58% of drinking water samples drawn from various hand pumps and wells around Bhopalwere contaminated with Organo Chlorine pesticides above the EPA standards (Kole and Bagchi, 1995 cited in Aktar et al., 2009). Once ground water is polluted with toxic chemicals, it may take many years for the contamination to dissipate or be cleanedup. Cleanup may also be very costly and complex, if notimpossible (Waskom 1994; O'Neil, 1998; US EPA, 2001 cited in Aktar et al.,2009).

ii) Soil contamination

Different pesticides used in soil treatment and also large number of transformation products (TPs) from a wide range of pesticides can cause populations of beneficial soil microorganisms to decline. According to the soil scientist Dr. Elaine Ingham, "If we lose both bacteria and fungi, then the soil degrades. Overuse of chemical fertilizers and pesticides have effects on the soil organisms that are similar to human overuse of antibiotics. Indiscriminate use of chemicals might work for a few years, but after a while, there aren't enough beneficial soil organisms to hold onto the nutrients" (Savonen, 1997). The loss of beneficial microorganisms in soil will cause low fertility of the soil and will be responsible for poor production and productivity of crops. And it ultimately reduces the farm income and enhances hunger and poverty.

iii) Contamination of air and non-target vegetation

Pesticide sprays can directly hit non-target vegetation, or can drift or volatilize from the treated area and contaminate air, soil, and non-target plants. Some pesticide drift occurs during every application, even from ground equipment (Glotfelty and Schomburg, 1989). Drift can account for a loss of 2 to 25% of the chemical being applied, which can spread over a distance of a few yards to several hundred miles. As much as 80–90% of an applied pesticide can be volatilized within a few days of application (Majewski, 1995). This contamination will make negative effect to non-targeted fauna and flora and disturb the ecosystem. This imbalanced ecosystem influences socio economic aspect of human beings along-with health status.

Government Initiatives to regulate pesticide in Nepal:

Government of Nepal (GON) is the signatory of Stockholm Convention, Basel Convention and Rotterdam Conventions to minimize environment pollution and to manage agrochemicals, including pesticides. Government has accorded high priority to integrated pest management (IPM) to minimize pesticide risk (PPD, 2008). Government of Nepal has banned and restricted 16 different pesticides due to their high risk for human health and environment (la=k=Jo=zf= @)&#_.

The following is a senario of the result of RBPR analysis unit, Kalimati, Kathmandu regarding the completion of Rapid Bioassay of pesticides residue analysis.

Source: PPD, 2016

The ascending trends of pesticide uses and its increasing havoc, Ministry of Agriculture Development has established Rapid Bioassay of pesticide Residue Analysis Laboratory at Kalimati wholesale market at Kathmandu in 2071B.S. The sample is collected from different vegetable and fruit lots which are brought to wholesale market from different parts of the country and from aboard and

Table 3. *Year-wise completion of Rapid Bioassay of pesticide residue analysis*

Years	Commodity	Inhibition percentage			Remark
		< 35% (Green)	35-45% (Yellow)	>45% (Red)	
2071/72	Vegetable	146	4	25	Before RBPR establishment
	Fruit	9	2	1	
2071/72	Vegetable	1457	15	4	
	Fruit	36	0	0	
2072/73	Vegetable	1883	8	10	
	Fruit	35	0	0	
2073/74	Vegetable	1875	5	21	
	Fruit	29	0	0	

analyzed for pesticide residue. The result show that most of the sample are safe to eat (i.e< 35%) and the inhibition level is below 35%. Those samples which had more than 45 % inhibition percentage were vegetables. After establishment of RBPA laboratory the number of sample with higher inhibition percentage (i.e. > 45%) is decreasing and it is good news for consumer (PPD, 2074) (Table 3).

Conclusion

Pesticides are often considered a quick, easy, and inexpensive solution for controlling weeds and insect pests in agriculture, public health and other areas. However, pesticide use comesat a significant cost. Pesticides have contaminated almost every part of our environment. Pesticide residues are found in soil and air, as well as in surface and ground water across the countries, and contamination poses significant risks to the human health as well as environment and non-target organisms ranging from beneficial soil microorganisms to insects, plants,fish and birds. Since 1950s, pesticides have been used for increasing the agricultural productivity and safeguarding the public health in Nepal. Every year the consumption of pesticide for agriculture purpose is increasing. Though the quantity of consumption per hectare in agricultural field is very low comparing with other countries of the globe but due to haphazard use of pesticide in some commodity and ignorance of waiting period after its application has increased the exposure of farm families to pesticides and intake of pesticides by consumers, which are becoming major health threat. Injudicious and indiscriminate use of pesticides and presence of pesticide residues in food, fruits, vegetables and environment is a matter of grave-concerns in our context.

To sum up, based on our limited knowledge of direct and/or inferential information, the domain of pesticides illustrates a certain ambiguity in situations in which people are undergoing life-long exposure. There is thus every reason to develop health education packages based on knowledge, aptitude and practices and to disseminate them within the community in order tominimize human exposure to pesticides. Taking into consideration the health and environmental effects of chemical pesticides, it is clear that the need for a new concept in agriculture is urgent. This new concept must be based on a drastic reduction in the application of chemical pesticides, which can result in health, environmental, and economic benefits to the public.

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Road Traffic Accidents in Kathmandu Valley

Krishna Prasad Dhakal*

ABSTRACT

This article presents the information received from documents available in the Police Head- Quarters, Operation Department, Traffic Directorate, Naxal, Kathmandu and Metropolitan Traffic Police Division, Kathmandu along with some journals and websites covering five years from 2069 to 2074. The main aim of carrying out this research was to shed light on the road traffic accidents of Kathmandu valley. The data have been presented through document analysis and analyzed here using both quantitative and qualitative techniques. The major findings include that Road Traffic Accidents are the outcomes of many factors ranging from the negligence of the driver to the weather condition and the condition of road. Despite the dense presence of government and its bodies, the study showed that maximum number of road traffic accidents occur in Kathmandu valley. Youngsters riding bikes and driving cars involved in accident are found maximum in number. Because of the immediate rescue and hospitalization, the number of deaths in Kathmandu valley was found to be decreasing in comparison to the other parts of Nepal.

Keywords: road traffic accident, traffic rule, mortality, injury, RTA rate

Introduction

Road transport has been a very easy and popular service in Nepal, despite the poor and vulnerable condition of roads. According to the CBS report 2016, the total road network in Nepal covers 26900 kilometers, where as many as 1995400 vehicles ply along the road network. Hundreds of people lose their lives every year in Nepal in road traffic accidents. There is a very negligible chance to be completely safe in an accident. Maximum number of people die, and many of them remain physically injured while some of them are compelled to suffer the whole life as they cannot be brought into normal life. Handicapped life is really a burden not only to the victim of the accident but also the dependent family members. The rate of road accidents and fatality is getting higher and higher day by day. On one side the quality of road is getting poorer and poorer; and on the other side the number of vehicles plying on the road are unexpectedly increasing leading to fatal accidents across the country. The government has failed to regulate road transportation as it should have. Gopalakrishnan (2012) opines,"Road Traffic Accidents (RTA) survivors, their families, friends, and other care givers often suffer adverse social, physical, and psychological effects. According to the report published by WHO in 2013, more than three thousand people die daily due to road traffic accidents. And around 1.3 million people die in a road traffic accident every year across the world. Chaulagain et.al (2015) claim that," more than nine in every ten (91%) of the world's RTA fatalities were from low and middle income countries such as Nepal". It proves that the rate of road accidents is increasing overwhelmingly. WHO report 2013 indicates that death and injury caused by traffic accidents are arising dramatically and alarmingly. It says every hour 40 people in the South East-Asia region die in road accidents.

The death rate of per hundred thousand population in RTA in SAARC nations, according to WHO report 2014, is also quite depressing. Nepal has the rate of 22.32, India 20.74, Pakistan 20.22, Bhutan 14.53, Srilanka 13.05, Bangladesh 12.87, Afghanistan 27.82, and Maldives 1.05 RTA death rate per 100000 population. It shows that Maldives has the lowest death rate and Afghanistan has the

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highest RTA death rate. The trend of RTA in Nepal is really horrible in comparison to other countries in the sense that the number of casualties is increasing unexpectedly. In Adhikari's (2016) view, Nepalese roads are the ones that are among the most dangerous roads in the world; and chances of vehicle crash are more than 100 times higher than in Japan and 10 times higher than in India.

Radhakrishnan (2012) opines, "A wide range of effective road safety interventions exist and a scientific system approach to road safety is essential to tackle the problem. This approach should address the traffic system as a whole and look into interactions between vehicle, road users, and road infrastructure to identify solution." Traffic police conducts regular awareness and training programs that have somehow made positive impact in reducing the number of casualties. However, such programs should be conducted intensively; and those violating traffic rules and regulations should be punished and penalized heavily so that the same mistake will not be repeated by the same person in the future.

The above observations show that maximum number of accidents occur due to the lack of traffic knowledge, negligence of drivers, and the vulnerable condition of roads. Distribution of driving license has not been transparent and traffic rules and regulations have not been made effective. Maximum bus accidents occur due to being overloaded. Lack of proper coordination among the stake-holders and boozing habit of drivers are also the possible causes of accidents. Drivers drink and even take drugs; and police authority pays no attention in bringing them to legal frame. However, their consequences may last longer than we expect. Accidents leave people seriously injured with a negligible chance of recovery. Some of the victims are never recovered fully and have permanent physical and mental disability. Accident brings family disaster and financial burden to the survivors and dependents. Pedestrians are most affected by road traffic accidents. Cases of head and abdomen injury are common.

Methods

In course of data collection, the researcher himself visited to the Police Headquarters, Operation Department, Traffic Directorate, Naxal, Kathmandu and Metropolitan Traffic Police Division, Kathmandu. Then documented records of five years were collected from 2069 to 2074 B.S. So the sources of data were the documents provided by the traffic offices which were presented and analyzed both quantitatively and qualitatively. So, this study is based on the secondary sources of data published by Metropolitan Traffic Office, Kathmandu and the data available in related journals and websites. The study sheds light on road traffic accidents that occurred only in Kathmandu valley (Kathmandu , Lalitpur, and Bhaktapur district).

Results

The data collected from available documents have been presented and analyzed under several themes like: road traffic accident of Kathmandu Valley in 2072/73, types of vehicles involved in traffic accidents in Kathmandu Valley, traffic accidents and its effects, trend of road traffic accidents of five years.

Table 1. *Road traffic accidents of Kathmandu valley in 2072/73*

Cities	No. of Accident	Injured		Death	No. of affected people
		Serious	Minor		
Across Nepal	10,013	4182	8226	2006	16502
M.T.P. Kathmandu	5668	275	3901	166	10103

Source: Source: Police Headquarters, Operation Department, Traffic Directorate, Naxal, Kathmandu, 2072/2073

Kathmandu valley comprises of Kathmandu, Bhaktapur, and Lalitpur districts. Data shows that maximum road accidents occur in the valley in comparison to other parts of Nepal. More than 5500 accidents occur every year in the valley leading to more than 180 deaths. The number of vehicles plying in Kathmandu is horribly increasing day by day. The government is not able to formulate fixed vehicular policies and build roads. It will be a surprising fact to speculate on what Kathmandu Post (2016) quotes ,"Total length of vehicles operating in the Kathmandu Valley is greater than the length of roads, traffic police said. The length of the roads is 4.8 million feet whereas length of vehicles is 7.2 million feet". How can the valley be safer and a more comfortable place in terms of transportation unless we seriously ponder into the above mentioned statement?

Table 2. *Types of vehicles involved in traffic accidents in Kathmandu valley*

Fiscal Year	Truck	Bus	Micro-bus	Car/van/ Jeep	Tempo/ Tractor	Motor cycle or scooter	Manually driven means of transportation	Total
2069/2070	699	872	489	2653	203	3218	157	8291
2070/2071	892	962	538	2510	141	30224	136	8203
2071/2072	947	1006	565	2857	193	3252	138	89568
2072/073	1210	1164	500	3231	157	3671	170	10103

Source: Metropolitan Traffic Police Division, Kathmandu

Bus, truck, motor bike, bicycle, scooter, jeep, van, car, taxi, rickshaw, tempo, lorry, etc. ply on the roads of Kathmandu valley. The analysis of the data available regarding the vehicular variations involved in the accident and death of the passengers shows that maximum bike riders die when they encounter accident. More than 3000 motorbike accidents occur every year in Kathmandu; valley and there are increasing numbers of motorcycle casualties in the valley in comparison to the other means of transportation. Car and jeep accidents occupy the second position in terms of accidents in the valley.

The following bar diagram shows the number of road traffic accidents nation-wide from fiscal year 2069/070 to fiscal year 2072/2073. Accidents are increasing day by day and the number of casualties is also going up simultaneously. 3986 people were seriously injured in the fiscal year 2069/070 due to road traffic accident, whereas 4182 people were seriously injured in fiscal year 2072/073. Similarly, 1816 people died in fiscal year 2069/070 and 2006 people died in fiscal year 2072/073. However, the number of RTAs caused by manual means of transportation is lower than the accidents caused by other means in Kathmandu. The trend is quite horrible and unless effective measures are taken to control road traffic accidents the rate of accidents and its adverse impacts will keep on increasing. The given data shows that the rate of RTAs has increased by 2.83 percent within the four years. Despite the increase and change brought in the level of awareness among people, the rate of RTAs is still increasing which has been a serious matter for the concerned authority.

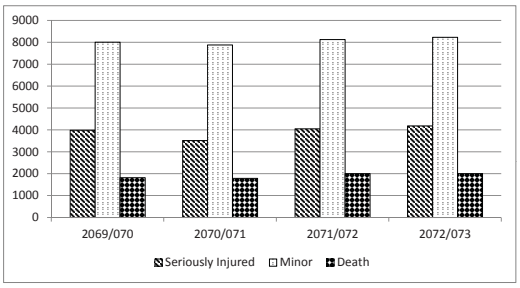

Figure 1. Road traffic accident and theirs effect in four years

Source: Police Headquarters, Operation Department, Traffic Directorate , Naxal, Kathmandu

Road traffic accidents are increasing with the growing number of vehicles plying on the road. It is obvious that the condition of roads in Kathmandu valley is not good enough to accommodate the vehicles. Public vehicles are always full and traffic congestion and jam always disorder people's normal routine. If we compare the number of RTAs in fiscal year 2069/070 with the same in fiscal year 2070/071 the number has slightly decreased by 1.54 percent and the RTAs in fiscal year 071/072 increased by 1.83%, whereas in fiscal year 2072/073 the same increased by 2.83%. No one can reach the destination in targeted time. The system of license issuance has not been transparent. As a result, an unskilled person also gets driving license.

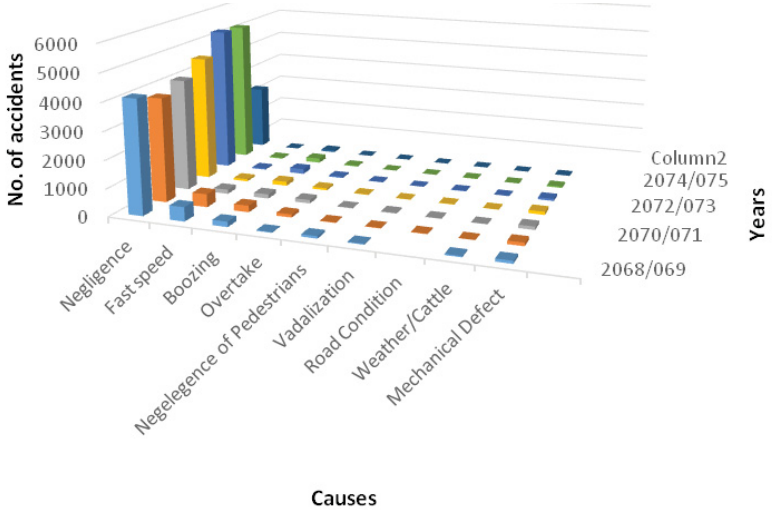

Fig. 2. Causes of road traffic accidents

Source: Police Headquarters, Operation Department, Traffic Directorate ,Naxal, Kathmandu

There are many reasons of RTA in Nepal. Negligence of the driver, fast pace, consumption of alcohol during driving and before driving, overtaking, pedestrians' carelessness, vandalizations of local people, deteriorating road condition, obstruction from the cattles, weather condition and mechanical defects of the vehicles are the leading causes of RTA in Nepal. According to Traffic Directorate, maximum RTAs occur due to the extreme negligence of the driver. They pay no attention to their driving speed, blind turnings, and their health condition. In the fiscal year 2072/073 the number of RTAs was 4119 whereas in the fiscal year 2073/074 it reached up to 5205. The ratio is increasing every year. High speed is the second cause of RTAs and driving vehicles after drinking alcohol is the third cause. These three are basically related to the driver's fault or negligence.

The following figure highlights the trend of road accidents and human casualties within five fiscal years from 2068/069 to 2072/073. Altogether, 8892 accidents occurred in the fiscal year 2068/069 whereas it reached 10013 in fiscal year 2072/073. Likewise,1837 people died in fiscal year 2068/069 and it reached to 2006 in fiscal year 2072/073. The trend of road traffic accidents has ups and downs.

