

Gender inequalities in health with special reference to adolescent sexual and reproductive health and violence against women within the family sphere.

An Institutional Grants application.

This application is for an Institutional Grant to support collaboration in higher education and research between two institutions in Sweden and a well renowned university in Pakistan. The main theme for the collaboration is *Gender inequalities in health with special reference to adolescent sexual and reproductive health and violence against women within the family sphere*.

The Swedish partners are Department of Community Medicine and Public Health/Social Medicine (DCMPH) belonging to the Institution of Medicine, The Sahlgrenska Academy at Göteborg University and the other one is Division of International Health (Ihcar), organised within the Institution of Public Health at Karolinska Institute in Stockholm. The Pakistani collaborating partners are Department of Community Health Sciences (CHS) and School of Nursing (AKU-SON), Aga Khan University (AKU), Karachi, Pakistan.

Overall aim of the collaboration

The overall aim of this collaboration is to improve and strengthen gender aspects within public health education and research in both countries, focusing primarily on adolescent sexual and reproductive health and violence against women. There is today a general lack of competence within both teaching and research on gender inequalities from a public health perspective and especially within the field of violence against women in intimate relationships. These areas are related to adolescent health and how to understand gender inequalities and gender differences in a wider perspective. Gender roles and gender inequalities look different in Sweden and Pakistan, representing different perspectives of high relevance for public health training and research.

A continuous exchange of students and teachers/researchers will take place between the four departments mentioned above, to take an active part in teaching, in training as well as in research in the two countries in a mutual learning experience.

Aga Khan University and the Department of Health Sciences and School of Nursing were selected as collaborating partner due to the fact that AKU is a well renowned university with a high standard teaching and education within the medical and health field. Gothenburg University and Dept of Community Medicine and Public Health is in a process of seeking international collaborations, preferably in countries where public health problems are different from what is seen in Sweden, to collaborate in teaching and research within public health and gender equality. Ihcar at Karolinska Institute is well equipped to receive students from all over the world for advanced research training. Discussions have been ongoing for some time for joint research projects between the three universities within the areas of adolescent sexual and reproductive health and as well violence against women, built on discussions between the two main responsible persons in this project, Gunilla Krantz and Tazeen Ali.

Background and rationale for this project

Mental ill-health is a growing problem among young men and young women in both Sweden and Pakistan. Comparing the two sexes however, gives at hand that it is the women suffering most from mental ill-health in both countries. How can this be explained? Two different cultures where women's overall living conditions differ markedly, anyhow similar patterns are at hand when it comes to women's health. In Sweden women are to a higher extent than men on sick leave and early retirement pensions while in Pakistan most women are not in paid employment but confined to the home with limited capacity to decide about their own life. The higher prevalence of depression in women world wide has been related to gender subordination and lack of autonomy. There are striking differences between the two countries, however also similarities that can be used for comparative studies. The importance of the cultural context for how gender roles are constructed can be studied, with emphasis on how these influence overall life circumstances for women in the two countries, including violence subjection and adolescents' awareness of reproductive health matters including HIV/AIDS transmission.

Violence against women

Violence against women is a most serious public health problem world wide, rooted in gender inequality and is also a means of perpetuating this inequality. It is ongoing in all countries and communities, and interpersonal violence represents the most common type of violence targeting women. Over the past 20 years, evidence of the extent of violence perpetrated against women has increased and there is now a global overview on the magnitude of the abuse (1). Summarising findings from studies in 48 countries, 10% to 69% of the women reported physical assaults by an intimate male partner at some point in their lives (2). It is further estimated that one in three women globally experience some form of victimisation in childhood, adolescence or adulthood (3). However, because of the sensitivity of this issue, violence against women is almost universally under-reported. This violence infers tremendous suffering to the women exposed and their children along with having a direct economic impact in society (4).