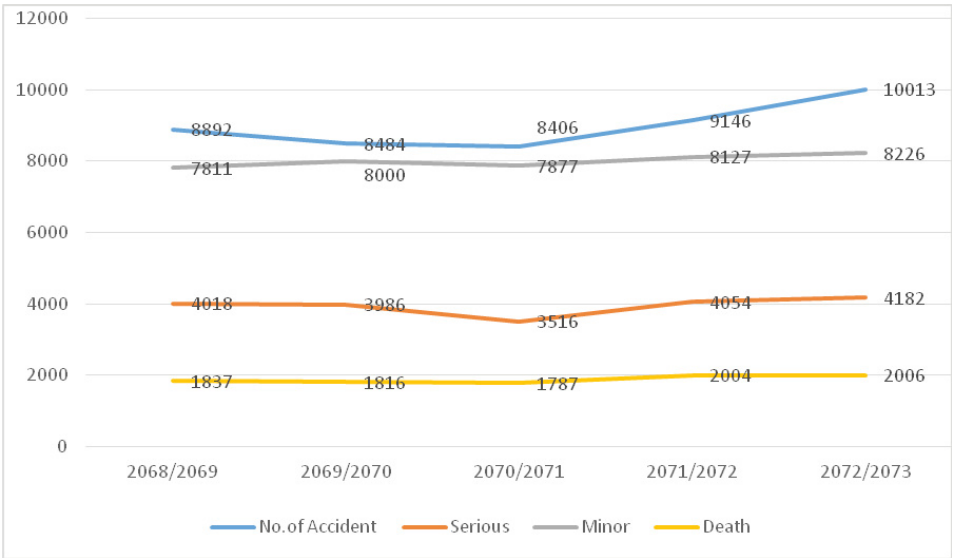

Fig. 3. Trend of road traffic accidents within five years

Source: Police Headquarters, Operation Department, Traffic Directorate, Naxal, Kathmandu

Despite the continuous public pressure, government's initiation, road department's effort, and traffic police's active role, we find the number of accidents increasing during the last five fiscal years. The number of casualties is also increasing. The stakeholders concern is hopelessly squeezing day by day. The trend shows that there is a fluctuation in the occurrence of RTAs. It is expected that the increased level of consciousness among the vehicle users may bring down the rate of RTAs. But it cannot be seen as the rate is slightly increasing. It might be due to the traffic congestions, degrading quality of the road and increasing number of vehicles. Seriously injured people are facing a lot of problems as they do not get compensation and other insurance- related benefits.

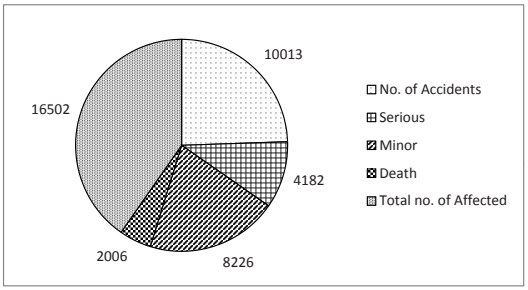

Fig. 4. Effects of RTA in human health in fiscal year 2072/073

Source: Police Headquarters, Operation Department, Traffic Directorate ,Naxal, Kathmandu

Out of the total of 16502 accidents, 24427 people were directly affected in RTAs. Among them 8.21 percent people died in RTAs and 17 percent of them became seriously injured.

The number of seriously injured people was 4182; and 2006 people succumbed to death. Likewise, 8226 people had minor injury in fiscal year 2071/072 in different road traffic accidents.

The results on the different themes discussed above have the findings very similar to the findings of researches carried out by different scholars like Chaulagain et.al (2015) whose view is that more than nine in every ten of the world's RTA fatalities were from low and middle income countries; Adhikari (2016) who says that Nepalese roads are most dangerous in the world; WHO report (2014) which claims the death rate of per hundred thousand population is quite depressing; Gopalkrishnan (2012) who says that survivors, their families, friends and other caregivers often suffer from adverse social, physical and psychological effects and Radhakrishnan (2012) who has the opinion that a wide range of effective road safety interventions exist and a scientific system approach to road safety is essential to tackle the problem.

Discussion

The present study carried out in Kathmandu valley mainly focuses on the road traffic accidents occurred in Kathmandu, Bhaktapur and Lalitpur district. In fiscal year 2072/2073, there were 10,013 vehicular accidents in Nepal. Out of the 16,502 affected people, 4182 were seriously injured , 8226 suffered from minor injuries , and 2006 died. Remaining 88 people did not have any injury. Kathmandu valley has the maximum number of accidents in comparison to major places of Nepal. However, it has less number of seriously injured people that counted only 275, whereas Itahri has the highest number of seriously injured persons. Only 166 people died in Kathmandu valley whereas 525 people died in Road Traffic Accident in fiscal year 2072/073. It suggests that human casualties due to RTAs in Kathmandu valley are less than other parts of the country. However, Kathmandu has the largest population of people with minor injuries (3901) whereas in Attariya only 104 people sustained minor injuries.

There are many factors leading road traffic accidents world-wide. The condition of road, negligence of driver, condition of the weather, condition of vehicles, traffic rules and regulations, legal prosecution, and role of traffic police are some key components that may somehow create a conducive circumstance leading to Road Traffic Accidents. Based on the available data in concerned government authority, the author of this study found that the number of accidents and casualties are horribly increasing despite the efforts made by the government and non-governmental sector. RTA related data from the fiscal year 2068/069 to the end of Mangsir 2074 showed a very gloomy picture in terms of the increasing number of seriously injured and dead people. The number of RTAs in the fiscal year 2068/069 was 8892 whereas the number of accidents reached 10013 in the fiscal year 2072/073. RTA is maintaining similar trend despite many efforts and measures to avert road accidents. 1837 people died in different RTAs in the fiscal year 2068/069 and the number of deaths reached 2006 in the fiscal year 2072/073 which is 0.1% higher than in the last fiscal year. Kathmandu valley has the highest record of 55.6% out of the total RTAs in comparison to the other regions. Attariya has the lowest RTAs at the same period. The death rate in Kathmandu valley in the fiscal year 2072/073 is 8.3% whereas Pathlaiya has the highest record of death rate which is 22.2%. Comparatively, Kathmandu valley has lower death rate in RTAs because the victims of accident get immediate medical treatment at hospitals in Kathmandu whereas such patients do not get proper treatment outside the valley.

Moreover, serious patients have to be brought to Kathmandu from all over the country for the treatment. However, increase in RTA has become a serious issue in Kathmandu valley too as all the government and private hospitals are full of patients; and they are not being able to handle their patients efficiently. Compared to the previous RTA records, the number of bike accidents has decreased due to the imposition of the strict rules and regulations against those who drive their vehicles in alcoholic condition. If we study the reason behind the increasing number of RTAs in Kathmandu valley, we find that the number of vehicles plying along the roads of the valley is unexpectedly increasing. Youths compel their parents to buy them modern motor-bikes of new fashion and modify their height, sound and looks. As a result, they encounter maximum accidents. Narrow roads that are not black- topped, negligence of drivers, deteriorating condition of vehicles and unnecessary and untimely checkups by the traffic police, and denial to obey traffic rules and regulations are also the pertinent factors leading to accidents in Kathmandu valley.

Despite the government's focus to minimize RTAs in Kathmandu valley, the number of casualties is increasing incredibly. Although the number of accidents are higher in Kathmandu in comparison to the other regions of Nepal, the number of deaths and injuries is comparatively lower due to the availability of immediate rescue service and treatment. Seriously injured people cannot get immediate treatment in most of the districts of Nepal; and there is no option to bring such patients to Kathmandu for further treatment. And even carrying seriously injured people to Kathmandu is out of the reach for general public as they cannot afford helicopter's fare. As a result, even the people with minor injury are compelled to come to Kathmandu for their final check-ups. The government of Nepal has deployed maximum number of traffic police staffs in Kathmandu velley in comparison to the other parts of Nepal.

If we study sex-based RTAs, females share one-third of the involvement in accident. Police personnel, while talking unofficially, have the opinion that maximum number of girls / women become the victims of the bike and scooter accidents in Kathmandu and outside. Generally, the person sitting on the backside of the driver has greater chances of being killed or seriously injured. Maximum accidents happen due to the negligence of the drivers. They pay no attention to driving and keep on talking or looking here and there instead of concentrating on the steering. Bike riders do not use helmet; nor do they pay attention while driving. Maximum number of casualties are due to high speed of the bike. Maximum number of drivers lack the fundamental knowledge regarding their vehicles. They are unable to handle the nominal problems that emerge during driving. As a result, they encounter accident unexpectedly. Due to the ignorance of fundamental knowledge of the machine, maximum accidents occur. In fiscal year 2068/069, 101 RTAs had occurred due to the mechanical defect; and the number increased by 20 in the fiscal year 2069/070. However, the number of RTAs due to mechanical defect decreased by 70 in fiscal year 2073/074. The number of accidents due to this reason decreased only because of the new buses and vehicles brought into the market.

Old vehicles are discarded and the passengers' choice naturally goes to the new and sophisticated vehicles. Pedestrians too are the cause of RTAs as they defy traffic rules and regulations, and cross the road carelessly. However, the number of accidents due to this cause has been decreasing every year. In the fiscal year 2068/069, the number of RTAs was 85 due to the negligence of the pedestrians which climbed down to 4 in fiscal year 2073/074.

The study of RTAs in Kathmandu valley proved that maximum number of accidents occur due to the negligence of the driver, maximum bike riders become the victims of accidents, around 33 percent females become the victims of accidents, the number of RTAs is increasing every year, the number of deaths due to accident is comparatively lower in Kathmandu valley due to the easy access of hospital and doctors; and despite heavy deployment of traffic police on the roads of Kathmandu valley, no remarkable achievement has been in hand in minimizing accidents and human casualties.

Conclusion

To sum up, Road Traffic Accident (RTA) has been really a serious problem in Kathmandu valley. Every year the number of casualties is increasing. The standard of road should be maintained and there must be coordination among the government bodies, vehicle owners, and civil society for the honest observation of traffic rules and regulations. The government should pay attention to improve the quality of roads by giving emphasis on infrastructure building. Traffic education should be included in school level curriculum so that youths may obey traffic rules and regulations. In most of the countries, long-term impacts of traffic injury are poorly documented and the impact assessment of the accidents is quite insufficient worldwide. Persons involved in road traffic incidents may develop psychological symptoms PTSD (post-traumatic stress disorder). This can lead to impairment in everyday life. The patient may perceive subjective threat to life in long term. Drivers also face many threats from physical assault to legal persecution when accidents occur.

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Using Mixed-methods Research in Health & Education in Nepal

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ABSTRACT

In the areas of health promotion and health education, mixed-methods research approach has become widely used. In mixed-methods research, also called multi-methods research, the researchers combine quantitative and qualitative research designs in a single study. This paper introduces the mixed-methods approach for use in research in health education. To illustrate this pragmatic research approach we are including an example of mixed-methods research as applied in Nepalese research.

Keywords: high low income countries, health promotion, childbirth, multi-methods, maternity care.

Introduction

In the field of health and education, and many other academic disciplines, we recognize three major research approaches. Starting with quantitative research, an approach which uses questionnaire surveys and other numerical data sources addresses the 'How many questions.' Secondly, there is qualitative research which uses interviews, focus groups, observation techniques and creative approaches to address the 'Why question.' Thirdly, we combine quantitative and qualitative research methods in mixed-methods approach. This paper outlines the mixed-methods approach for use in health and education a research in Nepal.

Outline of mixed-methods

Mixed-methods research is widely used by researchers as a pragmatic method to conduct research into education and health sectors. It involves using both quantitative and qualitative research methods, and at some point integrating the two forms of data/findings (Steckler et al., 1992). We use mixed-methods research as it gives us a more comprehensive insight into a research problem than can be provided by the qualitative or quantitative approach alone. Mixed-methods research is often referred to as pragmatic as it applies two research approaches that have distinct designs and are based a different philosophical/ theoretical underpinning (Creswell & Clark, 2010). According to Rossman and Wilson (1985), the pragmatic mixed-methods approach and accompanying worldview arises out of researchers' emphasis on the research problem and uses all approaches available to understand the problem. The history of this approach as a new methodology dates back to late 1980s and early 1990s based on the work from individuals in diverse field including sociology, health sciences, management, education (Creswell, 2013).

Mixed-methods research has become popular because of two main reasons: first, it combines both quantitative 'how many' and qualitative 'why' questions; secondly the use of mixed methods research provides stronger inference and the results of which can validate eachother. By combining both methods, the researcher can gain insight of the problem from different perspectives and is able to get answer of

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complex health problems and from broader perspective (Bryers et al., 2014). Many health studies, for example, use mixed methods in high income countries (Simkhada et al., 2014a) and is also growing in low income countries like Nepal (Bryers et al., 2014).

There are several good examples of mixed-methods studies in the education sector, for example in Special Education (Collins et al., 2006) or the teaching of Mathematics (Ross & Onwuegbuzie, 2012). We would like to highlight two particular examples to the readers. First, a systematic literature review on Pedagogy, Curriculum, Teaching Practices and Teacher Education in Developing Countries (Westbrook et al. 2013) which was conducted by the Centre for International Education at the University of Essex in the United Kingdom (UK). Westbrook et al. (2013, p.2) suggested "that pedagogic practice is developed through interaction between teachers' thinking or attitudes, what they do in the classroom and what they see as the outcome ..." However, in terms of mixed-methods this review concluded that mixed-methods studies can help fill the gap in our understanding of the way learners are assessed and the assessment's relationships to pedagogy and student learning (Westbrook et al. 2013, p.4). The second education study we would like to highlight is our own 'Accessing Research Literature: A Mixed-method Study of Academics in Higher Education Institutions in Nepal' (Simkhada et al., 2014b). The latter study used a mixed-methods approach comprising a self-administered questionnaire completed by Higher Education teachers in Nepal and informant key interviews with authorities of the Higher Education institutions where these teachers worked. Moreover, this paper describes particular study which uses mixed-methods research to explore issues around birthing centres (BCs) and maternal mental health in Nawalparasi district of Nepal. The mental health of pregnant women and new mothers in is an important issue in rural Nepal, where communities often have very traditional views of mental illness and its related problems (Van Teijlingen et al., 2015).

An example of applying mixed-methods in Nepal

Our research uses both qualitative and quantitative methods in parallel and collecting both data at the same phase of project and the results will be merged using an all encompassing worldview. The intent of this convergent parallel mixed-method, study is to evaluate the factors affecting quality of service provided by Auxiliary Nurse Midwives (ANMs) working in government (BCs. Table 1 outlines the key questions and research tools applied. In the study quantitative instruments have been used for assessment of BCs and to determine the factors affecting quality of care available at the BCs including evaluation of an intervention to improve knowledge of and attitude towards mental health issues in pregnant women and new mothers among community-based health workers in Nawalparasi. At the same time, qualitative approach will be used to explore the reasons of uptake or by passing BCs and how it could be improved including views from health care providers as well as mothers' uptake of such services from BCs. Qualitative interviews with primary health workers (ANMs) will also be used to study attendees' own perceptions of what they have learnt, e.g. on aspects of problem recognition and improved decision-making for women who need to see experienced health (mental health) professionals. The reason for combining both quantitative and qualitative data is to better understand the quality of care and mental health issues by converging quantitative data about responsible factors as well as qualitative data of taking in account view of both mothers and health care providers. This will help to identify and compare different perspective drawn from qualitative as well as

quantitative data. Convergent parallel mixed methods approach suits best for this research since efficient data collection for both the quantitative and qualitative data occurs at roughly the same time rather than at different times that require more visits at the research site.

Table 1: *Methods and study variables in maternity study*

Women in the community:	**Method used:**
Self-reported antenatal care uptake	Quantitative: questionnaire study
Self-reported use on birthing centres	Quantitative: questionnaire study
Knowledge, attitudes and beliefs of maternity care, issues & staff	Quantitative: questionnaire study +Qualitative interviews & focus groups
Community-based maternity staff:	
Use of birthing centre by local women	Quantitative: study of health care records
Knowledge, attitudes & beliefs of maternity care, pregnancy & mental health.	Qualitative interviews
Knowledge, attitudes and beliefs of maternity care in birthing centres.	Qualitative interviews

Advantage of using mixed-methods for this research

This mixed-methods study makes a very good use of resources as part of the quantitative data generated in the survey of women with a child under the age of two used by two different evaluation studies and one study on assessment of quality of BCs. This means women have not been overburdened by researchers. The questionnaire has been used before in several previous studies, although a few questions have been added specifically on (a) mental health & pregnancy and (b) birthing centre later.

Understanding complex issues related to maternity care and mental health from different perspectives requires combining of methods which can be achieved by the use of mixed-methods research. In addition, it also provides better and confident results because of use of triangulation as findings are corroborated or supported by different methods (Bryers et al., 2015). Use of mixed-methods in this context will reduce bias and increase validity.

Disadvantages of using mixed-methods for this research

Due to use of both qualitative and quantitative approach to this research it is more time consuming than using only one method. The time while conducting the research including data collection and analysis increased and it, however, cost more. Finally, it is important to remember that a mixed-methods research project needs people with expertise in qualitative and qualitative research and expertise in combining findings generated by these two methods.

As we have to focus on conducting questionnaire study along with taking interviews, it might lead to smaller sample in the questionnaire or fewer interviews as the attention and the resources are divided between these two methods.

Conclusion

Mixed-methods is often used for understanding complex issues in society and is a pragmatic approach since it uses both qualitative and quantitative or other methods together to support the findings. Using mixed-methods for this research is justified since both maternity decision making and mental health are complex issues and it needs to be understood from different perspectives. Although there are disadvantages to using mixed-methods for this study the advantages override them.

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Child Marriage and Physical Violence: Results from a Nationally Representative Study in Nepal

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ABSTRACT

Child marriage is a significant public health concern especially in developing countries. This study examines the prevalence and factors influencing the physical violence among married women in Nepal. More specifically, this paper aims to investigate whether child marriage has an effect on married women's experience of physical violence by their husbands. Data were drawn from the Nepal Demographic and Health Survey, 2016, involving currently married women aged 15–49 years who had participated in the domestic violence module (n=3447). Weighted percentages were calculated to examine the age at marriage for experiencing physical violence from their husband. A multivariate logistic regression model was used to assess risk factors of physical violence due to child and early marriage. After controlling individual, household and community characteristics, this study found that lower age at marriage had increased odds of women experiencing physical violence by their husband. It is found that women who got married at less than 15 years, 15-17 years, 18-19 years were 2.3 times (adjusted OR=2.33), 1.68 times (adjusted OR=1.68) and 1.64 times (adjusted OR=1.64) respectively more likely to experience violence by their husbands than those who got married at the age of 20 years or later. Child and early marriage puts women at increased risk of physical and sexual violence. Government agencies need to strictly enforce existing law on the minimum age at marriage to reduce violence from their husband and increase quality of life of women and family.

Keywords: child marriage, physical violence, husband, women's autonomy

Introduction

Child marriage is a significant public health concern for girls, families and their communities. Child marriage is defined as a formal marriage or informal union before the age of 18 (UNICEF, 2014). The largest total number of child brides resides in South Asia (Parsons et al, 2015). Data indicate that 1 in 3 women currently aged 20-24 in the developing countries has married before the age of 18 (UNFPA, 2014). The Sustainable Development Goals (SDGs) target 5.3 aims to eliminate all harmful practices, such as child, early and forced marriage (NPC, 2015).

Child marriage has been illegal in Nepal since 1963. So, a arranging a child marriage or marrying a child is also punishable by law. The legal age of marriage is 20 years for both men and women, according to the Nepalese Country Code. However, it still remains a serious social ill practice in Nepal. Study showed that two in five girls (40%) aged 20-24 got married before 18 years and seven percent got married before the age of 15 (MoH, New ERA and ICF, 2017). Child marriage is highly prevalent in the Terai region bordering India, as well as in the Far and Mid-Western regions. The tendency of child marriage is decreasing in Nepal, but it is still very high compared to the situation in other countries.

Child marriage denies the young an opportunity to grow and empower themselves. Child marriage undermines efforts to improve child health and survival, to reduce maternal mortality, and to achieve universal primary education. On the other hand, it increases exposure to sexually transmitted infections (STIs), including HIV (Nour, 2006; Clark, 2004; Glynn et al., 2001). In addition to health concerns, child marriage introduces other pernicious effects. Marriage often means the end of a girl's education and reduction in other opportunities. Although the practice affects both sexes, girls are usually more affected than boys (Erulkar, 2013). Studies in India (Santhya et al.,

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2006; ICRW 2011), Nepal (Bajracharya and Amin, 2010), and Bangladesh (ICRW and Plan, 2013) find that girls from poor households are significantly more likely to marry early. Child marriage leads to pregnancy and childbirth before they have reached physical maturity, a circumstance that often produces serious physical trauma, psychological disturbance, and sometimes lifelong physical and/or emotional incapacities. A study found that ninety percent of early first births happen within the context of child marriage, and girls between 15 and 19 years of age are far more likely to experience complications during pregnancy and childbirth than those over twenty (Erulkar, 2013; Murphy and Carr, 2007).

Gender-based violence takes many forms and can occur throughout the life cycle. Child marriage is, in itself, recognized as a form of gender-based violence by the United Nations and many governments, and the practice can also perpetuate other forms of gender-based violence. Violence in childhood and later can also affect girls' and women's abilities to fully benefit from and participate in schooling and employment, thus constraining their lifetime opportunities for education and career. Violence not only affects the girls and women experiencing it and their families, but also can spiral across generations (Solotaroff and Pande, 2014). Studies conducted in India, Bangladesh and Pakistan showed that child marriage and early marriage are known risk factors for intimate partner violence (Nasrullah et al., 2014; Oshiro et al., 2011; Rahman et al., 2014; Raj et al., 2010; Santhya, 2011; Speizer and Pearson, 2011). Studies found that women who have experienced violence are significantly more likely to experience problems such as fear of intimacy, lack of sexual pleasure, and anxiety about sexual performance than other women (De Visser et al., 2007; Najman et al., 2005). The prevalence of STI and HIV/AIDS has been found high among the women who have faced violence (De Visser et al., 2007; Campbell et al., 2008). Women who have experienced violence are more likely to smoke cigarettes and indulge in excessive alcohol consumption (Maharaj et al., 2007; Hughes et al., 2001) and have poorer physical health (Campbell, 2002) and poorer psychological health (De Visser et al., 2007, Maharaj et al., 2007).

This study is an attempt to examine the prevalence and factors influencing the violence among married women in Nepal. More specifically, this paper aims to investigate whether child marriage has an impact on married women's experience of physical violence by their husband. In addition, this paper also aims to fill the knowledge gap in the literature regarding child marriage and violence. The finding of this paper also helps reproductive health program planners and policy makers to understand the various factors influencing gender based violence so as to implement reproductive health programmes that increase women's age at marriage and decrease violence by their husband. Although a few studies on child marriage and its effect in experiencing violence do exist, this type of research has not yet been undertaken in Nepal as far as our knowledge.

Methods

This paper uses secondary data from the Nepal Demographic and Health Survey (NDHS), 2016, a nationally representative sample survey. The primary objective of the 2016 NDHS is to provide up-to-date estimates of basic demographic and health indicators. The NDHS provides a comprehensive overview of population, maternal, and child health issues in Nepal. The study protocol was approved by the Nepal Health Research Council and the ICF Macro Institutional Review Board in Calverton, Maryland, USA. All respondents had provided verbal informed consent to be interviewed prior to data collection. The survey was carried

out under the aegis of the Population Division of the Ministry of Health and Population. For this study, we used publicly available dataset from the website of DHS (MoH, 2017).

Interviews were completed for 12,862 women of reproductive age. The analysis of this paper is confined to the currently married women aged 15-49 years who had participated in the domestic violence module (n=3447). Details of the methodology and questionnaire used in the survey can be found in the published report of Nepal Demographic and Health Survey (MoH et al., 2017).

The dependent variable of this study is the experience of physical violence, measured in terms of whether or not women had experience of physical violence in their life time by their husband. The main independent variable is 'age at marriage'. It is categorized into four categories i.e. below 15 years, 15-17 years, 18-19 years; and 20 years or above. Individual characteristics of women, socio-economic characteristics of the household and community level characteristics were used as control variables in this study. Physical violence was measured by asking women if their husband ever did: push you, shake you, or throw something at you; slap you; twist your arm or pull your hair; punch you with his/her fist or with something that could hurt you; kick you, drag you, or beat you up; try to choke you or burn you on purpose; or threaten or attack you with a knife, gun, or any other weapon.

Weighted percentages were calculated to examine the age at marriage for experiencing physical and sexual violence from their husband. A multivariate logistic regression model was used to assess risk factors of physical and sexual violence due to child marriage. Prior to the multivariate analysis, multi-colinearity between the variables was assessed. The analysis found that age of the women and number of children born were highly correlated (r=0.67). Therefore age of women was removed from the logistic regression model.

Two logistic regression models have been used in the analysis. The first model contained the variable related to the age at marriage as the main independent variable. In the second model, individual characteristics of women (age, education, women's autonomy, working status), household characteristics (ethnicity, religion, wealth status) and community characteristics (province and place of residence) were added to examine the net effect of the age at marriage on experience of physical violence by their husband after controlling the individual, family and community characteristics. The Statistical Package for Social Science (SPSS 20.0 for Windows) software was used to analyze the data.

Results

Background Characteristics of Currently Married Women

Despite a legal minimum age of marriage at 20, or 18 with parental consent, more than half of women (55%) who had participated in the domestic violence module had got married before 18 years. On the other hand, only about a quarter of the women (24%) got married at 20 years or above. Almost a quarter of the married women (24%) were youth aged 15-24. A considerable proportion of the women (24%) had four or more children. More than two in five women were illiterate (42%) and less than two in five women (39%) had high autonomy in household decision. More than three in five (61%) were working. Almost two in five women (36%) were from Janajati ethnic background followed by Brahmin/ Chhetri (30%). An overwhelming majority of the women were Hindu (86%). More than one fifth of the women (22%) had experienced physical violence and about seven percent of women had experienced sexual violence by their husband (Table 1).

Table 1. *Background characteristics of currently married women*

Background characteristics	%	N
Age at marriage		
Less than 15	11.4	393
15-17	43.3	1492
18-19	20.9	721
20 and above	24.4	841
Age group		
Less than 25 years	23.8	820
25-34	37.6	1294
35 or above	38.7	1333
Total children ever born		
None/one	29.6	1020
Two	28.4	978
Three	17.6	606
Four or more	24.4	843
Education		
No education	41.5	1430
Primary	18.4	634
Secondary or above	40.1	1383
Women's autonomy in household decision		
No autonomy	26.3	906
Moderate autonomy (involved in 1-2 issues)	34.6	1193
High autonomy (involved in all 3 issues)	39.1	1348
Currently working	60.6	2090
Caste/Ethnicity		
Brahmin/Chhetri	30.1	1037
Janajati	35.9	1238
Dalit	13.4	463
Other	20.6	710
Religion		
Hindu	86.3	2975
Buddhist	5.3	183
Muslim	4.9	168
Kirat/Christian	3.5	121
Province		
Province 1	16.8	578
Province 2	22.2	766
Province 3	19.0	657
Province 4	9.9	340
Province 5	17.3	595
Province 6	6.2	214
Province 7	8.6	296
Place of residence		
Urban	60.1	2073
Rural	39.9	1374
Wealth index		
Poor	37.4	1287
Middle	21.2	730
Rich	41.5	1430
Experience of physical violence by husband	22.1	763
Experience of Sexual violence by husband	6.7	231
Total	100.0	3447

Forms of violence

It was found that a fifth of women (20%) were slapped by their husband followed by pushing, shocking or throwing something to them (11%). Almost a tenth of the women reported that their husbands kicked or dragged (9%) and ever had arm twisted or hair pulled (9%). Similarly, six percent of women reported that their husband physically forced into unwanted sex (Table 2).

Table 2. *Experience of physical violence among currently married women by their husband*

	%	N=3447
Ever been slapped by husband	19.9	687
Ever been pushed, shook or had something thrown by husband	11.3	392
Ever been punched with fist or hit by something harmful by husband	7.8	270
Ever been kicked or dragged by husband	8.7	302
Ever been strangled or burnt by husband	3.4	117
Ever been threatened with knife/gun or other weapon by husband	1.8	63
Ever been physically forced into unwanted sex by husband	6.1	212
Ever been forced into other unwanted sexual acts by husband	2.5	88
Ever had arm twisted or hair pulled by husband	8.8	306
Ever been physically forced to perform sexual acts respondent didn't want to	3.5	121
Physical violence by husband (at least one form of physical violence)	**22.1**	**763**

Bivariate Analysis

Child marriage is one of the important factors that had a significant positive effect on increasing physical violence. Experience of physical violence was significantly higher among those who got married at earlier age (experience of physical violence was 34% among the women who got married before 15, 25% among those who got married at 15-17 years and 21% among those who got married at 18-19 years). Experience of physical violence was lower among those who got married at the age of 20 or above (12%). Experience of violence was significantly higher among those women who were aged 35 or over (25%), who were illiterate (31%) and who were from Dalit (31%) caste. Similarly, women who followed Muslim religion had significantly higher experience (34%) of violence than other religious groups and castes. Likewise, significantly higher percentage of women who lived in province 2 (34%) and rural area (34%) had experienced more violence. A higher percentage of women form middle wealth family (27%) than poor (24%) and rich (18%) had experienced violence from their husband (Table 3).

Table 3. *Experience of physical violence by their husband according to background characteristics of currently married respondents*

	Physical violence by husband		Total	
	No	Yes	%	N
Age at marriage	***			
Less than 15	66.5	33.5	100.0	393
15-17	74.8	25.2	100.0	1492
18-19	78.7	21.3	100.0	721
20 and above	87.8	12.2	100.0	841
Age group	***			
Less than 25 years	83.1	16.9	100.0	820
25-34	77.4	22.6	100.0	1294
35 or above	75.1	24.9	100.0	1333
Total children ever borne	***			
None/one	85.9	14.1	100.0	1020
Two	79.8	20.2	100.0	978
Three	70.0	30.0	100.0	606
Four or more	71.4	28.6	100.0	843
Education	***		***	
No education	69.4	30.6	100.0	1430
Primary	76.6	23.4	100.0	634
Secondary or above	87.2	12.8	100.0	1383
Women's autonomy in household decision	Ns			
No autonomy	76.6	23.4	100.0	906
Moderate autonomy (involved in 1-2 issues)	79.0	21.0	100.0	1193
High autonomy (involved in all 3 issues)	77.7	22.3	100.0	1348
Currently working	Ns			
No	79.0	21.0	100.0	1357
Yes	77.1	22.9	100.0	2090
Ethnicity	***			
Brahmin/Chhetri	88.5	11.5	100.0	1037
Janajati	79.7	20.3	100.0	1238
Dalit	68.8	31.2	100.0	463
Other	65.1	34.9	100.0	710
Religion	***			
Hindu	77.8	22.2	100.0	2975
Buddhist	89.4	10.6	100.0	183
Muslim	66.5	33.5	100.0	168
Kirat/Christian	76.1	23.9	100.0	121
Province	***			
Province 1	82.7	17.3	100.0	578
Province 2	66.1	33.9	100.0	766
Province 3	79.3	20.7	100.0	657
Province 4	88.1	11.9	100.0	340
Province 5	76.4	23.6	100.0	595
Province 6	85.5	14.5	100.0	214
Province 7	81.1	18.9	100.0	296
Place of residence	*			
Urban	79.0	21.0	100.0	2073
Rural	76.1	23.9	100.0	1374
Wealth index	***			
Poor	76.5	23.5	100.0	1287
Middle	72.8	27.2	100.0	730
Rich	81.7	18.3	100.0	1430
Total	**77.9**	**22.1**	**100.0**	**3447**

Note *** Significant at $p < 0.001$; ** = $p < 0.01$ and * = $p < 0.05$, ns=not significant

Multivariate Analysis

Unadjusted and adjusted odds ratios are estimated (Table 4). In first model, only one variable i.e. age at marriage was included to examine the effect of child marriage on women's experience of violence by their husband. Lower age at marriage had increased odds of women experiencing violence by their husband. It was found that women who got married at 18-19 years, 15-17 years and less than 15 years were 1.9 times (OR=1.93), 2.4 times (OR=2.41) and 3.6 times (OR=3.61) respectively more likely to experience violence by their husband than those who got married at the age of 20 or later.

In the second model, other individual, family and community characteristics were added to assess the net effect of age at marriage (child marriage) on the dependent variable (i.e., experience of physical violence by husband). After controlling other variables, it was found that women who got married at less than 15 years, 15-17 years, 18-19 years were 2.3 times (adjusted OR=2.33), 1.68 times (adjusted OR=1.68) and 1.64 times (adjusted OR=1.64) respectively more likely to experience violence by their husbands than those who got married at the age of 20 or later. The slight reduction of the odds ratio of age at marriage in second model indicates that other individual, family and community variables are also important predicators for experiencing violence.

In addition to age at marriage, age of women, education of women, current working status, ethnicity, religion, province, and wealth status were also significant predicators for experiencing violence among women by their husband. Education of women has a negative and statistically significant impact on experiencing violence by their husband. For example, women who had primary and secondary or more education were 23% and 39% respectively less likely to experience violence (primary education aOR=0.87 and secondary or above aOR=0.61) than women who were illiterate. Buddhist women were 61% less likely (aOR=0.39) to experience violence from their husband than Hindu women. Similarly, women from rich family were 27 percent less likely (aOR=0.73) to experience violence than poor women. On the other hand, women who were working were more likely to experience violence (aOR=1.24) than women who were not working. Similarly, women who were from Janajati (aOR=2.01); Dalit (aOR=2.72) and other castes (aOR=3.16) were more likely to experience violence from their husband than women from Brahmin/ Chhetri caste. Women who lived in province 3 were more likely to experience violence from their husband (aOR=1.48) than women in province 1. This study did not find significant association between women's autonomy in household decision, urban/rural residence, and experience of violence (Table 4).

Table 4. *Unadjusted and adjusted odds ratio from logistic regression model of experiencing physical violence by individual, households and community characteristics*

Selected predicators	Model I			Model II		
	Unadjusted OR	Lower	Upper	Adjusted OR	Lower	Upper
Age at marriage						
Less than 15	3.61***	2.69	4.84	2.33***	1.69	3.21
15-17	2.41***	1.90	3.06	1.68***	1.29	2.18
18-19	1.93***	1.47	2.54	1.64***	1.26	2.24
20 and above *(reference)*	1.00			1.00		
Age group						
Less than 25 years *(reference)*				1.00		
25-34				1.42**	1.11	1.84
35 or above				1.44*	1.09	1.89
Education						
No education *(reference)*				1.00		
Primary				0.87*	0.68	0.97
Secondary or above				0.61***	0.47	0.78
Women's autonomy in household decision						
No autonomy *(reference)*				1.00		
Moderate autonomy (involved in 1-2 issues)				0.98	0.78	1.22
High autonomy (involved in all 3 issues)				0.90	0.72	1.13
Currently working						
No *(reference)*				1.00		
Yes				1.24*	1.03	1.49
Ethnicity						
Brahmin/Chhetri *(reference)*				1.00		
Janajati				2.01***	1.55	2.59
Dalit				2.72***	2.02	3.68
Other				3.16***	2.24	4.44
Religion						
Hindu *(reference)*				1.00		
Buddhist				0.39***	0.23	0.65
Muslim				0.86	0.59	1.26
Kirat/Christian				1.06	0.67	1.67
Province						
Province 1 *(reference)*				1.00		
Province 2				1.32	0.96	1.83
Province 3				1.48*	1.08	2.01
Province 4				0.67	0.45	1.02
Province 5				1.25	0.92	1.70
Province 6				0.76	0.48	1.22
Province 7				1.09	0.74	1.63
Place of residence						
Urban *(reference)*				1.00		
Rural				0.90	0.75	1.08
Wealth index						
Poor *(reference)*				1.00		
Middle				0.97	0.77	1.22
Rich				0.73**	0.58	0.91
Constant		***0.140******			***0.082******	
Cox & Snell R Square		***0.026***			***0.089***	
-2 Log likelihood		***3556.02***			***3323.94***	

Note *** Significant at $p < 0.001$; ** = $p < 0.01$ and * = $p < 0.05$

Discussion and conclusion

This study is an effort to examine the prevalence and factors influencing the violence among married women in Nepal. More explicitly, this paper aims to look into whether child marriage (age at marriage) has an impact on women's experience of physical violence by their husband.

This study found that child marriage is widespread in Nepal. This study also found that child marriage is one of the important factors contributing to increase physical violence. Experience of physical violence was found significantly higher among those women who got married at earlier ages (which was found 34% among women who got married before 15, 25% among those who got married at 15-17 years and 21% among those who got married at 18-19 years). On the other hand, experience of physical violence was lower among those who got married at the age of 20 or above (12%). Multivariate analysis also supported the fact that child marriage increased odds of women experiencing violence by their husband after controlling all the individual, family and community characteristics.

This study found that child marriage has been associated with a higher risk of violence against women. This could be due to the fact that the girls who marry at child age may be more powerless than older married women to defend themselves (Solotaroff and Pande, 2014). The findings are similar to the study conducted in India (Raj et al., 2010; Speizer and Pearson, 2011), Pakistan (Nasrullah et al., 2014) and Bangladesh (Rahman et al., 2014).