Research performed in Sweden reveals that (5, 6, 7) the most common form of violence striking women is the violence exercised by the husband/partner or former partner and it takes place in the home, the one place where women should be able to feel safe. Violence against women occurs in all social strata. Prevalence figures vary (15-25 percent being subject to physical violence) due to factors such as women feeling uncomfortable about disclosing such experience but also due to methodological problems in research with differences in defining the violence, methods for data sampling etc. Studies indicate that many of the women suffering from mental health problems (anxiety, depression, sleeping disorders etc.) are or have been subjected to violence from a close male partner (5). However, this is seldom revealed as even though these women often seek primary health care, medical doctors and health staff hesitates to ask those questions. This is due to being ignorant on the subject and also due to a lack of support mechanisms in society to refer the women to. Also in Sweden, a highly developed welfare state, there are serious shortcomings on regional and local levels on how to tackle this problem. Innovative research projects are needed to investigate what hampers and promotes a better understanding of this problem at the local level.

In Pakistan violence against women is a more prevalent problem than in Sweden. There are no random sampled population-based studies from Pakistan of magnitude, but small scale

studies indicate that some 30 to 79 percent of married women are subject to violence in the home (8, 9, 10, 11, 12).

In addition, the general population thinks that beating is a normal part of marriage and the women are not supposed to talk to anyone about its existence (13, 14). Many women who are aware of their rights avoid any action for the fear of revenge or payback, lack of economic support, concern for their children, emotional dependency, lack of support from family and friends, and men are also being excused as being hot-tempered (15, 16).

To be able to prevent this public health problem which is also a serious violation of women's human rights, more knowledge is needed on the mechanisms behind. Further, it has been pointed at by the National Agency for Higher Education in Sweden that there are today serious shortcomings in teaching about this on all levels within the university educational system, not least on basic level for medical doctors and nurses and other health staff. This project wants to contribute to a better understanding of the problem by focusing on cross-cultural research and teaching activities investigating the different roles and responsibilities carried by women in the two cultures and how this influence violence exertion.

Gender theories have contributed to improved understanding of men's violence against women. The gender-power asymmetry implies that men's violence against women is to be understood within a structural (social and cultural) framework where women are subordinate to men. However, explanatory factors have been suggested to relate to all levels of societal organisation: the *individual, relationship, community and structural level* in line with how public health problems in general are understood (17). This needs further investigation in the local context, for researchers and public health practitioners to be able to suggest and initiate appropriate preventive and supportive activities and this collaborating project aims at contributing to this.

Adolescent sexual and reproductive health

Adolescence is a period of transition from childhood to adulthood, during which young girls and boys experience changes following puberty, but do not instantly assume the roles and the responsibilities of an adult. Adolescents' experiences however, differ by age, sex, marital status, class, region and cultural context. Knowledge, attitudes and beliefs have been shown to affect behaviour (18) and social environments and in some cases also religious beliefs further exert strong influence on people's lives and are especially critical in determining risk behaviour among young people (19). Behaviours like smoking, diet, exercise, use or abuse of drugs and alcohol, sexuality and sexual practices, attitudes and preferences related to fertility and contraception and as well attitudes to violence are largely developed in this period (20). Risk behaviours, such as unprotected intercourse, and involvement with illicit drugs, place young people and especially the girls at a high risk of unintended pregnancies, and of contracting sexually transmitted diseases, such as Chlamydia and HIV infections (21).

A well-informed younger generation is important for their health development. However, in many countries and cultures, there is lack of support to young people on sexual and reproductive health matters and awareness among adolescents is low (22).

Considering the diversity of Pakistani society, female empowerment has different meanings for women from different strata but a woman's status is always lower than that of her male partner. She is underprivileged in getting education, food, health care and freedom of choice

of partner, which has implications for her fertility behaviour (23). This obvious gender inequality situation restricts a young couple's possibilities to a healthy sex life and put the females in a weaker position than the males, and of increased risk of violence as well as of acquiring sexually transmitted diseases (STDs).