The main strength of this study was the use of a nationally representative data set. However, there are some limitations in this investigation. First, because of the cross-sectional design and the nature of the items used in the logistic regression analysis, the study can only provide evidence of statistical association between those items and experience of violence, and this cannot show cause-effect relationships. Secondly, all measures were self-reported. Thus, responses may have been biased by recall errors or intentional misreporting of behavior.

In conclusion, this study found that child marriage is common in Nepal. Although child marriage is a violence in itself, this study also found that child marriage is one of the important factors that had a positive effect on increasing experience of physical violence by their husband. Programmes should focus on creating positive change at the individual and community level around attitudes towards the value of girls in society. This can be done by mobilizing and sensitizing communities and individuals about the harmful effects of child marriage. Programmes should be designed to shift the harmful beliefs around the acceptability of child marriage and other forms of violence.

Acknowledgments

The author thanks MEASURE DHS + for providing access to the data. Author would also like to thank reviewers who provided their valuable suggestion to improve this manuscript.

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Health Service Providers' Behaviors toward Youth Clients

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ABSTRACT

This study has attempted to assess the behavior of health service providers during delivering the services to school and college going youths. The study followed the descriptive study design and it was based on quantitative data. The study utilized self administrated questionnaire for 249 college and school going youths aged 10 to 24 of secondary level in Surkhet valley. The study applied simple random sampling strategy to select the participants from selected area. The researcher determined the sample size by using Raosoft Sample Size Calculator. It was found that about one-third (36.94%) of the total recruited youths had utilized YFRH services. It was also found that 60% of them who had utilized the services reflected that the service providers were not friendly and welcoming. Forty percent youths noted that the service providers were judgmental and unfriendly. Almost all participants indicated that young people usually come to the service provider with considerable fear, often with worry about privacy and confidentiality. Majority (54.35%) of youths claimed that operating time of the service was inconvenient. Majority reported that the time spent by the service provider was very short and waiting time to meet the providers was too long. Majority (51.08%) reported that the time spent by the providers was very short. This study concludes that the behavior of the service provider seems unfriendly and unwelcoming for youth clients. This constitutes key deterrents to care seeking and the violations the human right. Addressing the service provider behaviors is, therefore, critical and significant.

Keywords: youth friendly, sexual and reproductive health service, behavior of the service providers, utilization.

Background

According to World Health Organization, youths are defined as persons between 15 and 24 years of age and are characterized by significant physiological, psychological and social changes that place their life at high risk. Globally, adolescents (age 10-19) and young people (age10-24) account for nearly one fifth (18 percent) and one - quarter (26 percent) of the total population, respectively (UN, 2011). Nepal's population has a young structure. Approximately, 34.91 percent of the total population is under age 14 and an additional 11.07 percent is between the ages of 15 and 24. Altogether, adolescents and youths between the ages of 10 to 24 comprise approximately 24.2 percent of Nepal's population (CBS, 2012). In Nepal's population, adolescents (age 10 -19) and young people (age 10- 24) comprise an even larger proportion of the population—adolescents 24 percent and young people 33 percent, respectively (MoHP, 2011). Surkhet district population has also young structure. According to CBS (2012), approximately, 25.2 percent of the total population is ages of 10 to 24 years in Surkhet.

Youth friendly reproductive services could be defined as high quality health services that are relevant, accessible, attractive, affordable, appropriate and acceptable to the youth. Services can be said to be youth-friendly if they have policies and attributes that attract young people to the facility or program and provide them with a comfortable and appropriate setting (FRESH Tools of Effective School Health, 2004). These types of services meet the needs of students and young people and encourage them to follow up their visits. These services respond positively to young people's needs. IPPF (2008) summits the elements such as friendly policies, friendly health service providers and support staff, friendly service

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delivery mechanisms such as convenient hours, privacy and comprehensiveness of services have been cited as essential for youth-friendly service provision

Nepal, as a signatory of the ICPD Plan of Action (1994), has recognized sexual and reproductive health as a crucial aspect of overall health. The Government of Nepal, Ministry of Health and Population has prepared and implemented the National Reproductive Health Strategy and Plan of 1998, Family Health Division (FHD) developed the National Adolescent Health and Development (NAHD) Strategy in 2000, and Implementation Guidelines on adolescent sexual and reproductive health (ASRH) was also developed in 2007. National ASRH Program Implementation Guidelines 2011 were developed. RHIYA (Reproductive Health Initiative for Youth in Asia) program in Nepal incorporated ASRH pilot program in 26 health facilities of Baitadi, Bardiya, Surkhet, Dailekh and Jumla districts. The National Health Training Center (NHTC) has already provided training on ASRH issues to service providers of health facilities in all the 75 districts (Family health division, 2011).

The negative behavior of service providers toward youth usually is a major constraint to service provision. Many service providers do not fully understand the psychosocial context in which adolescents live because they may not have had sufficient interaction with youth or have not had training specifically related to young people. When providers have a basic understanding of both issues and health needs specific to youth, such as the risks of pregnancy at an early age, the increased biological vulnerability of young women to HIV and other STIs, and the unique factors that influence decisions about contraceptive methods during adolescence, they can build communication and counseling skills to establish a better sense of trust between the client and service provider (Engender Health, 2002). Health service providers are non judgmental and considerate in their dealings with adolescents; and they have the competencies needed to deliver the right health services in the right way. Health facilities are equipped to provide adolescents with the health services they need; and are also appealing and 'friendly' to adolescents (World Health Organization, 2012).

Behaviors of the health service provider has been major concerned in western countries and the problem is largely existed in Nepal. While there has been increased attention to YFRHS, few studies have been conducted among youths concerning sexual and reproductive health. No systematic studies have found Nepal to assess what behavior of YFRHS providers are most necessary. Unfriendly behavior of health service provider is still existed in Surkhet but it has not been studied yet. It is these revelations that prompted this study. So, this paper tries to assess the behavior of health service providers during delivering the services to school and college going youths.

Methods

This study followed the descriptive research design and is based on quantitative nature of data. Secondary and higher secondary schools, university located in Surkhet valley were a study area for the study. All school and campus going youths aged 10-24 were the study population of the study.

Four public higher secondary schools were randomly selected using a list provided by the District Education Office. The Mid Western University was included as a sample in this study. Using Raosoft Sample Size Calculator, the number of youths were counted 249 (8%) in total of 3,109. The student participants were selected from each school and university using

lottery method of random sampling method. The study employed the self-administered structured questionnaire to collect data from the secondary school and university/college going youths.

Result and Discussion

This section displays result and analysis of the study findings obtained among the participants. The study focuses on the simple description of personal descriptions of youths' utilization of youth friendly reproductive health services and behaviors of the service providers.

Result

The result of this study is presented in following subheadings.

Utilization of YFRHS

Youth friendly reproductive service is vital for ensuring sexual and reproductive health and well being of the youths. The ability to consume services and to incorporate economic, geographic location, abundance of health services, physical and social resources or usage of the youth friendly reproductive health services is called utilization. Many factors, such as medical and non medical determine the utilization of YFRHS. Most of the youths of this study were found not utilizing YFRHS. Table No. 2 shows the responses of the youth respondents of aged 10-24 years toward YFRHS utilization.

Table 1. Utilization of YFRHS reported by youths

Description	Category	Frequency (N)	Percentage (%)
Utilization	Yes	92	36.95
	No	157	63.05
Total		249	100

The result indicates that majority of them 157 (63.05%) did not utilize YFRHS. Only 92 (36.95 %) of youths constitutions about one-third of the total recruited adolescents had utilized YFRH services. This indicates the low utilization of the services by youths.

Behavior of the medical service provider

Behavior of the health care provider is a most important feature of a youth friendly reproductive service. Young people must feel ease and have no qualms about talking of their needs and concerns. A provider must have interpersonal skill and ability to speak the same language as the young people attending in the clinic. In addition to those providing counseling and medical services to adolescents, other staff members should demonstrate positive attitudes towards these clients and focus on young people's special concerns. Particularly important is the attitude of the receptionist, who is usually the first point of contact (FRESH Tools of Effective School Health, 2004). Friendly provider is someone who is good friendly and welcome, non judgmental and who understands youths, who keeps confidentiality, who gives adolescents adequate time and he is trained in SRH and counseling.

Table 2. *Behavior of health care providers noted by youths*

Description	Category	Yes (%)	No (%)
Behavior	Good-Friendly and welcoming	37 (40.00)	55 (60.00)
	Moderate-welcomed	18 (19.56)	74 (80.44)
	Asked too many unnecessary questions	23 (25.00)	69 (75.00)
	Bad, he/she was harsh and rude	14 (15.22)	78 (84.78)
	Proudly nature	9 (10.00)	82 (90.00)
	Talking with domination	20 (21.73)	72 (78.27)
	Judgmental and unfriendly	38 (41.31)	54 (58.69)
	Spending short time	51 (55.44)	41 (44.56)

Table no. 2 shows the behaviours of the service providers noted by youths. Majority (60%)

of them who utilized the services noted that the service provider were not friendly and welcoming and most of youths (80.44%) pointed out that they were not moderate welcomed.

The data shows that only 40 percent youths who utilized the services felt that the providers were good friendly and welcoming. Only, 19.56 percent youths reported that they were moderate welcomed, 25 percent youth noted that the service provider asked too many unnecessary questions, 15.22 percent said they were harsh and rude, 10 percent said proudly nature and 21.73 percent said talking with domination. Likewise, huge portion (41.31%) of youths noted that the providers were judgmental and unfriendly. Majority (55.44%) of youths who utilized the services felt that the service providers were spending short time.

Privacy and confidentiality maintain

Privacy and confidentiality are extremely important to young people. Counseling sessions and examinations must be private, and young people must feel confident that their concerns will not be spoken to others (FRESH Tools of Effective School Health, 2004). Out of total, 92 youths, majority (65.22%) reported that health providers were provided service with privacy and confidentiality honored and it has been noted more than one third (34.78%) of them provided services without privacy and confidentiality honored.

Table 3. *Responses of youths about privacy and confidentiality at YFRHS*

Description	Category	Number	Percentage
Privacy and confidentiality honored	Yes	60	65.22
	No	32	34.78
Total		92	100

It is interesting to note that about two third (65.22%) of the youth clients described that privacy and confidentiality is extremely maintained by the provider. However, other participants reported that the providers could not reassure privacy to young people particularly in case of unmarried girls.

Convenient of operating time

Opening clinics at times when young people can conveniently attend, i.e. late afternoons, evenings, and weekends, is a must for to effective recruitment. Whilst young people needing urgent care may be willing to leave class, those who need prevention services (but may be unaware of how important they are) are more reluctant to take the time off (FRESH Tools of Effective School Health, 2004)).

Majority of the youth participants (54.35%) claimed that reproductive health services, working hours, day and operating time were inconvenient. Only 45.65 percent youths noted that reproductive health services working hour, visiting days and operating times are convenient.

Table 4. *Convenient of operating time / visiting day/hours*

Description	Category	Number	Percentage
Operating time	Convenient	42	45.65
	Not convenient	50	54.35
Total		92	100

Government health care organizations operate the service from 10.00 am to 4.00 pm daily Sunday to Friday. It is truth that all the services were opened within the same time of school. So, the time is inconvenient for the secondary level‘s students.

Respect to youths by the medical service provider

Respect can be fostered within a training exercise; however, some providers bring deeply entrenched biases against adolescent sexual activity to their job or find it difficult to relate to adolescents with respect (FRESH Tools of Effective School Health, 2004)).

About 60 of youths (58.70 %) claimed that the service providers did not respect to youths during visit where by 39.14 percent youth felt that the service providers respect them.

Table 5. *Responses of participants about respect to youth by the providers*

Description	Category	Yes (%)	No (%)
Respect to youths	Yes	36 (39.14)	56 (60.86)
	A little bit	20 (21.74)	72 (78.26)
	No	38 (41.30)	54 (58.70)

It indicates that the service providers were not respectful to youths. They were always harassed and dominated.

Time spent for youth clients

Students and young people tend to need more time than adults to open up and reveal personal concerns (FRESH Tools of Effective School Health, 2004). Results revealed that 55.44 percent out of 92 stated that the time spent for youth client and provider's interactions was below 5 minutes. Few (19.56%) stated that the time spent by the service providers was 5-10 minutes and however 25 percent reported that the time spends by service provider is more than 10 minutes.

Table 6. *Time spent for youth clients by the service providers*

Description	Category	Number	Percentage
Time spent for client	Below 5 minutes	51	55.44
	5-10 minutes	18	19.56
	More than10 minutes	23	25.00
Total		92	100
Responses of the client time spent by the provider	Too short	47	51.08
	Appropriate	34	36.96
	To long	11	11.96
Total		92	100

Majority (51.08%) of respondents reported that the time spent by the service providers was very short. Only 36.96 percent noted that the time spent by the service provider was appropriate and few (11.96%) reported that the time spent by the service provider was too long.

It is interesting to note that most of the youths said, the time spent by the service providers were maintained privacy during the consultation. However, majority of the youths mentioned that they had below 5 minutes interaction with the service provider, which was perceived by them as too short. It indicates that the privacy and confidentiality is under maintained by the service providers.

Waiting time to meet the service providers

Young people do not like to wait a long time for attention in a clinic and may even choose not to wait. They may even tell their peers about this, which gives the facility a bad reputation and dissuades future clients (FRESH Tools of Effective School Health, 2004).

Table 7. *Waiting time of youth to meet the service providers*

Description	Category	Number	Percentage
Waiting time	Below 10 minutes	14	15.22
	10 – 20 minutes	14	15.21
	More than 20 minutes	64	69.57
Total		92	100
Responses of the client waiting time to meet the provider	Too short	17	18.47
	Appropriate	27	29.35
	Too long	48	52.18
Total		92	100

Data revealed that 15.22 percent out of 96 youths stated that they waited for less than 10 minutes and 10 -20 minutes. Whereby, most (69.57%) of respondents stated that they waited for more than 20 minutes to meet the service providers.

As regards the responses of the youths waiting to meet the provider, majority (52.18%) stated that waiting time to meet the providers was too

long, 29.35 percent stated, appropriate and only 18.47 percent stated, it was too short. This data show that the waiting time of youths to meet the providers seems too long and truth is that youth have to be in queue to take the service.

People present in the room at the time of consultation with the service providers

Offering separate space, special times, or both seem important for some young people, such as first-time clinic users, students who are not sexually active and marginalized students who are especially suspicious of mainstream health care (FRESH Tools of Effective School Health, 2004).

Table 8. *Responses of youths about people present in the room at the time of youth consultation with the service providers*

Description	Category	Number	Percentage
People present	Nobody (separate)	64	69.56
	Other people present (common)	28	30.44
Total		92	100

Data showed that most (69.56%) youths stated that nobody was presented during the consultation with the service providers and about 30 (30.44%) reported that other people were also presented during the consultation with the providers.

Improvement in SRH concerns and problems after visiting the service providers

In the present study, the overall youth clients' satisfaction with the service providers was assessed as perceived by them. It has been found the majority (58.69%) were dissatisfied with the services availed or they reported that their SRH problems and concerns were not improved after visiting the service providers, and only 41.31 percent out of 92 youths were satisfied with the services availed or their SRH problems and concerns were reduced after visiting with the service providers.

Table 9. *Improvement in SRH concerns and problems after visiting the service providers*

Description	Category	Number	Percentage
Improvement	Yes	38	41.31
	No	54	58.69
Total		92	100

It has been found, majority of youths claimed that they were dissatisfied and their SRH problems and concerns were not improved after visiting the service provider. There may be some reasons behind it and one is unfriendly behavior of the service providers.

Discussion

The medical health service providers' behaviours have a considerable influence on adolescent and youth's utilization of YFRHs. It also influences a youth's perception of the service, and thereby decision to utilize and ability to access appropriate and adequate YFRHs. This study has tried to seek to understand these issues in adolescents and youths in study area. Lack of experimental and intensive study in this topic is especially remarkable in the context of Nepal. No study found related to YFRHs providers behavior.

Evidences synthesized from the study shows most of youths/ adolescents were found not utilizing YFRHS and this indicates that the low utilization of YFRHs in youths/ adolescents. This study also identifies the behaviours of YFRHs providers noted by the adolescents/ youths. It is concluded that the service providers did not listen to youth concerns, they have lack of positive thinking toward adolescents, they always present with judgmental behavior and they are not competent and trained. It can be also said, youth fear from unfriendly and judgmental providers, most concerned that they were lectured, scolded and made to feel ashamed for being sexually active and would think that they had STI or pregnant. A survey

of South Africa stated friendless of staffs as reason for attending the care. These experiences meant adolescents were more likely to be satisfied with the service such as higher self esteem. One study found that adolescents experiencing positive behaviours were more likely to decide to return to a facilities than those experiences negative ones (Mannava, Durrant, Fisher, Chersich and Luchters, 2015). They further reviewed 27 studies and reported that the common organizational level factors of unfriendly behavior of the providers such as heavy workload, long working hours, weak supportive supervision, poor relation to coworker, insufficient salaries and lack of equipments and supply are organizational level factors.

Privacy and confidentiality have long been identified as two important elements of high quality, client-centered RH programs (Bruce 1990; Huezo and Diaz 1993; Murphy 2002 as cited in Path, 2004). International conferences have been held to confirm basic rights to privacy in RH services (Path, 2003). One of the tenets of adolescent medical practice is to provide confidential care and privacy to adolescents/ youths that align with their evolving autonomy (Duffy, 2016). In order to provide youth friendly reproductive health (RH) services, including counseling, providers must ask youths a range of sensitive questions about their sexual behavior or that of his or her partner. Adolescents/youths are less likely to reveal accurate information if they fear that personal information will be shared with anyone other than the health provider. Protection of privacy and confidentiality is a priority factor in whether clients access RH information, counseling, and services. When they experience violations in privacy or confidentiality they are also more likely to drop out services. Adolescents are particularly reluctant to seek services when they think that confidentiality may not be maintained (American Academy of Pediatrics 1989, 1996; Allen 1997; Senderowitz 1997; UNFPA 1999 as cited in Path, 2004). In this study, majority (65.22%) reported that health providers were provided service with privacy and confidentiality honored and it has been noted more than one third (34.78%) of them provided services without privacy and confidentiality honored. Lack of privacy is an example of negative behavior and indicates providers' unwillingness and ignorance to provide quality service. Journal of adolescent (2004) stated that to protect the confidentiality of adolescent health information, legal limits apply including need to notify parents, complete medical records, take protective actions etc are maintained. Adolescents often have difficulty obtaining confidential health care.

This demonstrates that young people usually come to the provider with considerable fear, often with worry about privacy and confidentiality, and require strong encouragement to speak freely. It is described that adolescents' fear of others finding out in the area they had attended SRH services. In particular they were afraid of their parents, being teased or talked by friends, and being the victim of community gossip. Youths quoted that if privacy breaks, the family will be blamed and discriminated by other community members and parents, and girl may get bad name in the society. Some participants stated that the privacy of unmarried may get disclosed after seeking the services.

Majority of the youth participants (54.35%) claimed that reproductive health services, working hours, day and operating time were inconvenient. This data indicates that operating time/ day/ hours were not appropriate for all youth's especially secondary level youths because young people of secondary level cannot conveniently attend. The opening time of school and health organization is same while young people need urgent care, those may be willing to leave class for the prevention.

Respect is one of the most important rights of youth/adolescents in YFRHS. Often youths/ adolescents come into the providers with low self-esteem and sometimes little respect for themselves. A service provider should show respect for a youth clients by paying good attention to them, acknowledging and respecting their essence and supporting them with positivity to be better toward healing. Providers should respect a youths during service providing time giving their full and complete compassionate attention. A provider must show respect for adolescents by recognizing that all are capable and perfect human beings. In this study, about 60 youths (58.70%) claimed that the service providers did not respect to youths during visit. It indicates that the service provider were not respectful to youths. It seems that reasons behind it may be providers feel superior; maintain their higher class and social status and educated identity. The truth is that if the service providers do not know to respect the youth clients, they don't want to take service from those service providers. Mannava, Durrant, Fisher, Chersich and Luchters (2015) reached similar conclusion on reviews of 40 study reports stating that working settings held prejudices towards clients attributes such as socio economic status, educational level, ethnicity, etc. This leads towards rude behavior to poorer, less educated and rural youth and adolescents clients. This study concluded that provider- patient relationship and providers' belief are another reasons of unfriendly behavior. These are individual level factors of unfriendly behavior.

The amount of time a patient waits to be seen is one factor which affects utilization of healthcare services. Patients perceive long waiting times as barrier to actually obtaining services and keeping patients waiting unnecessarily can be a cause of stress for both patient and doctor (Ohe and Adamu, 2013). Data revealed in this study that 15.22 percent out of 96 youths stated that they waited for less than 10 minutes and 10 -20 minutes. Whereby, more than two third of respondents (69.57%) stated that they waited for more than 20 minutes to meet the service providers. As regards the responses of the youths waiting to meet the provider, majority (52.18%) stated that waiting time to meet the providers was too long. This data show that the waiting time of youths to meet the providers seems too long and truth is that youths have to be in queue to take the service. Ohe and Adamu (2013) reached the similar conclusion in their study reporting sixty-one percent of the respondents waited for 90-180 min in the clinic, whereas 36.1% of the patients spent less than 5 min with the doctor in the consulting room. The commonest reason for the long waiting time was the large number of patients with few healthcare workers.

It is further mentioned that to improve the utilization of youth friendly reproductive services to adolescents, adequate space is needed to assure that counseling and examinations can take place out of sight and hearing of other people. This need requires separate rooms with doors and policies that support minimal interruptions and intrusions. This study showed that about one third (30.44%) of the sessions were interrupted by other staff members or other people were also presented during the consultation with the providers. It has been found, majority of youths claimed that they were dissatisfied and their SRH problems and concerns were not improved after visiting the service provider. There may be some reasons behind it and one is unfriendly behavior of the service providers. In the present study, the overall youth clients' satisfaction with the service providers was assessed as perceived by them. It has been found that the majority (58.69%) were dissatisfied with the services availed or they reported that their SRH problems and concerns

were not improved after visiting the service providers.

Conclusion

It is concluded that the service providers did not listen to their youth concerns. They always presented with judgmental behavior and moreover, they were incompetent and untrained. Findings indicated that the privacy and confidentiality is under maintained by the service providers. It can be also said that youths fear from unfriendly and judgmental providers. Most concerned that they would be lectured and scolded. Findings of this study have important implications for clearly increased attention to this issue. Negative behaviours of the service providers constitute key deterrents to care seeking. Positive behaviours among the service providers will not only contribute to improved ARH outcomes, may also help to reduce youths' morbidity, mortality , burden of SRH problems, increase the youth's utilization, satisfaction and participation toward the service. Addressing the service provider behaviours is therefore critical and significant to ensure the adolescents' health and saving their lives in low- and middle-income communities.

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Early Sexual Behaviours and Academic Performance of In-school Adolescent Girls in Kathmandu Valley

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ABSTRACT

The purpose of the current study is to analyze the association between early sexual behaviour and academic achievement of adolescent girl students. Girl students as well as the health education teachers of higher secondary schools from three districts of Kathmandu valley and the stakeholders from respective areas were selected purposively covering the public as well as private schools. Data were collected through questionnaire, focus group discussions and key informant interview. Quantitative data were analyzed using SPSS while the qualitative data were transcribed and translated into English and thematically analyzed. It is revealed that almost all girls wanted to make friends from both sex, preferably from same sex. More than half of the girls had a boyfriend or boyfriends. Among the total who had boyfriends four out of ten had dated but only a small proportion (2%) had spent their time with their boyfriends. It was revealed that having a boyfriend is one of the main factors for initiating sexual activity due to pressure from their boyfriends. Around 28% were involved in different forms of sexual behaviour like kissing, hugging, body rubbing and touching sexual organs. However, very fewer (only 6 out of 400 girls) were involved in sexual activity and only half of those involved in sexual activity used condoms. Interviews also revealed that girls became shy when the matter of sex was taught in the classroom. They even could not talk freely about menstruation with teachers. The findings show that no statistical difference exists between sexual behaviour and academic performance of adolescent girl students of Kathmandu valley.

Keywords: academic performance, adolescent girls, premarital sexual behaviour, pornography, sexual development

Introduction

According to WHO (2016), adolescence is the period in human growth and development that occurs after childhood and before adulthood; and this period is applicable to boys and girls aged 10–19 years. It is the period of physical, psychological, social and mental maturity from childhood to adulthood. It represents one of the critical transitions in the life span. Besides, physical and sexual development, this period moves toward independence, identity, acquisition of skills and the capacity for Abstract reasoning and decision. While adolescence is a time of tremendous growth and potential, it is also a time of considerable risk during which social contexts exert powerful influences.

Due to the sensitivity of premarital sexuality, inadequate sex education and guidance and adolescent friendly reproductive health services, the adolescent girls face pregnancy at early age which affects their reproductive health, academic performance as well as their career development. In Nepal, 52% of women in the age of 15-49 years are married by 18 years, as compared with 19% men. About 4% adolescent girls in the age of 15-19 get married by age of 15 years. Similarly, the median age at first sexual intercourse is 17.9 years among women and 20.5 years among men in the age group of 25- 49. On average, women initiate sexual intercourse almost 3 years earlier than men, mainly because women marry earlier than men (NDHS, 2016).

Nowadays, sex related media, internet, magazine, dating, glamorous and porn films are being watched by adolescents which may lead to initiate early sexual activities (Regmi et al., 2010). Although a few studies on early sexual behaviour do exist, study on the impact of early sexual behaviour on academic performance has not yet been undertaken in Nepal as far as our knowledge. It is assumed that early sexual activities impact on academic performance of students. Hence, the main objective of this study was to analyze the association between early sexual behaviour and academic performance of adolescent girls in Kathmandu Valley. The results discussed in this paper can help sexual and reproductive

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health programme planners, policy makers and curriculum planners to understand the situation of early sexual behaviour and its impacts on academic performance of students. From this understanding, they can implement sexual and reproductive health education programmes that increase awareness on early initiation of sexual behaviour and its impact on academic performance and delay the initiation of sexual behaviour.

Study methods

This study used a cross-sectional, descriptive and analytical approach emphasizing quantitative and qualitative aspects. Girl students of higher secondary schools from Kathmandu valley covering Kathmandu, Bhaktapur and Lalitpur districts as well as the health education teachers from these schools were the population of the study. In total, 400 adolescent girls as well as teachers were sampled from the study schools. Four focus group discussions were conducted with the adolescent girls in grades 11 and 12. Half of the FGDs were conducted in private and next half in community/ public schools.

Questionnaire, focus group discussion guidelines and key informant interviews were employed for data collection. The tools were finalized after piloting and validation. After finalization of tools the researcher collected data from sample students and key informants from each selected school following the ethical considerations. Prior to collecting the data, consent was gained from the Head Teacher. Girls were assured to maintain confidentiality about their view and shared information. Collected quantitative data were analysed using SPSS version 16 while the qualitative data collected from focus group discussions and interviews were transcribed manually in Nepali and translated into English. Similarly, quantitative data were analyzed statistically, and qualitative data were analyzed thematically.

Results and discussion

Perception of adolescent girls on psycho-social behaviour

Altogether 16 statements, comprising both affirmative and negative connotations regarding adolescents' psycho-social behaviours were given to the adolescent girls for their rating. A few adolescent girls skipped certain statements. Table 1 presents their responses.

Table 1. *Response of adolescent girls on Likert type psycho-social behaviour scale*

Statements	Perceptions	School type		Total %	P Valued f=2
		Community %	Private %		
Manage irrational thoughts (n=392)	Agree	62.8	70.9	66.1	P= 0.088
	Undecided	20.1	19.6	19.9	
	Disagree	17.1	9.5	14.0	
Setting the goals of life (n=392)	Agree	72.2	72.2	72.2	
	Undecided	16.7	22.8	19.1	P = 0.054
	Disagree	11.1	5.1	8.7	
Decision about life, future & marriage (n=392)	Agree	44.0	43.9	44.0	
	Undecided	24.4	32.3	27.5	P = 0.152
	Disagree	31.6	23.9	28.5	
Feeling safe at home (n=392)	Agree	94.5	98.7	96.2	
	Undecided	4.3	1.3	3.0	P= 0.084
	Disagree	1.3	0	0.8	
Feeling safe at college (n=392)	Agree	71.4	82.4	75.8	
	Undecided	15.0	10.7	13.2	P= 0.037
	Disagree	13.7	6.9	10.9	
Able to cope with psycho-social problems (n=392)	Agree	48.5	50.0	49.1	
	Undecided	26.8	35.4	30.3	P= 0.031
	Disagree	24.7	14.6	20.6	

Capable to understand problems (n=392)	Agree	79.9	77.8	79.1	
	Undecided	11.5	13.9	12.5	P= 0.769
	Disagree	8.5	8.2	8.4	
Return in normal condition when get the problem (n=392)	Agree	37.2	46.5	41.0	
	Undecided	25.6	31.0	23.2	P= 0.166
	Disagree	37.2	34.0	35.9_	
Sexual desire is a biological need (n=392)	Agree	56.4	59.	57.5	
	Undecided	23.1	26.8	24.6	P= 0.245
	Disagree	20.5	14.0	17.9	
Sharing pornography encourages for early sexual activities (n=392)	Agree	44.4	36.5	41.3	P= 0.018
	Undecided	26.9	21.2	24.6	
	Disagree	28.6	42.3	34.	
Sexual activities are to be discouraged (n=392)	Agree	52.8	58.3	55.0%)	
	Undecided	19.7	19.2	19.5%)	P= 0.50
	Disagree	27.5	22.4	25.4%)	
Sexual activities adversely affect educational achievement (n=392)	Agree	74.7	78.2	76.1	
	Undecided	15.0	10.	13.1	P= 0.396
	Disagree	10.3	11.5	10.8	
Lack of care and guidance leads to early sexual activities (n=392)	Agree	57.9	67.	61.9	
	Undecided	23.2	20.9	22.3	P= 0.089
	Disagree	18.9	11.4	15.9	
Hugging & kissing with boyfriend in secret places are common (n=392)	Agree	12.8	23.7	17.1	
	Undecided	19.6	19.9	19.7	P = 0.013
	Disagree	67.7	56.4	63.2	
Wearing short and sexy dress attracts boys (n=389)	Agree	54.1	52.6	53.5	
	Undecided	20.2	21.8	20.8	P= 0.906
	Disagree	25.8	25.6	25.7	
Sexual desires can be fulfilled through safe sexual activities (n=389)	Agree	48.3	59.4	52.7	P= 0.025
	Undecided	28.2	27.7	28.0	
	Disagree	23.5	12.9	19.3	

Six out of 16 statements were statistically different in terms of responses between community and private schools. Response on goal setting in life was almost similar in girls from community and private schools. However, the difference was wider among those who agreed on the statement and who did not agree and remained undecided (P=0.054). Only three quarters (75.8%) of the girls felt being safe at college; more in private schools (82.4%) than in community schools (71.4%) (P=0.037). Less than half of the girls (49.1%), similar proportions from community and private colleges, reported that they were able to cope with the psycho-social problems that were faced (P=0.031). Four out of ten (41.3%) girls had a belief that sharing pornography encourages early sexual activities; little more from community schools (44.4% against 36.5% from private schools) (P=0.018). Only 17% adolescent girls agreed on the statement "Hugging and kissing with boy friend in the secret places are common." However, the proportion was almost double in private schools (23.7%) in comparison to community schools (12.8%) (P=0.013). Similarly, more than half (52.7%) of the adolescent girls agreed that sexual desires can be fulfilled through safe sexual behaviours (P=0.025). However, only 2% mentioned that they spent their time with boyfriends.

Exposure to pornography

Fig.1 shows that 30.2% adolescent girls never watched pornography. The trend was slightly more in the girl students of private schools (36.1% against 26.2% in community schools). Most (77%) of the girls watched pornography sometimes and the majority of girls who have even watched did so alone (68.6%).

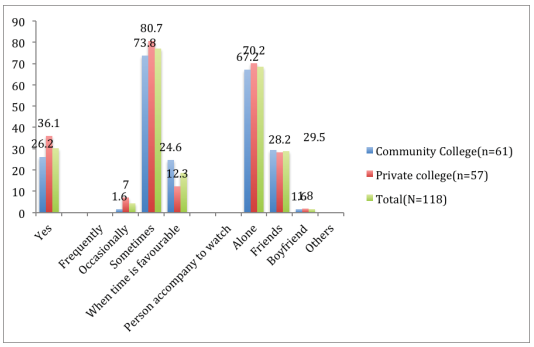

Figure 1. Adolescent girls' involvement in watching pornography

FGD analysis revealed that common group activities outside school performed by the respondents include occasionally going with friends to watch movie in cinema hall, picnic, park and market. Most of the girls usually go with their girl-classmates for recreation and outings. Only a few participants go to cinema, restaurants and other places with boyfriends.

"If you have a boyfriend, you can feel safe and amusing while going out with a boyfriend. I have a boy friend. I like to go for recreation and outing with my boyfriend. I feel safe and pleasure while going with boyfriend to cinema, restaurant and other places. Boyfriend also spends money on buying cinema ticket and snack, etc."

Interview analysis also disclosed that use of mobile phone, providing extra money by the parents, media and watching film increased the incidence of watching porno, which is one of the key factors associated with participating in earlier sexual activity.

"Globalization, media, use of mobile phone, curiosity, negligence of parents, etc. are the causes of watching pornography and other sexual behaviour. (A KI of a community school)

Having a boyfriend

A total of 233 girls from community schools and 157 girls from private schools responded the question regarding whether they had boyfriends.

Table 2. *Adolescent girls who self-reported having a boyfriend and experience of dating*

Statements	Community schools (n=233)	Private schools (n=157)	Total (N=390)
Have boyfriends, yes %	54.1	53.5	53.9
Have done dating with boyfriends , yes %	38.4	43.2	40.3

Table 2 shows that more than half (53.9%) of the girls had boyfriends. The trend was almost same among girls attending both the community and private schools. Of those who reported having boyfriends further informed that 40.3% of them had already dated boyfriends.

The interviews unmasked that having a boyfriend is one of the vital factors for initiating early sexual activity due to the pressure from boyfriend. A teacher mentioned this is these words:

"Some students exchange pieces of papers writing short message. Likewise, sometimes they go to watch cinema with boyfriends. The students of junior secondary level are found with some sexual problems like writing letter to boys." (A male teacher aged 35 of community school)

These problems are seen more at junior secondary level than higher secondary. Because of curiosity, and innocence, poor achievement in exams were reported among girls.

Table 3 shows that more than half of all adolescent girls had boyfriends. Among them 40.3 % went for dates with boyfriend as well as their teachers.

As reported, due to initiation and secretion of sex hormones, adolescents are likely to engage in different types of sexual activities. During the FGD sessions, it was expressed that girls wanted to watch film of love affair with bed scene/erotic scenes, pornographic film and chatting with friends on Facebook, kissing and hugging. Most FGD participants mentioned that they watched pornographic pictures and films with female classmates. Some had the experience of getting sexual pleasure through masturbation, however, most girls had no clear idea about masturbation.

"We are curious to sexual behaviours. We like to watch film that is full of sexually exciting love affair. Sometimes we watch pornographic film secretly with our best friends and make sexual jokes."

Kissing, hugging and petting are not common for most of the students. Those who have boyfriends may have been engaged in kissing, hugging and petting activities.

Sexual behaviour

The adolescent girls reported various behaviours related to their love relationships including sexual relationships.

Table 3: *Sexual behaviours of the adolescent girls (Multiple responses)*

Statements	Community college (N=241) %	Private college (N=159) %	Total % (N=400)
1.Types of sexual behaviours			
None	74.0	69.0	72.0
Kissing	7.9	8.8	8.3
Hugging	16.2	18.7	17.2
Body rubbing	1.2	1.8	1.4
Touching sexual organs	0.8	1.8	1.2
2. Have sexual intercourse	2.1	0.6	1.5
3.Age at first sexual intercourse	17-18 yrs	17 yrs	17-18

A little more than a quarter of the adolescent girls (28%) reported having engaged in some forms of sexual behaviour. Their proportion was 74% for community schools and 69% for private school. Other main behaviours included hugging (17.2%), kissing (8.3%), body rubbing (1.4%) and touching sexual organs (1.2%). Altogether six out of 400 adolescent girls (1.5%) reported they ever had sexual intercourse, which was higher in community school (2.1%) as compared to private school (0.6%). The age of first sexual intercourse was 17 years for two girls and 18 years for four girls.