Adolescents, and especially the girls, face unique problems of gender inequality, cultural norms and lack of education in Pakistan. Their access to health care is limited and myths and taboos that affect the health of this age group are multifaceted. Characteristics found in Pakistan like low education, high fertility and low level of condom use are correlated to the rapid spread of HIV/AIDS as in other developing countries (24). Previous studies from Pakistan have shown that there is a huge gap in the knowledge regarding STDs among various groups of people in the population (25, 26, 27, 28).

Adolescents in Sweden have quite a different situation with greater openness to puberty, sexuality, fertility and contraception. Young people are being educated on these matters at school and parents and other family members are more open to discuss and confer knowledge and attitudes to improve life skills in the younger generation. However, also in Sweden young people of adolescent age are contracting STDs (mainly Chlamydia) and are at risk of HIV. Unintended pregnancies constantly happen even though contraceptives are easily accessible. A further serious matter is the fact that girls aged 15-20 suffer to a high degree from depression for reasons related to being unseen at school and not paid attention to, resulting in cases of suicidal behaviours and eating disorders while boys of the same age are in a much better situation.

The young generation needs knowledge on sexual and reproductive health matters and support from school, parents and peers to be able to develop sound health related attitudes and behaviours. This is of utmost importance particularly in a society like the Swedish with a general sexualisation of the public arena and of young women's bodies and where there are obvious demands on young women and men to be sexually active and very capable.

This institutional collaboration

This project is focused on collaboration in teaching and research within public health focusing on gender inequalities in health, adolescent sexual and reproductive health and violence against women.

- An exchange of senior faculty from the two Swedish departments and the two Pakistani departments will take place. Short courses on specific topics will be given at the partner university departments directed at basic level students and at master and doctoral levels. Further, senior faculty will contribute in courses and training programmes for medical students, nurses and public health practitioners. This will contribute in internationalising the teaching at AKU as well as at Ihear and Gothenburg University with the aim to broaden students' knowledge and insights within public health and gender issues.
- Within research, supervision and research training will be offered to in the first case PhD students. Two such projects are in a planning stage with Pakistani researchers and Swedish supervisors. These will form an important part of this collaboration but it is foreseen that another two or three research projects will be initiated over the period. The findings from these studies will inform teaching and practice in both countries. This is foreseen to be developed over the period.

- Collaborations will be formed between senior researchers from the two countries involving PhD students and post docs.
- A student exchange programme for basic level students will be built up for shorter visits to the partner country to do minor field studies as part of their regular training in public health science and practice. In the first case this will be open for Swedish students carrying out small scale studies in Pakistan.

The context of the planned collaboration

I. Dept of Community Medicine and Public Health (DCMPH), Göteborg University

University training programmes in Public health sciences and practice at basic university level, requiring no previous training within medical sciences, is under rapid development in Sweden. A few universities in Sweden have or are in the process of developing such programmes for undergraduate students and the interest is high among prospective students.

At Göteborg University such a programme is running since 2004. This Public Health Science programme comprise three years of undergraduate studies and one year at the advanced level (bachelor), and the first group is to graduate in June 2007. It was developed at the DCMPH and this department holds responsibility for its success. This particular programme has three main themes that are reflected throughout the entire programme, epidemiology with biostatistics, gender perspective, and health economy. This is to make the students well prepared for continuing into public health research or to take on a position within local community or county council administration or with international organisations.

Within the department (DCMPH), research training is also offered to PhD level students. A course titled *Gender in health research: integrating medicine and public health*, 2 credits, is currently offered to research students, registered for a PhD degree. It is offered every year, alternating between Dept of International Health (Ihcar), Karolinska Institute (KI) and Dept of Community Medicine and Public Health (DCMPH), Göteborg University (GU) and brings together students from all over the world.

Research is being performed on a number of different topics at the Dept of Community Medicine and Public Health. The particular research group to be involved in this collaboration works under the umbrella of *Gendered inequality in health and social security* focused on the health impact of such topics as high total workload and 'double exposure', adolescent health, sickness absence, mental health including alcohol abuse, accidents and injuries, and violence in intimate relationships.

Persons responsible in the initiating phase

Main responsible persons from this department will be Associate professor *Gunilla Krantz* MD, MPH and PhD in Public Health sciences, leading the research on violence against women and part of the research group, also supervising two research students from Pakistan, and *Lena Andersson*, PhD and international coordinator of the Public Health Programme.

II. Aga Khan School of Nursing and Dept of Community Health Sciences at Aga Khan University

The collaborating departments will be The School of Nursing (AKU-SON) and Department of Community Health Sciences (CHS), Aga Khan University, Karachi, Pakistan.

The AKU-SON was the first academic unit of the university in operation, beginning in 1980. At present, AKU-SON conducts four academic Programmes, General Nursing (RN) Diploma, Bachelor in Nursing (BScN), PostRN BScN and MSc in Nursing. In addition, a preparatory Programme, Track 1 (eighteen weeks) is offered for students from underprivileged areas to enable them to cope with the academic demands of the RN Diploma Programme. Since the establishment of School of Nursing in 1980, 2088 students have graduated from AKU-SON. The AKU-SON also has anticipation and contribution in international programmes including Advanced Nursing Studies Programme in East Africa. Now the collaboration has also been initiated in Afghanistan, Serbia and Tajikistan. However, AKU-SON is not yet able to offer a PhD degree in Nursing for which this collaboration with Swedish universities are required.

Department of Community Health Sciences (CHS) is a pre-eminent public health education institution in the country. The vision of the chancellor set the direction for the University to take a lead in community development, creation of an innovative curriculum and conducting quality research. CHS holds responsibility for programmes including Undergraduate Medical Education, Postgraduate Education including MSc in epidemiology and Health policy and management. CHS also supplies substantial course content to the PhD degree programme in Health Sciences and offers the speciality programme in Community Medicine which has been recognized by the College of Physicians & Surgeons of Pakistan. In place are a number of continuing education programmes for students at the regional level including Reproductive health research course, Geographical Information System (GIS) in Public Health Course, Health systems, management and research course, Epidemiology and biostatistics, Primary health care course.

Over the past decade AKU has developed a strong culture of research and to further promote research, a Research Office was established in 1999. This office facilitates research and has University wide function to promote research by assisting faculty in organising research meetings and workshops on research methodologies.

A number of research projects on reproductive health, education and health systems are ongoing. The CHS and family medicine has conducted research projects related to community development, reproductive health, communicable and non communicable diseases. At Aga Khan University level there are a number of groups working within any of the thematic areas, which are reproductive health, infectious diseases, non communicable diseases, disease related to paediatrics, obstetrics and gynaecology. Further, within nursing science work for clinical education and women's health in relation to nursing care and management is ongoing.

Responsible persons in the initiating phase

Main responsible persons from the Department of Community Health will be Senior Instructor *Dr. Syed Farid ul-Hasnain* (MD, MSc in Epidemiology, faculty and Principal investigator on adolescent sexual and reproductive health project, and from AKU-SON Assistant professor *Tazeen Saeed Ali* (nurse, midwife with MSc in Epidemiology; Principal investigator on project, 'Violence against women'.

III. Department of International Health, Ithcar, Karolinska Institute

Ithcar has a long and well acknowledged experience in research training of students from low and middle income countries. Complete Master and PhD programmes are offered with supervision from Swedish researchers. Students come from all over the world, also Swedish students are being admitted. The professional diversity favours multi-disciplinary research in international health, health policy and health systems research. The researchers are engaged in numerous health related programmes or projects, in a number of countries in Africa, Asia, Latin America and Eastern Europe, such as Sexual and reproductive health, Gender and Tuberculosis, HIV/AIDS, Accidents and injuries, Medicines in health systems, focusing on antibiotics. All international research projects are formed as institutional collaborations with researchers at national universities and research institutes in the countries where studies are done.

From Ithcar, the multi disciplinary research group on *Epidemiology and health systems research focusing on equity and gender* will be the selected partner in this collaboration. The group aims at contributing to improved health in low and middle income societies through research and research training. It is focused on tuberculosis, HIV/AIDS, health financing and insurance systems, public/private mix in health care, training of health personnel, maternal health, violence against women, childhood studies and human rights. The group has competence in caring sciences, medicine, epidemiology, bio-statistics and health economics.