Analysis of qualitative data obtained from FGDs also revealed that almost no girls had experiences of sexual intercourse with opposite sex.

"We know some girls have boyfriends and go for dating and outing. But we have not heard they have already initiated sexual intercourse. We are still quite away from sexual intercourse. So far we know our friends are not involved in sexual intercourse."

"I have a boyfriend. Kissing and hugging with boyfriend usually happen in the lonely place. But I have never been engaged in sexual intercourse. My boyfriend motivates me for sexual intercourse. I am still avoiding it due to fear of the risk of pregnancy and other social issues."(A participant of FGD)

Reasons for involving in different sexual activities

During FGD sessions, it was frequently expressed that watching love affair films with some romantic scenes and pornographic pictures/films further increase sexual curiosity that lead to sexual activity. Peer pressure and lack of parental guidance were also stated as reasons for engaging themselves in different types of sexual activity.

"Some of our friends who have boyfriends may have been involved in hugging, body rubbing and kissing. It may be due to influence of romantic film. Girls living away from parents or lacking parental care and control get chance for outing with boyfriends and are engaged in some forms of sexual activity. Peer influence and watching pornographic picture/ film lead girls to initiate some forms of sexual activity."

Condom Use:

Six adolescent girls had ever had sexual intercourse, and only three of them used a condom. One third of the adolescent girls who had sexual intercourse with boyfriend had the feeling of regret. Two of the six adolescent girls who had sexual intercourse expressed that their sexual relationships had adverse effects in their study.

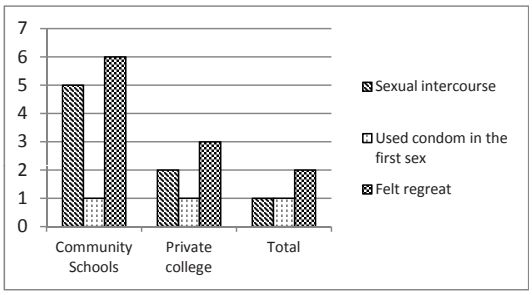

Figure 2. Sexual intercourse and condom use (in numbers)

There was discussion with FGD participants about the use of contraceptive devices. Girls were found aware of contraceptive devices including the contraceptive pill. But participants stated repeatedly that they had no experience about the contraceptive use because most girls were still virgin. Some of them said that their friends who have boyfriends may have used condoms and the pill in order to avoid unintended pregnancy. They said,

"We know condom can be used during sexual intercourse. But we don't have to use it because we don't have a partner for sexual relation. Girls having sexual relation with their boyfriend might have used condom or other contraceptive devices."

Girls' FGDs reported that sexual intercourse without using condom leads to unintended pregnancy and transmission of STIs. One of the participants told that one adolescent girl living in her hometown became pregnant in the first sexual intercourse with her boyfriend. Family and neighbours were ashamed due to the pregnancy of this unmarried adolescent girl. They agreed that sexual relation should be avoided in adolescent stage and condom must be used in very first sexual intercourse in order to avoid pregnancy.

Sexual behaviours and academic performance

Adolescent girls were asked to rate their academic performance themselves. Almost half of them rated their educational performance good (46.9%) or moderate (38%). A small proportion (4.7%) judged them as having weak achievement. One in ten adolescent girls (10.4%) ranked their academic performance as excellent; the proportion of excellent rating was high in community schools (11.4%) as compared to the private schools (9%). Lower academic performance was related to higher levels of anxiety and pessimism (El-Anzi, 2005).[10]

The interviews suggested that female students were better in academic performance in comparison to boys. It was also unmasked that comparatively girls were more laborious and usually became toppers in class. However, some were poor in educational performance because of poor economic status of their parents. Sometimes they had problems with management of menstruation; and they did not show any response. From a community school a teacher reacted that no any girl was found with genuine psycho-social problems.

"Girls are sincere and better in overall education while boys tend to be free and ruin their studies. Mostly girls topped in the Management Faculty (A male teacher of a private school). Comparatively girls are more laborious. In my subject, girls are usually topper in class. Girls secure position 1 to 5 in top ten. The students among top10 got success in entrance test of Medical Science."(A male teacher from a private school)

"Sexual behaviour affects in education of girls... When someone gives priority in sexual behaviour, naturally they cannot manage their time for study. Because of sexual fantasy they cannot understand what teacher teaches and what they read in book."

One key informant stressed that love affairs and sexual behaviours have impact in educational performance. There was an incidence that a student who got top ten position in grade 7 was found degraded in further grades. Another interviewee suggested that early sexual behaviour affects in educational performance of students. However, few are having relationships but found excellent in academic performance in grade 11 and 12. Generally, the students who were weak in educational performance tended to be involved in love affairs. Those girls who were known to be involved in such relationships had achieved lower marks in exams.

"Girls are manipulated by boys particularly those who are involved in sexual activity. It is clearly seen that those girls who are involved in early sexual behaviours are poor in studies."

One teacher shared that one of the girls married at an early age soon after her plus two examination. She married her classmate due to involvement in early sexual activity. From FGD discussion, it was disclosed that due to love affairs, having boyfriend, outing for cinema or park and dating, their educational achievement has not been affected badly. However, higher proportion of key informants were of the view that educational performance will be affected by sexual behaviour.

Table 4. *Self-rated educational achievements of adolescent girls*

Statements	Community school	Private school	Total
1. Status of educational performance	n=228	n=156	N=384
Excellent	11.6	9.0	10.4
Good	43.9	51.3	46.9
Moderate	42.1	32.1	38.0
Weak	2.6	7.7	4.7
2. Beliefs that involvement in sexual activities leads to adverse effects in educational achievement	n=206	n=134	N=340
Yes %	81.1	65.7	75
3. Perceived negative impact of sexual activities in study	n=167	n=88	N=255
Highly	56.3	56.8	56.5
Moderately	35.9	42.0	38.0
Rarely	7.2	1.1	5.1
Do not know	0.6	0	0.4

In response to the query "Do you feel that sexual activities lead to negative impact in the study?", three-quarters (75%) responded "Yes". The proportion was relatively high in community schoolgirls (81.1%) as compared to girls from the private schools (65.7%). The adolescent girls who reported high impact and moderate impact were 56.5% and 38% respectively.

Data were cross-tabulated between girls having boy friend and their reported educational achievement. There is no statistical difference between having a boy friend and self-reported educational achievement (P=0.341).

Table 5. *Relationship between educational achievement and dating with boyfriends*

Educational Achievement						
		Excellent	**Good**	**Average**	**Below average**	**Total**
Have a boyfriend (P=0.341)	Yes	13	61	78	12	164
		50%	53%	49.3%	46.1%	50.4%
	No	13	54	80	14	161
		50 %	47%	50.7%	53.9%	49.6%
	Total	26	115	158	26	325
Had dating with boyfriend (P=0.243)	Yes	5	28	26	3	62
		41.6%	45.9%	33.3%	27.2%	38.2%
	No	7	33	52	8	100
		58.4%	54.1%	66.7%	72.8%	61.8%
	Total	12	61	78	11	162
Watched pornography (P=0.057)	Yes	6	41	36	13	96
		23%	35.3%	22.7%	52%	29.5%
	No	20	75	122	12	229
		77%	64.7%	77.3%	48%	70.5%
	Total	26	116	158	25	325

Similarly, cross-tabulation of data between educational achievement and dating with boy friend also does not show statistically significant difference (P=0.243). Association between watching pornography and self-reported educational achievement in the last examination shows a statistically significant difference (P=0.057). Moreover, of the six adolescent girls who reported having sexual relationships, four rated their educational achievement as good and remaining two judged their educational attainment as average.

Analysis of FGD data revealed that making boyfriend and initiation of some forms of sexual activity have negative impact on learning and educational achievement. Girls who are interested in making boy-friend spend more time on Facebook, chatting, and watching film. Participants of FGD frequently expressed that boys/male Facebook friends often send vulgar message, post naked photos, request for meeting somewhere else outside school, propose a girl and boyfriend relationship through Facebook. Most girls often ignore the proposal sent by boys. According to FGD participants, there would be mental tension and they could not concentrate their mind on study when a boy not liked by girls followed on the Facebook or on the way home/ school. Girls having boyfriends have to give time on dating and outing, and make false statement about their activity. Sometimes, problems occur on their relationship and boyfriend ignores girlfriend and vice versa. Such situations negatively affect the educational performance and achievement of girls. Girls said:

'We feel stress when boys follow and harass us. Some boys propose to girls all of a sudden. Boys send irrelevant messages and post message or naked picture on Facebook if we ignore them. We cannot concentrate our mind on study due to annoying activities of such boys. Those girls having boy-friend have to spend time on chatting and dating. Sometimes girls have to avoid and ignore phone contact and dating due to family restriction. Such a situation may lead to misunderstanding between girl and boy friend. In our society, making boy-friend and initiating sexual activity negatively affect on study of our education.('A girl)

The result of this study may not be generalized to all adolescents of other cities and villages of Nepal since samples were selected only from the schools of Kathmandu valley. Likewise, heterogeneous samples were not considered. Similarly, girl students and key informants might not have shared real information because of shyness and fear of their privacy.

Conclusions

Almost all girls wanted to make friends from both sex, preferably from same sex. More than half girls had boyfriend/s. Among those who had boyfriends 40.3% had dated but only 2% mentioned that they spent their times with their boyfriends. Majority of girls responded that they spent their times mostly with parents. From the interviews, it was suggested that having a boyfriend is one of the main factors for initiating sexual activity due to pressure from boyfriends. Hugging and kissing with boyfriend in the secret places is almost common among them. However, the proportion is higher among private school girls. Around 28% involved in different forms of sexual behaviour like kissing, hugging, body rubbing and touching sexual organs. More than half of the girls agreed that sexual desires can be fulfilled through safe sexual behaviours. Only 6 out of 400 girls were found involved in sexual activity and only half of them have used condoms. Key informant interviews also revealed that girls felt shyness when the matter of sex is taught in the classroom; they even could not talk freely about menstruation with teachers.

More than three quarter of girls used to watch pornography sometimes, and more than two third (68%) of them watched it alone. Use of mobile phone, curiosity and negligence of parents also had increased the incidence of pornography watching. FGD analysis revealed that going with friends for watching cinema, picnic, park and market occasionally were common group activities. Three quarters of girls reported that involvement in sexual activities and making boyfriends lead to negative impact in their study. The study suggests a statistical difference between watching pornography and self-reported educational achievement (p=0.05). In contrast there is no statistical difference between having a boy friend and self-reported educational achievement.

Different researches show that there is a positive relationship between educational performance

and sexual activities of students, which is not supported by the result of present study. Even after having boyfriends only minimal number of girls are found having sexual intercourse with boyfriends. It can be argued that the students have gained knowledge from school curriculum about the consequences of early sexual activities, unsafe sexual behaviour and safe sexual behaviour which led to this result. On the basis of the study result, it is recommended that there should be guidance and counselling programme in school especially related to psychosexual behaviour. It is also recommended that parental guidance and adolescent friendly reproductive health service is essential. Moreover, group discussion, peer education approach, cooperative learning and student centred learning approaches are necessary to enhance their academic performance and career.

Acknowledgements

UNESCO Nepal deserves special thanks for providing the financial support to us for the study. Besides, thank goes to Dr. Kamal Gautam, Mr. Bhagwan Aryal, Mr. Yadu Ram Upreti, Ms. Kalpana Gyawali, Ms. Madhavi Gautam and Mr. Bishnu GC for their cooperation in data collection and data management during the study.

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Why School Adolescent Girls Elope? Perspective from School Teachers

Sudha Ghimire*

ABSTRACT

Marriage is considered as compulsive ritual by all societies, though it has been explained differently by different cultural groups. In Nepal the prevalence of love marriage varies between communities, regions, castes and ethnic groups, but most of the time they are early before the legal age of marriage. In this context, this paper explores the views from school officials regarding the reasons of early marriage, where they have highlighted the cultural practices, social media, lack of transformative sexuality education from schools, gap in the contents of school curriculum regarding sexual and reproductive health. For the purpose of data collection teachers from Baira Mahdev School were purposively selected and in-depth interviews were conducted for exploring their views. The collected data were analyzed on thematic basis and relevant themes were generated.

Keywords: curriculum, health education, sexual and reproductive health, school, teaching learning activities, localization

Introduction

Too young to marry: Apr 10, 2016-The first Girl Summit in Nepal, co-hosted by the UK and Unicef, was held in Kathmandu on March 23. In the run-up to the event, which aims to fight child marriage worldwide, multiple district consultations were held in 15 districts with a high prevalence of child marriage. The summit brought together youths, activists, government officials, diplomats, statesmen, UN representatives, religious leaders and civil society and community members to intensify the effort to end child marriage by 2030. Child marriage has existed from time immemorial in Nepal.

ASMITA VERMA, Kathmandu Post, Published: 10-04-2016 08:06.

When I read this article posted in Kathmandu Post, a daily national newspaper, at front page,it caught my attention. Being a scholar, I am always interested and keen on issues related to gender and sexuality. I went through this article several times and thought why, despite the huge national and international inputs in minimizing child marriage, we still have entrenched early marriage tradition. The main purpose of writing this paper is basically to understand the reasons behind existing adolescent child marriage regardless of huge efforts by different stakeholders. As we know, marriage is considered as compulsive ritual by all societies, though different cultural groups have described it differently. The prevalence of love marriage varies between communities, regions, castes and ethnic groups but most of the time they happen early before the legal age of marriage. However, child marriage in Nepal is a customary, socially established institution that has been practiced for generations. Religion has endorsed it and society has ensured its stability (Maharjan, Kharki, Shakya, & Aryal, 2012). Although government of Nepal along with its supporting organizations are working against early marriage, the existing data show that still 46% of women get first sexual relation and get married before they turn 18 (NDHS, 2016), against the legal age of marriage. Similarly, among women were age 25-49, 13% were married by the age of 15 (NDHS, 2016). Nowadays the trend of early marriage is constant but the approach is somehow changed. Earlier there used to be more arranged marriage, but recently

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love marriage, and eloping with boyfriend are equally found in community (Maharjan, Kharki, Shakya, & Aryal, 2012). Similarly, more than 25% of marriages are based on the girl's decision (Perczynska, 2014). Such trend is deeply rooted in some indigenous groups like Tamang (Kafle, 2008). Though early and universal marriage is a traditional norm of our society (Stone, Ingham, & Simkhada, 2003) and delayed marriage is increasing, still early marriage and teen-age pregnancy is high, if compared globally (Pathak & Pokharel, 2012).

These situations triggered me to find the deep-rooted cause of adolescent marriage in our context. Professionally being a nurse and health educator, I interact with many people, social activists and stakeholders dealing with these issues. This time I selected school teachers as my primary respondents who are in daily contact with adolescents so that I could get the reasons from their perspective about why our adolescent girls get married or elope with boyfriend, despite the fact that school has been providing continuous education on sexual and reproductive health. I presented these questions and queries in-front of school teachers:

Research Question

1. Why does an adolescent girl elope?
2. Does sexuality education really work in preventing elopement among school adolescent girls? If not why?
3. What is the teachers' opinion about the effectiveness of school curriculum in preventing early marriage?

Methods

Being a woman, I think I have equal responsibility towards my society, as male do. It can be a voice of culturally silent people' revealing the things that bothers the life of women. Keeping that in mind, I had an in-depth interview of school teachers for exploring the reasons of early marriage that is proved to be one of the reasons for problems related to reproductive health. I have selected Baira Mahadev Basic School purposively for study area, as the school is situated in semi-urban area i.e 28 km away from the Hassle and Basal of Kathmandu valley with more 'Tamang' indigenous population. Being a qualitative researcher, I realized that qualitative research looks for a naturalistic approach that seeks to understand phenomena in context specific setting such as real world (Creswell, 2017). I equally focused the cultural background of respondents and was there for full time for interview.

For collecting data as suggested by Brikci and Green (2007), interview method is a major component in a range of different methodological strategies in gathering hidden treasure. However, it is not possible to anticipate every possible question. Therefore, I keep on probing in each question to immerse myself in the depth of information provided. With the guideline from different literature I went through, I developed semi-structured questions and used problematic links with contents. The set questions were unambiguous and have link between existing problems directly or indirectly. I started with general questions that helped me for ice breaking followed by focused and precise questions. I followed funnel shaped approach in interviewing respondents. Throughout interview process, I was fully conscious of bracketing myself.

An audiotape recording allows an interviewer to focus on the conversation with an informant and carries a more complete record of the informant's actual words (Brenner, 2006). I recorded full interview of participants with informed consent with them to maintain ethics throughout study.

The analysis of qualitative data is often seen as the most difficult part of the exercise. Yet it is very enjoyable to see the patterns that

emerge and to draw out some meaningful conclusion from the discussion (Brikci & Green, 2007). There are many different ways to analyze qualitative data. We can use thematic, descriptive approach or more in-depth methods, or there are lots of software developed for analyzing data (Pope, sue, & Nicholas, 2000). Among them I thought to carry out thematic analysis which is done primarily by detailed reading of raw data to derive concepts (Thomas, 2006). I read and re-read the transcribed interview several times; highlighting key issues pointed out by both respondents and again looked for common and different views they provided. It enabled me to formulate core message of the interview and made themes by open coding, axial coding and selective coding.

Results and Discussion

The wider gap in transformative learning was found while interviewing school officials. Despite the sexual and reproductive health education at school, there is early marriage making adolescents at high risk of diseases and poor health. That not only leads to drop out from school and poor educational achievement but also their uncertain future. The information gathered from respondents are categorized under the following themes.

Foot-steps without judgment

In Nepal, the term 'love marriage' is commonly used to refer to a marriage not arranged by the bride and groom's families (Pandey, 2017). While interviewing school teachers about existing scenario of adolescent marriage in their community, they have said:

Here, girls elope just at the age of 14-15. We can't find girls above 18 years who are not married in this community. Most of the time they fall in love during school days and elope, after a few months they drop school. (Health Teacher).

He further added that when adolescents see their senior classmates or friends eloped with boyfriend, they just imitate them and run away with boyfriend, most of the time parents are also unaware of that. When I asked what could be another reason for elopement of girls, the principal added:

"Nowadays most of the youngsters carry mobile phone and internet. They communicate and chat in facebook, and it will not take any time to fall in love and infatuation, leading to early marriage".

Culturally, Tamang indigenous groups specially follow love marriages (Kafle, 2008). As the data show, girls and boys fall in love and get married at the school going age which not only affects their education but also health (Maharjan, Kharki, Shakya, & Aryal, 2012). One of the teachers from school shared this.

Furthermore, social and cultural norms impose barrier to the transfer of sexual health information to adolescents and it is the education that breaks the invisible barriers (Stone, Ingham, & Simkhada, 2003). Studies have also shown that it is necessary to focus on young people before they become sexually active, before myths become deep-rooted and unsafe patterns of sexual behavior are established. That's why sexual and reproductive health education is incorporated from early days of puberty and pre-puberty stage, but the question is: Does the education we have been providing to adolescents really address their physical, physiological and social issue?

Though we have been teaching sexual and reproductive health and drawbacks of early marriage, eloping with the boyfriend is a trend of this society. They are just following the activities happening in their community without analyzing what could be the circumstances .Principal

Multicultural interaction with different social

groups is proved as effective in promoting educational achievement among students. It is also concerned with the contribution of students towards effective social action (Kislev, 2016). Here, majority of students are from Tamang indigenous group with less interaction with other social groups. This hinders them to learn from other cultures as stated by health teacher.

Despite improvements in lives of young people, they are in first line for vulnerability which is increasing day by day (Pathak & Pokharel, 2012). Until and unless we address adolescents and guide them via friendly social systems, public policies, service delivery systems, and enriched need based education, the risk of unhealthy attitude remains unchanged.

Tension in transforming knowledge related to sexuality

When I asked the teachers what they actually taught in health, whether they felt comfort while teaching comprehensive sexuality education, the teacher responded:

In most of the government schools, teachers are all reluctant to discuss the contents of the chapter on sexuality and reproductive health in any detail. Sometimes teacher even leaves the chapter without teaching, because there are many schools where teachers from different educational background teach health subject. School administration is unable to manage the subject teacher with their specialization. Principal

Furthermore, in school sexuality education is taught by male teacher, which makes girl students more difficult to raise questions.

When *I teach the content of sexual education, there is pin drop silence in classroom. No one raises any questions. The interaction between teacher and students is almost zero.* Health Teacher

Thus, when there is less class interaction there will definitely be less learning (Schutte et al., 2014.).

On the same issue another respondent asserted that

Still there is a gap in knowledge we have provided and perception of children, that could be the reason that behavioral changes are not long term because we haven't addressed social, cultural and educational background of that community while delivering health education and reproductive education ." (Health Teacher)

Sexuality education has been provided at school level but a little known message is covered. Most of the teachers did not want to deal with sensitive topics and feared from their colleagues and society if they have to teach sexual andreproductive health. Some lacked the skills to give instruction regarding sexual and reproductive health. Many students also felt uncomfortable with the topics. The challenge is to strengthen sexuality education, make it more appropriate for the students and ensure that teachers are more comfortable and able to give instruction on the topic (Pokharel, Kulczycki, & Shakya, 2006).

Hidden part of sexuality education

Inclusion of local curriculum is one of the key steps taken by CDC for addressing the need of community and feeling of ownership in education. Furthermore, CDC has brought innovative aspects in health education giving 20 % space for health contents to link community with that of school. It is difficult unless it adopts participatory approach in education. Regarding the contents of curriculum for health perspective, it is found that:

Health curriculum has addressed most of the things relating to health and reproductive issues but if we conduct micro-level analysis it's lacking most of the things either in content or knowledge delivery. We don't know whether the contents that are included regarding sexual

health in curriculum are not enough or there is gap in teaching learning process. The education we are delivering is not matching with our community. **Principal**

It is found that most of the time teachers are using lecture method in health education, which is proved less effective in creating interest for students in learning health education (Asare, Stillman, Keogh, Doku, & Kyereme, 2017).

Most of the contents of sexual and reproductive health are concerned on just physical growth and development of students. It would be more effective if social, cultural and psychological aspects of sexuality were also included. Health Teacher

Furthermore, teachers are not well trained and qualified in teaching sexual and reproductive health in schools. Besides, health subject is given less priority by teachers and students in comparison to mathematics and science as stated by Principal from Baira Mahadev school. There are still many schools where teachers from different educational background are teaching health education.

We are forced to teach different subject out of our interest due to scarcity of teachers (Health teacher)

Similarly, in this community there is entrenched gender based discrimination between boys and girls, where boys are sent to boarding school and girls to government school. Such discriminations are found not only in education sector, but also in basic health services. So, it's crucial to add those issues in curriculum that is designed for this particular community**.**

I found positive attitude of teachers towards sexuality education, but they are more worried that schools have been providing them pressure to sexuality related education without providing any basic level training.

Conclusion

Early marriage and teenage pregnancy among adolescent students indicate that there is the gap in knowledge that we have been providing. Sexuality education without trained teacher creates tension for both knowledge providers and receivers because until and unless there is change in attitude, practice and behavior of students, the education objectives remain underachieved. So, it's time for concerned policy makers, service providers, academicians and development practitioners to address those issues. Personally, my reflection from this study is that though we have done many things for reducing child marriage, it is rooted in local culture and furnished by social media in such a way that it is difficult to eradicate, but we can reduce it in some way.

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Perceptions and Practices Regarding Sexual Activities among Girl Students

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ABSTRACT

This study attempts to reflect the perception of higher secondary level girl students towards various sexual activities. Since it is the peak point of sexual desire, they are more probable to involve in various sexual activities. The study is based on primary data, mainly focuses to dig-out the perception and practices of various sexual activities among higher secondary level girls students in Pokhara. There are 61 public and 47 private higher secondary schools in Kaski district. Out of them, 17 public higher secondary schools have education stream which is the universe population of the study. In selecting these schools as the source of study population, purposive sampling method is used. Here, eight public higher secondary schools are selected by simple random sampling method and 12 unmarried girl students are selected from each school on random basis. Altogether 96 students are considered as the respondents for the study and the questionnaire method is chosen as the tool to track-out their sexual activities. As per their responses, masturbation, premarital sex etc are found as the sexual practices. Masturbation is found to be more common in girls. In most cases, masturbation, mutual sharing of sexual knowledge and teasing and poking related to sex, observatory practice of porn films and habit of reading sex related literatures are found more common in them. In addition, parents' educational background and occupations have a lot to do with their view towards various sexual activities.

Keywords: dating, masturbation, perception, sexual desire, unusual sex

Introduction

Sexual practices refer to the manner of expression and involvement in sexual activities of human beings. Time and again people engage themselves in a variety of sexual activities for variety of reasons. Normally, people indulge themselves in sexual activities with aroused emotion together with psychological change in them. The objective of sexual activity in human beings is to achieve sexual pleasure. Here, sexual activities include those activities which are intended to arouse the sexual interest of another person. That is to say strategies of attracting the partner and calling forth for the sexual interactions.

Among the sexual activities, masturbation is more common in youth which is defined as the deliberate self-stimulation which effects sexual arousal (Shrestha, 2008). Masturbation has been often extended to encompass all activities such as rubbing, scratching, pressing or stroking of the breasts, thighs, legs, or other parts of the body including even the nose and ears, thumb sucking, the biting of one's fingernails, the chewing of gum, bed wetting, fast automobile driving, high diving and still other activities that bring satisfaction to the person (Kilander, 1971). It should be recognized that the frequency of masturbation in females of most mammal species is lesser than that of males. Perhaps the interest for masturbation in males is much less than in females.

All the sexual activities conducted against the natural and social phenomena are called unusual sexual practices. Unusual sexual practices include intercourse before getting maturation, sexual harassment, homosexuality, animal sex, group sex, use of artificial devices, using clothes, tendency of watching porn films, sexual abuses, chatting and teasing with vulgar content, petting, day dreaming, etc (Khanal, 1999). During adolescent period, everyone needs proper guidance or knowledge regarding sudden changes in the body. Otherwise, they are prone to sexual abuses and unsafe sexual practices resulting to HIV/AIDS, STIs and other social and mental health problems (Kafle, 2006). As the consequences of these acts, the

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teenagers may expose to reproductive health hazards such as premature pregnancy, unwanted pregnancy, abortion and so on. Unusual sexual practices are mostly found in higher secondary level students. This malpractice has a lot to do in their future career. However, the intensity of the effects depend on the proper management and the way of dealing such practices such as social treatment to their problems, addressing religious constraints that outcasts them from community, and supportive attitude of their parents to their reproductive health.

Since, pokhara is itself a popular destination for youths for dating purpose, adolescents are found with rampant indulgence in such activities. They are usually found with such unusual sexual practices in such emotive places. Couples are found hugging, kissing, using rough words, teasing and ragging, unwanted physical contact, and also watching sex clips in mobile.

Frequent indulgences in such activities have direct impact to their career. If it is not addressed in time it may result to mental and physical problems, public harassment, blackmailing etc which may further lead to suicide and other long term effects. Furthermore, researches have also supported to the logic that one of the major causes of the students drop out is their unusual sexual activities. Therefore, to put light forth on the perception and practices concerning various sexual activities is today's urgent need.

The objectives of this study are:

i. to identify the perception towards sexual activities in girl students,

ii. to put light over the nature of sexual activities in girl students.

Methods

This study is mainly based on quantitative data as well as descriptive type of survey method. The population of the study consists of XII grade girl students of education stream of higher secondary schools of Pokhara metropolitan city. There are 108 higher secondary schools in Kaski district, among them 61 public and 47 private, out of them 17 public higher secondary schools have education stream in Pokhara metropolitan city which is considered as the universe population in this study. Here universe population is selected on the basis of purposive sampling method. Among them, eight public higher secondary schools are selected by random sampling method. Among 215 girl students from selected schools, almost 50 percent respondents are selected by the researcher. Similarly, 12 girl students are selected from each school on the basis of quota sampling using lottery method as per purposive sampling. Likewise, 96 students are considered as the sample size of the study. The researcher used the closed type of questionnaire as a research tool. Tools were revised after pretest among eight students from the same school from class XI students and after experts suggestion. In order to reduce the errors, collected data is checked and revised manually time and again, and tabulated in master table. The data is studied and evaluated using some common statistical methods with the aim to provide a broad overview on the inter relationship between different causes and effects.

The researcher paid high attention to respondent's rights to privacy and avoid unfair and illegal disclosure of confidential information. Consent of authorized person or guardian is taken to involve minors in this study. Finally, possible negative consequences to the respondents in course of study should be taken into account.

Result and Discussion

Higher secondary school students are most relevant and potential age group who are going to be exposed to reproductive life after a few years. At this stage of life, adolescents are more

responsive towards sex and sexual activities. Physical and biological changes in body increase their sexual desires. In one hand, they are sexually active but in other, they are not aware of the reality of life and consequences of risky sexual practices.

Unusual sexual practice

Sexual practice, against natural and social phenomena is considered as unusual sexual practice. The result of the unusual sexual practice on the basis of their mothers' occupation is presented in table 1.

Table 1. *Unusual sexual practice on the basis of their mothers' occupation*

Mother's Occupation	Unusual sexual practice of respondents						
	Masturbation	Talking about Sex	Sexual Harassment and Exploitation	Love	Watching Glamorous Movies, Reading Magazines and Journals related to Sex	Premarital and Extramarital Sex	Total
Labor	0(.0%)	1(20.0%	2(40.0%)	0(.0%)	0(.0%)	2(40.0%)	5(100.0%)
Farming	9(17.3%)	3(5.8%)	11(21.2%)	3(5.8%)	1(1.9%	25(48.1%)	52(100.0%)
Business	5(20.8%)	2(8.3%)	3(12.5%)	2(8.3%)	2(8.3%)	10(41.7%)	24(100.0%)
Others	1(6.7%)	2(13.3%)	4(26.7%)	0(.0%)	0(.0%)	8(53.3%)	15(100.0%)
Total	15(15.6%)	8(8.3%)	20(20.8%)	5(5.2%)	3(3.1%)	45(46.9%)	96(100.0%)

Table 1. demonstrates the unusual sexual behavior on the basis of their mothers' occupation. Among them, 5 are labors, 24 are businessman, 52 are farmers and 15 are in other occupations. Among those respondents whose mothers are labors, 2 responded that premarital and extramarital sex is unusual sexual practice; 2 expressed sexual harassment and exploitation is unusual sexual behavior and only one responded talking about sex is unusual sexual behavior out of 5. Likewise, 25 responded premarital and extramarital; 11 expressed sexual harassment and exploitation, 9 responded masturbation, 3 responded talked about sex, 3 responded love and only one responded watching porn movies, reading magazines and journals related to sexual behavior out of 52. It is quite good whose mothers are farmers. Similarly, 10 responded premarital and extramarital, 3 responded sexual harassment and exploitation, 5 responded masturbation, 2 responded talked about sex, 2 responded love and only 2 responded watching glamorous movies, reading magazines and journals related to sex out of 24. It is also good whose mothers were businesspersons and 8 responded premarital and extramarital, 4 expressed sexual harassment and exploitation, only one responded masturbation, 2 responded talked about sex, no one responded love and watching glamorous movies, reading magazines and journals related to sex out of eight respondents. Respondents' unusual sexual practices depend upon mother's occupations. Those mothers who engage in farming ultimately found their children dropped in unusual sexual practices because they are neglected from their mothers because of their busy schedule.

Attraction to read and watch magazine, books, journals or movies related to sex.

Sex is biological need, no one live without it. Each person is attracted by sexuality but different people have different techniques to quench their passion and desire. Specially, there are some causes of desireness to related sexual activities.

Table 2. *Cause of desire to read and watch magazine, books, journals or movies related to sexual activities on the basis of father's education.*

Father's Education	Cause of Attraction				Total
	Sex satisfaction	Sex curiosity	Recreation	Others	
Illiterate	2 (18.2%)	6 (54.5%)	3 (27.3%)	0 (.0%)	11 (100.0%)
Under SLC	5 (13.2%)	23 (60.5%)	10 (26.3%)	0 (.0%)	38 (100.0%)
SLC	1 (6.7%)	5 (33.3%)	9 (60.0%)	0 (.0%)	15 (100.0%)
Intermediate	0 (.0%)	2 (40.0%)	2 (40.0%)	1 (20.0%)	5 (100.0%)
Bachelor/Masters	0 (.0%)	1 (33.3%)	2 (66.7%)	0 (.0%)	3 (100.0%)
Total	8 (11.1%)	37 (51.4%)	26 (36.1%)	1 (1.4%)	72 (100.0%)

Table 2 demonstrates that, out of 96 respondents, only 72 agreed upon the desire to read and watch magazine, books, journals or movies related to sex but they have quite different causes of attraction, 37 respondents replied the cause of attraction was sex curiosity. Likewise, 26 respondents replied the cause of attraction was recreation; 8 respondents said that the cause of attraction was just to fulfill sex satisfaction and only one respondent agreed for other reasons. Research shows that children are influenced by their fathers' education. Those fathers who has no education their children are attracted to read and watch magazine, books, journals or movies related to sex. So father's education is most important to reduce risky sexual practices.

Perception and practice about masturbation

Masturbation is the stimulation of the sexual organs usually by a person herself, to obtain an orgasm. Though, masturbation can be done by partners to one another, the term is more commonly used when sexual satisfaction is provided by own self. Most people use their hands to masturbate, but instruments like vibrators and other objects may also be used. Most people start masturbating at the time of puberty. Masturbation means **'sexually stimulating oneself, or someone else, usually using hands or fingers'** (Carroll, 2008)**.** This study intended to find out the relationship between perception and practice of masturbation.

Table 3. *Masturbation practiced on the basis of perception*

Frequency of Masturbation practiced	Perception about Masturbation				Total
	It is harmful	IIt doesn't have any negative effect	It makes weak	Don't Know	
Twice a Day	1(11.1%)	8 (88.9%)	0 (.0%)	0 (.0%)	9 (100.0%)
Daily	1(12.5%)	2 (25.0%)	1 (12.5%)	4 (50.0%)	8 (100.0%)
Weekly	4 (25.0%)	3 (18.8%)	4 (25.0%)	5 (31.2%)	16 (100.0%)
Fortnight	1 (9.1%)	7 (63.6%)	2 (18.2%)	1 (9.1%)	11 (100.0%)
Monthly	13 (27.7%)	6 (12.8%)	2 (4.3%)	26 (55.3%)	47 (100.0%)
Sometimes	0 (.0%)	2 (66.7%)	0 (.0%)	1 (33.3%)	3 (100.0%)
Total	20 (21.3%)	28 (29.8%)	9 (9.6%)	37 (39.4%)	94 (100.0%)

Table 3 revels that, 94 respondents agreed about masturbation. Among those respondents who had masturbation twice a day is only one who told it is harmful, whereas, 8 told it didn't have any effect out of 9 respondents. Those respondents who practical it daily, out of 8 respondents only one told it is harmful, 2 respondents told it didn't have any negative effect, only one told it made weak and 4 told they didn't know any feelings. Likewise, out of 16 respondents who masturbated weekly, 4 respondents replied it was harmful, 3 replied it didn't have any negative effect, 4 replied it made them weak, 5 respondents replied they didn't know. Similarly who masturbated fortnight, only one told it was harmful, 7 said it didn't have any negative effect, 2 said it made them weak and only one responded she/he didn't know. As well as 47 respondents masturbate monthly. Among them, 13 agreed it was harmful, 6 agreed it didn't have any negative effect, 2 responded it made them weak and 26 respondents responded they didn't know and 3 respondents masturbated sometimes. Among them 2 agreed it didn't have any negative effect and only one agreed she didn't know it. In this study they didn't know means they did not feel any impression. Study shows that it is extremely common in young people and the reason is; it is very enjoyable and it does not do any harm.

Activities for fulfilling sexual desire

Adolescents are an age with high desire for sex. They apply various usual and risky techniques to fulfill their sexual desires. Therefore, in order to find out their usual and risky sexual practices, respondents are asked which methods they apply to fulfill their sexual desire.