Recently, a framework for collaboration was undersigned between Ithcar and Aga Khan University within the KIRT collaboration (Karolinska International Research Training) (29). AKU was visited by a KI delegation of seven professors in January 2006, in order to plan the further activity including continued research methodology workshops at AKU and additional sandwich research training programmes between the two universities. However, any activity within this formal collaboration needs to raise its own funding and no activities are as yet in place.

Persons responsible in the initiating phase

Main responsible persons in this collaboration will be Associate professor *Eva Johansson* (leader of the research group, supervisor for the Pakistani research students); Professor *Vinod Diwan* (president of KIRT) and Associate Professor *Gunilla Krantz* (supervisor for the Pakistani Research students).

Activities within the planned collaboration

The activities to take place will be described below under two main headings, *Teaching and training* and *Research and supervision*. These are to be seen as starting activities that will be further developed as the collaboration is deepened, by improving policies and advocacy with also advances in clinical practice to be made.

Four research groups will be involved, representing each of the four involved departments and these will form the core group in this collaboration. Other researchers and teams will join by time and when appropriate.

Summarising this, the participating research groups are the Gothenburg research group named *Gendered inequality in health and social security* together with the Ithcar group *Epidemiology and health systems research focusing on equity and gender* and from AKU/School of Nursing

the group on *Reproductive health and violence against women* and from the Dept of Community Health Sciences *Adolescent sexual and reproductive health*.

Teaching and Training

The Gothenburg group will focus on internationalising the three levels of training currently run or in the process to start at the department, the Public Health Sciences programme, the Bachelor programme and the post-graduate level research training courses (Master and PhD). This will be achieved through firstly, inviting lecturers from the partner institutions at AKU to conduct teaching and seminars focused on the two main areas in this collaboration, violence against women and adolescent sexual and reproductive health. This kind of collaboration is already initiated as Tazeen Saeed Ali, teacher and researcher at AKU and a prospective PhD candidate at Ichar has given lectures and seminars at DCMPH in Gothenburg in September 2006. This kind of exchange of knowledge and experience will be expanded within this planned institutional collaboration.

Secondly, an exchange programme will be developed where students from the above mentioned programmes in Sweden are given the possibility to make shorter visits to AKU for further training and small scale project work, such as minor field studies, thesis work on graduate and post-graduate levels to gain knowledge and experience from a country where public health problems are different from what is found in highly developed Sweden. The possibility to receive students from Pakistan for an equivalent period in Sweden will be further explored within this planned collaboration.

Aga Khan University has expressed a sincere interest in having an exchange not only in terms of PhD training but also in teaching. It is planned that teachers/researchers from both DCMPH in Göteborg and Ichar, Karolinska Institute will contribute in teaching activities at relevant departments at AKU. Declared interest from the AKU side is to have short courses run in collaboration on topics such as Gender inequalities and health, Qualitative research methods, Adolescent sexual and reproductive health including mental health issues. Further, training of counsellors, nurses and psychologists, in clinical management of victims of violence will be run. Discussions are ongoing where it is foreseen that Swedish researchers will contribute in fulfilling this.

Through this collaboration, Ichar at Karolinska Institute will be able to accept more students from Pakistan for PhD studies. In this way, Sweden will contribute to extending the number of fully qualified teachers/researchers at AKU while also communicating an internationally accepted procedure for how a PhD programme is run.

Benefits from the planned collaboration in teaching/education

With the ongoing globalisation, demands are increasing all the time on education and training to be internationally oriented not least within public health where profound differences are found when comparing countries and regions. The Swedish welfare system has contributed greatly to health achievements in Sweden while in Pakistan the withhold position of women rather hampers development. By an exchange of knowledge, experience and attitudes in a mutual learning process, teachers/researchers from both countries will benefit and the standard and quality of higher education within the above mentioned themes will improve at all four departments involved.

- Swedish graduate and post-graduate students will gain deeper knowledge and insights into important public health problems and a better understanding of the health related effects of

differing overall life circumstances, learning about conditions specific for a low income country, where also Islam is a strong power to take into consideration as concerns gender issues and its impact on health.

- As Sweden is a multi-ethnic country today with students of different ethnical and cultural backgrounds entering into higher education and university level programmes, it is of extreme importance that teachers/researchers are able to include international health issues and global public health topics in the training programmes.

- More students will be enrolled from Pakistan to join the PhD programme at Ithaca and also at DCMPH, but research training courses will also be run at AKU with Swedish involvement for the benefit of many more students at AKU than those enrolled in the Swedish PhD programme. Shorter periods for post doc assignments will be offered to in the first case to PhDs from Pakistan.

- These initiatives will also pave the way for senior faculty to collaborate in teaching and in research at the four involved departments.

Research and Supervision

Violence against women research

Departing from the Community Medicine and Public Health department and Ithaca, several violence research projects are ongoing in Vietnam and in Sweden and in a planning stage for Pakistan and Uganda. Gunilla Krantz together with Gunnel Hensing and Eva Johansson are the main persons involved in this.

From DCMPH, one project is investigating 'Obstacles and possibilities for an effective prevention of violence against women', using a qualitative approach (focus group discussions) when interviewing politicians, decision-makers and health staff in a Swedish community. Further, it is planned to carry out a population based study to investigate not only men's violence towards women but also women's violence towards men within intimate relationships. This is planned in two stages; a pilot study for tools development and validation, and later a population based study comprising some 10.000 individuals.

For Pakistan, the violence project is in its planning stage involving from AKU assistant professor Tazeen Saeed Ali with Gunilla Krantz and Eva Johansson at Ithaca as supervisors, titled *Living with violence in the home – a normal part of Pakistani women's life or a serious transgression of human rights?* This is planned as a joint project between the three departments (DCMPH, Ithaca and AKU-SON) to focus on interpersonal violence against women, i.e. the violence exercised by the husband or any other family member such as mother in law, brother-in-law.

This project will be carried out in two phases; a population based study will be performed to investigate forms of violence, their respective prevalence, its health effects and women's coping strategies and health care seeking patterns. A questionnaire developed by WHO for violence research will be used and data collection is made in face-to-face structured interviews. Parallel to this, an exploratory community intervention study will be conducted, using an action-oriented approach. Focus group discussions (FGDs) will be used in which selected key informants (village health workers, midwives, traditional birth attendants, medical doctors, community activists, religious leaders and other stake holders) will participate. The selection will be done on the basis of their knowledge and experience of meeting and treating abused women. The experience of the professionals will be taken care of, and intervention activities will be designed accordingly and tried out in an exploratory

study focusing on care-taking of battered women, and on preventive activities. As part of the research, the experiential design will be evaluated after six and twelve months respectively using qualitative and quantitative methods.

In Vietnam a population based and a qualitative interview study is ongoing since 2002, investigating men's violence against women in intimate relationships. A number of interesting findings have been made. Main researcher is a Vietnamese PhD student and main supervisor is Gunilla Krantz.

In Uganda, a project on violence in war and conflict situations will be performed. In a part of northern Uganda serious violations against women and girls has been at hand for some 20 years. Limited action has been taken against this from the side of the health care services and other local organisations. Reasons for no shelter or support available for the numerous women and girls suffering this violence will be investigated in a PhD project with Gunilla Krantz as main supervisor.

Benefits from collaborating on Violence research

These projects mentioned above on violence against women include several different study populations, research methods, and are performed in different cultures. The Dept of Community Medicine and Public Health is the coordinating body. These projects will together broaden the knowledge and experience within violence research and contribute to finding preventive strategies. A network of researchers from the different countries will be formed for fruitful collaborations and further dissemination of results. The Pakistani project has an innovative design and forms an important part here. These initiatives will certainly strengthen this area of research at DCMPH at Göteborg University and at IHCAR and as well contribute more knowledge and insights into teaching the subject within health sciences (medical education, nursing, public health sciences programme).