Table 4. *Activities to fulfill sexual desire*

S.N	Fulfill sexual desire	Frequency	Percent
1.	By masturbation	13	13.5
2.	By sexual intercourse with friends	1	1.0
3.	By talking about sex with friends	37	38.5
4.	By watching blue film	14	14.6
5.	By reading sex-related magazines	15	15.6
6.	By touching boys	2	2.1
7.	Others	2	2.1
8.	Nothing	12	12.5
	Total	96	100.0

Table 4. demonstrates that 37 respondents agreed to fulfill their sexual desire by talking about sex with friends; 15 respondents fulfill their sexual desire by reading sex related magazines; 14 respondents agree to fulfill their desire by watching porn film; 13 respondents fulfill their desire by masturbation; 12 respondents applies nothing to fulfill their sexual desire; 2 respondents says that they fulfill their sexual desire by touching boys; again 2 respond other way and only one respondent agreed with the idea of sexual intercourse with friend. So the research reveals that most of the girls focus only talking about sex with their friends for fulfillment of their desire. Similarly, 57 agreed upon talking about sex with their friends. And 39 respondents do not talk about sex.

Adolescents are more curios regarding sexual intercourse. Due to the lack of information and misleaded by seniors and peer groups, they may fall in sexual intercourse. Half of

the school students have ever had intercourse and even once they started having sex, most teens have sex frequently. A good sex life is one that keeps in balance with everything likewise health, values, education and career goals, relationships with other people, and feelings (Masters & Johnson, 1970)**.** In this regard respondents are asked about the sexual relation. It is intended to find out the probability of having sexual relation during and after the dating.

Conclusion

Sex is the character which represents the gender so it is known as biological introduction. Girl students have knowledge about sex as well as there are no remarkable relations between parents' education and their professions. Respondents have good knowledge about unusual sexual practices. Respondents are interested about sex so they read and watch sex related documents as possible. Magazines, books, journals, or movies related to sex are more used by girl students. Many girls practice masturbation for sexual satisfaction. However, there individual differences revealed regarding their perception about its impression. Nowadays, most girls worry of not having boyfriends. Dating is more common in younger girls. They want to meet each other in separate places. Girls have willingness of sexual relation, but there is no necessity of boyfriends and dating. Girl focuses only talking about sex with their friends for fulfillment their desires. Thus, the study demonstrates that girls who self report engaging in sexually aggressive practice are significantly more likely to misperceive sexual intent than others and cognitive knowledge contribute to sexualize interpretation of theirs behaviours.

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Tobacco Consumption among High School Adolescents

Yadu Ram Upreti*

ABSTRACT

This article highlights the practice of tobacco consumption among high school adolescents of Hariwan municipality, a growing semi-urban area of Sarlahi district in Nepal. The study utilized descriptive cross-sectional survey research design with quantitative method to get the required information to the study. Four high schools (two community and two private schools) were randomly sampled to select the respondents. In total, 224 adolescents (n=224) aged 15 to 19 years studying in grade eleven and twelve were selected. A set of pretested self-administered questionnaire was employed to collect the required information. Before data were collected, verbal consent was obtained from the authority of schools and respondents themselves. Only self-reported primary nature of data were utilized to obtain answers to the research questions. Data were entered and analyzed using SPSS software with 16.0 versions. Chi-square test and t-test of bivariate analysis were used to analyze the results. The study revealed that around one-fourth (22.8 %) of high school adolescents consumed at least one type of tobacco products. Cigarette was the most common tobacco product among the youth followed by Panparag and Gutkha. Most of them consumed tobacco for entertainment followed by experimentation. Various factors are associated with the consumption of tobacco amongst which peer pressure, parental and relatives' influence ,and media exposure remain significant ones. Monitoring high-risk behaviors, announcing tobacco-free public places, making aware towards glamorized tobacco promotional pro-active advertisements, etc. will be effective to minimize the tobacco consumption practice among in-school youths.

Keywords: adolescents, experimentation, health promotion, high school, tobacco consumption, peer pressure

Background

Adolescence is a fundamental stage of growth and development during which boys and girls move from childhood to adulthood being physically, mentally, socially, and emotionally matured. Boys and girls of 10–19 years of age are considered as adolescents (WHO, 2004). As adolescents get matured cognitively, their mental process becomes more analytical due to which they tend to be capable of Abstract thinking, better articulation and of developing an independent ideology (ibid). Adolescence is truly the time of creativity, idealism, optimism and a spirit of adventure. However, it is also the period of experimentation, risk-taking to negative behaviours, peer pressure, and taking uninformed decisions on crucial issues, especially relating to their bodies and their sexuality. Adolescence is, thus, a turning point in one's life, a period of increased potential; but it is also the time of greater susceptibility to risk, associated bad health habit and sexual behaviors. As it is very active period of life, seeking of new experiences and learning many things take place in this period. Tobacco consumption has become one of the risky health behaviours among adolescents (WHO, 2014).

Smoking is a risk factor for cardiovascular disease, lung cancer, and other forms of cancer, and it contributes to the severity of pneumonia, emphysema, and chronic bronchitis symptoms. Also, second hand smoke may adversely affect the health of children, adolescents and aggravate many illnesses. Smoking-attributed diseases include cancer of trachea, lung, bronchus, lip, mouth and pharynx, ischemic heart disease, stroke, hypertension, bronchitis, chronic obstructive pulmonary disease, emphysema and asthma (Green, 2002). McKenzie, Pinger, & Kotecki (2005) stated:

> "…..smokes released from burnt tobacco consists of more than 4 thousand numbers of vaporized chemical carcinogenic and non-carcinogenic substances. Some of the active ingredients of cigarettes are: Tar,

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Nicotine, Carbon monoxide, Ammonia, Carbonate, Cadmium, Arsenic, Nitrate, Acetone, Methanol, Hydrogen Cyanide, Hexamine, etc. Tar is a complex mixture of compounds, including 69 identifiable carcinogens and co- carcinogens. Nicotine is the principal constituent responsible for a smoker's pharmacological response (addiction). Smoking and use of other forms of tobacco can cause a wide variety of diseases and can even lead to death". (p. 365)

There is a robust evidence base for the negative health effects from smoking. Smoking is linked with severe morbidity and mortality since it kills up to half of its regular users (Nilsson, 2009 as cited in Green, 2002). Tobacco use among school children is becoming a serious problem in developing countries (WHO, 2014). The early age of initiation underscores the urgent need to intervene and protect this vulnerable group from falling prey to this addiction. The risks of tobacco use are highest among those who start early and continue its use for a long period (Sinha, 2002).

Tobacco use is a major proven risk factor and it contributes substantially to the rising epidemic of non-communicable diseases in the world (Clements & Rivera, 2013). In the context of Nepal, however, people in the age group of 15-49 years are found active in smoking, adolescents of 15- 19 years age group only accounts 16 percent and this prevalence rate has been in the ratio of increasing trend (Ministry of Health[MoH]; New ERA; and ICF, 2017). The studies undertaken in similar topic state that the initiation of tobacco consumption is around the age of 15 years which falls under the age of adolescents (Clements & Rivera, 2013; Cleveland, Wiebe & Rowe, 2017; NDHS, 2011; WHO, 2014). Realizing this fact, the researcher aimed to explore the recent tobacco consumption practice among high school adolescents of semi-urban Terai region of Nepal. And thus, research related problem is stated in the form of questions such as: What is the prevalence of tobacco consumption practice among schooling adolescents? What are the influencing factors for tobacco consumption among adolescents?

Methods

This study utilized descriptive cross-sectional survey design of quantitative research. Only self-reported primary source of data were used to draw out the inferences of the study. Altogether, four community and five private high schools were there in study area. Hence, the students studying in those nine schools were the total study population. Two community schools out of four and two private schools out of five were randomly selected by using the lottery method of simple random probability sampling technique. The researcher planned to select the respondents randomly, but was compelled to apply census method due to poor presence of respondents at the time of data collection. Hence, the total sample size was 224(n=224).

A set of pretested self-administered questionnaire was used to collect the data required for this study. Verbal consent was obtained from college administration and respondents after explaining the purpose of the study. Anonymity and confidentiality of the information was also maintained by not mentioning their name in the questionnaire. The questionnaire was distributed to the respondents with the help of some volunteer teachers from school. After collecting the data, they were checked, cleaned, edited, coded and analyzed using Statistical Package for Social Science (SPSS) software with 16.0 version. Bivariate inferential statistical tests like Chi-square test and t - test were used to analyze the results.

Results and Discussion

Tobacco consumption practice

The main objective of this study was to explore the tobacco consumption practice of adolescents studying in high school. Table 1 represents the practice of tobacco consumption among high school adolescents.

Table 1. *Tobacco consumption practice among high school adolescents*

		School Type					
Variables	**Descriptions**	**Community**		**Private**		**Total**	
		N	%	N	%	N	%
Knowledge on harmful effects of tobacco Use (N=224)	Yes	103	72.0	57	70.4	160	71.4
Relatives and friends who consumed tobacco (N=224)	Yes	99	69.2	45	55.6	144	64.3
Use of tobacco products (N=224)	Yes	32	22.4	19	23.5	51	22.8
Name of tobacco products (N=32)	Cigarette	18	41.8	14	48.4	32	44.4
	Surti/Khaini	5	11.6	1	3.4	6	8.3
	Bidi	2	4.8	4	13.8	6	8.3
	Gutkha	7	16.3	1	3.4	8	11.2
	Panparag	10	23.2	8	27.6	18	25.0
	Chilum	1	2.3	1	3.4	2	2.8
Frequency of use of tobacco products (N=32)	Regular Use	1	3.1	0	0.0	1	2.0
	Occasional Use	11	34.4	2	10.5	13	25.5
	Use in Special Function	8	25.0	5	26.3	13	25.5
	Only to Taste	12	37.5	12	63.2	24	47.1
First age to consuming tobacco products (N=32)	< 10 years	1	3.1	3	15.8	4	7.8
	10-15 years	20	62.5	10	52.6	30	58.8
	> 15 years	11	34.4	6	31.6	17	33.3
Effort to quit tobacco (N=32)	Yes	25	78.1	13	68.4	38	74.5

Table 1 depicts that 71.4 percent respondents of the total had knowledge on harmful effects of tobacco consumption. However, community school students had a bit higher knowledge (72%) than those of private (70.4%), chi-square test shows no significant difference (chi-value = 0.070, df = l and p value 0.878>0.05) between the type of school and knowledge on harmful effect of tobacco use. Further, it can also be discussed that male respondents had better knowledge than those of female students. Similarly, grade eleven, joint family living, Hindu respondents had better knowledge (not shown in the table) than those of their counterpart.

Further, above table also reveals that 69.2 percent respondents' relatives and friends from community school consumed tobacco compared to 55.6 percent from private. Statistically, there is significant difference (Chi value = 4.21, df = 1, p value 0.043< 0.05) between the type of school and the relatives and friends of respondents who consumed tobacco. According to Mujis (2004), this association has modest relationship (chi value = 0.137 which lies between 0.1–0.3). It is concluded that the relatives and friends of respondents who consumed tobacco would vary with respect to the type of school. Furthermore, it can be explored that youths can easily be entrapped in smoking if they get exposure to smoking. Above result reveals that around two–third of adolescents' relatives and friends were already indulged in smoking related activities. A study also reveals strong influences of parental socio-economic status and their genetic makeup on tobacco and alcohol consumption practice of their children (Cleveland et.al., 2017).

The table further reveals that a bit higher percent of respondents from private schools (23.5%) consumed tobacco compared to those from community schools (22.4%). But chi-square test shows no significant difference (Chi value= 0.034, df = 1 and P value 0.869 > 0.05) between these two variables. It can further be explained that the use of tobacco products does not get affected by the type of school. Similarly, among the tobacco users, 44.4 percent of them consumed cigarette (41.8 percent from community and 48.4 percent from private schools), followed by Panparag (25%) and Gutkha (11.2%). This result seems to be higher than the results revealed by NDHS. NDHS-2016 highlights that 16 percent adolescents of 15- 19 years age group consumed tobacco (MoH; New ERA; and ICF, 2017), compared to 20 percent in 2011 **(**MoH; New ERA; and ICF, 2012**).** Similarly, 19.5 percent adolescents consumed tobacco and its products in USA (Clements& Rivera, 2013) whereas 22.6 percent high school adolescents consumed tobacco in the UK (McKenzie et al., 2005).

As regards the frequency of using tobacco products, 47.1 percent respondents consumed tobacco just for taste (experimentation) followed by occasional users (25.5%) and special function users (25.5%). Only 2 percent of them consumed tobacco on regular basis. No respondent from private school consumed tobacco on regular basis. But, almost equal figure of students from both private and community schools consumed tobacco only in special functions like festivals, birthday treat and New Year eves.

Table 1 also demonstrates the age of first time to initiate tobacco consumption practice among community and private school students. Students from both types of schools started consuming tobacco before the age of 10 years. Whereas 58.8 percent were belonged to 10–15 age group followed by 15 and above (33.3%), and below 10 (7.8%).The median age of initiating tobacco among community school students was 14 years compared to 15 years in private schools. Furthermore, t-test shows no significant difference (t-value = 0.013, df = 49, and P value = 0.990 in which P > 0.05) between first age to consuming tobacco products and type of school. A study conducted in the USA reveals that 10.7 percent of high school students smoke cigarette by the age of 13. Smoking initiation was higher for males compared to females (Clements & Rivera, 2013). It shows that most of the adolescents start consuming tobacco as they enter the middle age of adolescence period.

Similarly, it is also revealed from table 1 that near to three-fourth (74.5%) of the tobacco users tried to quit smoking; and the population of these respondents consist of 78.1 percent and 68.4 percent from community and private schools respectively. However, there is a narrow variation between community and private schools' data, as there is no significant difference (chi value = 0.591, df = 1, and p value 0.515 > 0.05) between these two variables (type of school and efforts to quit smoking habit). It means that there is no relation between the efforts to quit smoking habit and the type of school. However, it can be discussed that three-fourth of tobacco users tried to quit their smoking habit, but they could not give up. According to PRECEDE-PROCEED model of health promotion (Green & Kreuter, 2005), people cannot change their ill behaviour in spite of having strong predisposing factors unless they get favourable enabling and reinforcing factors that support to change their behaviour.

Factors influencing tobacco consumption

Several factors have been identified as the reinforcing factors for tobacco consumption. These include tobacco industry advertising and promotion, easy access to tobacco products, and low price (McKenzie et. al., 2005). Peer pressure and smoking habits of parents and

siblings are major contributing factors that influence the youths for smoking (Paudel, 2005). The Turkish study undertaken by Erbaydar (2012) showed that youths who were exposed to cigarette advertisement were 1.19 times more likely to experiment and 1.18 times more likely to continue smoking than those who were not exposed to such advertisements. Table 2 below demonstrates the factors influencing tobacco consumption behaviour among the high schools adolescents.

Table 2. *Factors influencing tobacco consumption among adolescents*

Influencing Factors	School Type					
	Community		Private		Total	
	N	%	N	%	N	%
Peer pressure	13	40.6	3	15.8	16	31.4
Parent's influence	2	6.2	1	5.3	3	5.9
Cultural tradition	0	0.0	2	10.5	2	3.9
Media exposure	1	3.1	1	5.3	2	3.9
Experimentation	14	43.8	12	63.2	26	51.0
Influenced from smokers	1	3.1	0	0.0	1	2.0
Influenced from seniors	1	3.1	0	0.0	1	2.0
Total	32	100.0	19	100.0	51	100.0

It is revealed from table 2 that 43.8 percent adolescents from community and 63.2 percent from private schools reported that they were influenced to consume tobacco just for experimentation rather than anything else. About one-third (31.4 percent) of them were influenced due to peer pressure which is 5.3 times more likely to consume tobacco than parental influence, and 8 times greater than cultural tradition and media exposure. Meanwhile, the study also reveals that in the case of students whose friends and relatives were ever smokers, they were 4 times more likely to be exposed to tobacco consumption behaviour than those whose friends and relatives were non smokers. However, raw data show a narrow difference between them, there is no significant difference (Chi value = 7.939, df = 6, and p value 0.243 > 0.05) between the type of school and influencing factors for tobacco consumption behaviour.

Peer pressure remains the second strong reinforcing factor for consuming tobacco products. Similar findings were extracted by Green (2002) who demonstrated that almost 90 percent of teen-age smokers in the United States acknowledge at least one of their four best friends who smoke on a regular basis while only 33 percent of nonsmokers had best friends who were smokers. Paudel (2005) also claims that peer pressure and smoking habit of parents and older siblings are major reinforcing factors for early smoking habit.

It can further be discussed that adolescents are vulnerable group to consuming tobacco and its products due to having the curiosity to taste tobacco and its products as well as due to the influence of unhealthy companies. An evidence based study in the USA concludes that, compared with non-smokers, early smokers are at higher risk of low academic achievement and behavioural problems at school and still there is more chance of their drop out from school (Suhrcke & Nieves, 2011).

Conclusion

Tobacco consumption and health promotion have deeper interrelationship with each other. The findings from this study reflect that modest figure of high school adolescents afflict to

tobacco consumption behaviour. However, most of the tobacco users consumed tobacco just for entertainment and experimentation; surprisingly they could not give up such habit. This may lead them towards becoming the habitual smokers, which becomes more painful to them in their upcoming life since habitual smoking results in fatal health condition. Various factors are associated with consuming tobacco amongst which peer pressure, parental and relatives' influence, and media exposure remain the significant ones. Now, monitoring high-risk behaviors of adolescents, announcing tobacco-free public places, informing adolescents about misinformation on tobacco use that is glamorized in the tobacco promotional pro-active advertisements, making adolescents' parents aware against the consequences of smoking in front of their children, will be the helpful steps to minimize tobacco consumption practices among schooling youths.

Acknowledgements

This article is the revised version of the mini-research undertaken with the support of University Grants Commission (UGC) in 2015. I would like to acknowledge UGC for providing me with the financial grant to complete this study. Similarly, I extend my sincere gratitude to all research participants who provided the invaluable information required to complete this study. All the people who put their efforts to make this article in this kind also deserve heartfelt thanks.

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