Drawing on the experience gained from this collaboration, a programme will be developed at AKU for practitioners including psychologists and nurse counsellors, as this is an important element in the management of women who are victims of violence. This will form a part of the intervention part of the violence research.

This project will enhance knowledge and experience concerning subject matter (violence against women) as well as methodology (action oriented research) that will be used in Sweden for educational purposes in the first case. Further, Swedish students at basic level will have the opportunity to contribute in this project by doing minor field studies within the violence research under supervision of Pakistani researchers. PhD students will be enrolled to work in collaboration with Pakistani PhDs within violence and related areas under supervision of Swedish and Pakistani senior researchers.

Adolescent sexual and reproductive health research

Previous studies from Pakistan have shown that there is a huge gap in the knowledge regarding sexually transmitted diseases (STDs) among various groups of people in the population (25, 26, 27, 28). The overall objective of the present study is to assess adolescent girls and boys' knowledge and perceptions of reproductive health in order to explore their needs for reproductive health services. The rationale behind this study is the urgent need for improved attention in policies and programmes on adolescents' health and for high quality reproductive health services, to minimise unintended pregnancies, abortions and sexually

transmitted infections, which has become even more important in the prevention of the spread of HIV among young people.

This project has been accepted for funding from Sida/Sarec (the Swedish International Development Agency) with Dr. Farid ul-Hasnain from Dept of Community Health Sciences at AKU as main researcher. Dr. Farid ul-Hasnain has also been accepted as registered PhD student at Ithaca for this project and associate professors Gunilla Krantz and Eva Johansson are appointed supervisors.

In this study, qualitative (focus group discussions) and quantitative research methodologies (structured interviews) will be used. This procedure of combining these two research methodologies will secure a comprehensive and rich picture of this topic, where focus will be gender differences in perceptions and needs.

Benefits from collaborating on Adolescent health research

Evidence based information about adolescent reproductive health is lacking in Pakistan and this project will support and accelerate the formulation of gender specific policies and programmes within this area. The project will further strengthen research capacity in Pakistan, in particular of community medicine/health and qualitative research methods.

Quite a number of students from different countries are involved in studies on Adolescent sexual and reproductive health at Ithaca for their PhD degree. Dr. Farid ul-Hasnain will build up a network for exchange of ideas, methodology and results at Ithaca over the coming years. It is foreseen that this topic will bring in more students from the Pakistani side.

The knowledge and experience gained from this project will be conveyed to students at the two Swedish departments enrolled at the different levels. Basic level students from Sweden will be able to go for minor field studies in the Karachi area to follow this project as well as the violence project and contribute with small scale studies under the supervision of Pakistani researchers. Swedish PhD students will be invited to work in collaboration with Pakistani PhD students on these and related topics.

The differences in knowledge and attitudes to sexual and reproductive health matters between Swedish and Pakistani adolescent youth will be used in teaching in both countries as studying another culture and understanding how gender roles are constructed will contribute to better insights into the Swedish present tendency of sexualising the society and a readiness to discuss this in higher education in Sweden.

Working in pairs

A further plan for this collaboration is to have PhD candidates to work in pairs, one from Sweden and one from Pakistan exploring the same topic using comparable designs, but in different cultures.

A project of highest interest and concern in this collaboration is to investigate and compare *The construction of gender roles in different cultural contexts*. What are the specific characteristics, abilities and expectations associated with being a female or a male in the two cultures and how do these differ? Such a project will be linked to the ongoing violence research within the collaboration and will serve as inspiration for more students to join this particular research project.

Another topic of concern is *Accidents and injuries*. Both at Ihear and at DCMPH are doctoral projects ongoing on these topics, of which one is titled *Perception of risk and injury pattern among children and youth in municipalities with low and high burden of injuries*, being performed at DCMPH with Gunnel Hensing as project leader, which we believe is well suited for such collaboration.

Non-communicable disease

The burden of non-communicable diseases (NCDs) is emerging as a major public health challenge for developing countries including Pakistan. Overall deaths from NCDs are expected to climb from 28 million a year in 1990 to 50 million by 2020; while in developing regions, by the year 2020, NCDs are expected to account for seven out of every ten deaths, compared with less than half today. Comparative to the western world, cardiovascular diseases which are the main contributor of NCDs, affects the people of south Asia at younger ages and with more severity, hence during more productive years of lives.

The burden of cardiovascular diseases and their risk factors including hypertension and diabetes in Pakistan has already reached at epidemic proportion with their alarming future projections. Over 18% of the adult population of Pakistan is suffering with hypertension and even a greater number have diabetes or impaired glucose tolerance. A number of studies revealed that in Pakistan, women have a greater burden of clinical and lifestyle cardiovascular risk factors than men.

With this background and future projected burden of hypertension and diabetes for Pakistan, there is a great need to identify the factors associated with these conditions hence to design better health promotion and disease preventions programs and intervention strategies for hypertension and diabetes. A multi-centre study would be of great benefit for further exploring this.

Benefits from such collaborations

What is described above constitutes ideas that have been pronounced by the involved researchers in the two countries but are to be further developed. We believe in expanding the collaboration to include more Pakistani students to collaborate with Swedish PhD candidates.

The economic contribution from AKU

A memorandum of understanding has been signed between AKU and KI that ensures support such as joint supervision of graduate students who visit each of the universities for training and attending courses. AKU and KI faculty and students can submit research grants applications to AKU research grant scheme which could award funding to carry out research and stay for limited periods at AKU.

Planning for each year

Year 1 (July 2007-June 2008):

- Teaching activities by Pakistani lecturers/researchers at basic and post-graduate levels at DCMPH;
- Initiating the violence study in Pakistan by data collection for the prevalence study and planning for the intervention study;
- The coordinator for the student exchange programme at DCMPH to set up a formal agreement with AKU;

- Initiating the student exchange programme with two students from DCMPH going to AKU for minor research work to be supervised by colleagues at AKU;
- The adolescent health project presenting its finding in a half time seminar at Ihcar, in connection to the doctoral studies.

Year 2 (July 2008-June 2009):

- One short course performed at AKU with Swedish researchers from Ihcar and DCMPH involved, post-graduate level;
- Contributions from Pakistani teachers/researchers in the Master and PhD programmes at DCMPH;
- The violence researcher from Pakistan to attend PhD training courses in Sweden;
- The student exchange programme sending two-three students from Sweden to AKU, 1-2 month's stay, for minor research projects, supervised by colleagues there;
- Adolescent health research project to conduct qualitative component of the study.
- The violence project to select persons at the local level for contributions and collaboration in the action-oriented part of the research, planning phase;
- Collaborations being formed between students from the two countries on other topics, (accidents and injuries) and one more Pakistani student preparing for becoming a PhD student; supervisors from both countries collaborating on this;
- Seminars to be held at Ihcar and DCMPH on ongoing activities directed at faculty members and students in separate sessions;
- Short course performed at AKU directed at PhD candidates with Swedish involvement from Ihcar and DCMPH;
- Articles published;

Year 3 (July 2009-June 2010):

- PhD defence in the Adolescent health project at KI;
- Half time seminar in the violence project at Ihcar in collaboration with DCMPH;
- Exchange students from Sweden going to AKU as described above;
- Pakistani post-graduate students attending post-graduate training courses at Ihcar and/or DCMPH;
- One post doc person from Pakistan to study in Sweden for one month;
- A continuing exchange of teachers between the three departments;
- Supervision ongoing on Master and PhD levels where Swedish and Pakistani supervisors collaborate;
- Articles published;

Year 4 (July 2010-June 2011):

- PhD defense in the violence project;
- Half time control for projects initiated during this collaboration;
- Teaching exchange activities;
- Student exchange activities;
- Post doc activities;
- Articles published;
- Courses and Seminars held at all four institutions with teacher involvement from both countries.

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