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Student Journal of Health Sciences

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- Editorial -

Multi-disciplinarity in practice

Education and research have traditionally been divided into faculties with quite strictly defined fields of interest. Today it is often hard to tell where these fields start and end. Researchers with various backgrounds might work on the same or related problems, but with different techniques or approaches. Cross-disciplinary or multi-disciplinary research have become popular terms for this kind of work, where faculty borders are broken down in order to achieve crossbreeding between different scientific fields.

Linköping University has a tradition of introducing new concepts in teaching and research. The foundation of a cross-disciplinary research school, entitled "Forum Scientum", can be seen as a logical continuation of this tradition. Forum Scientum intends to bridge faculty borders with projects involving PhD students and supervisors from at least two faculties. Today 27 PhD students, with different educational backgrounds from the field of natural sciences are confronted with the reality behind words such as multi-disciplinarity, cross-fertilising knowledge, and knowledge transfer. We are two of those PhD students from the medical faculty.

When we started there was no formalised model for what a cross-disciplinary project should or could look like. During these first two years we have developed our own standards for this co-operation. Some of us are sharing laboratory, working close together on directly related issues. Others meet more seldom to exchange ideas and opinions. Key issues for a good co-operation seems to be that the project ideas have practical points of contact and not only a more theoretical linkage. What are the advantages with this kind of co-operation? Not surprisingly, we find that we can contribute to each other's work with facts or opinions or simple technical assistance that otherwise would be hard work to find. Even more useful is the experience that our different educational backgrounds have taught us different ways to approach and solve problems, which sometimes gives new openings and insights in problem solving.

Except from project work involving two or three PhD students, we do also have joint seminars and presentations within the whole group. We think this is another aspect, not less important, of multi-disciplinarity. To listen to and participate in discussions in the periphery of your own field widens your comprehension for the scientific fields of others and increases your general knowledge in natural sciences. The training in transferring your own knowledge to a group outside your own field is also valuable for presenting university research to society and industry.

Generally there is an optimistic atmosphere about cross-disciplinary research but critics sometimes talk about the risk of educating "multi-professionals" with shallow knowledge in a multitude of fields. We can see this risk, but in our opinion teaming up two fields of science does not mean that you turn physiologists into engineers or physicists into biologists. To stay tight to your own discipline is important for the long term training as a scientist and for not losing quality. Multi-disciplinarity should be a tool for reaching new insights and defining new research fields. It should never be a goal in itself.

Our first years of cross-disciplinary research training have been hard but inspiring. Of course we can never tell what multi-disciplinarity would mean in each and every instance, except from excitement mixed with frustration. However, a good start for a successful co-operation is humbleness with respect to the knowledge of others and with respect to your own knowledge.

Granseth B, PhD student at Forum Scientum and member of Domfil Board

Fyrenius A, PhD student at Forum Scientum

- Abstract section -

Establishment of a Polymerase Chain Reaction-based technique to study Platelet Activating Factor acetylhydrolase

Author: **Nikookhesal E**, Master of Science in Biomedical Laboratory Science, Linköping University.

Tutor: Ljungman A, researcher/lecturer, Division of Occupational and Environmental Medicine, Dept of Health and Environment, Linköping University, Sweden.

Background

The mechanisms behind the bronchial hyper-reactivity in patients with different types of asthma are still unknown. In the last few years a number of inflammatory mediators has been discovered, among which Platelet Activating Factor (PAF) plays a significant role in causing the characteristic symptoms of asthmatic patients. Degradation of PAF is catalysed by PAF acetylhydrolase (PAF-AH). An acquired deficiency of PAF-AH activity have been reported in asthmatic patients. Increased levels of PAF have also been seen in children with acute asthmatic attacks. An inherited PAF-AH deficiency has been observed in a Japanese population. Studies has shown that this deficiency is caused by a point mutation in exon 9 of the PAF-AH gene.

Aim of the study

The aim of this study was to establish a DNA extraction method and a polymerase chain reaction (PCR) technique suitable for amplification of exon 9. This was done to find out if there is a point mutation at this exon in patients with asthma. Further, the PCR technique was applied to cultured cells (A549 and BEAS) in order to find out if these cells express the PAF-AH gene and in order to study effects of different kinds of molecules (such as TNF- α) on the expression of the PAF-AH gene in these cells.

Material and methods

Human whole blood and cultured cells (A549, cancer cells from human lung and BEAS, virus transformed epithelial human lung cells) were used in the present study. Methods used in the study were phenol/chloroform extraction method, PCR, reverse transcription PCR (RT-PCR), agarose gel electrophoresis, purification analysis and restriction enzyme analysis.

Results

We managed to amplify exon 9 in DNA isolated from fresh and frozen human whole blood with PCR. The initial PCR protocol was then optimised and applied on clinically obtained blood samples, which were further examined through restriction enzyme analysis. The results show that the methods employed are suitable for investigations of the PAF-AH gene in a clinical setting. However we did not manage to find any mutation in the gene. We also applied the method on A549 and BEAS cells and found that the PAF-AH gene is expressed by these cells.

Conclusions

The basic aims of the study were achieved. In view of the results, we conclude that the methods used are adequate for DNA-extraction and amplification of exon 9 from human blood samples. The extraction method and the restriction enzyme analysis of blood samples from asthmatic children indicated that the method can be used in larger clinical investigations of PAF-AH. Furthermore, the results of the experiments on cultured cells show that it is possible to study the expression of the PAF-AH gene in such cells with the described methods.

Key words: Platelet activating factor (PAF), platelet activating factor acetylhydrolase (PAF-AH), exon 9, DNA/RNA extraction, PCR, RT-PCR.

Inter-professional Perception Scale. Measuring co-operation between physical therapists and nurses

Authors: **Hansson L**, Physical Therapy Programme, Linköping University

Jansson M, Nursing Programme, Linköping University

Tutors: Gullberg M, lecturer, Division of Nursing Science, Dept of Medicine and Care, Linköping University, Sweden.

Background

Health professionals have a history of competition, jealousy and a lack of co-operation. Both success and problems in health care team approaches can often be traced to the clarity of the professional role among the team members. When individuals from two or more professions work together on a common problem it is not unusual to find differences regarding role expectations and perception of roles. Confusion about professional roles occur most frequently when a working task appears to belong to two disciplines. This may result in a power struggle among the professionals involved. Collaboration requires respect for each discipline's uniqueness and function, and also knowledge of each other's professional role. Co-operation will improve patient care and provide satisfaction among the team members.

Aim of the study

The aim of this study was to translate an American instrument "Inter-professional Perception Scale", (IPS) (1, 2), which examines expectations and perceptions among different professional groups, to Swedish conditions and to test this translated instrument in a pilot study. An additional aim was to view the co-operation between physical therapists and nurses, by examining roles, role perceptions and expectations of each other, using IPS and a few questions from another scale "Professional Self Description Form" (PSDF) (3).

Method

The IPS contained 15 items which were answered with the statements "true" or "false". The results from IPS describes how a professional views another professional (Level I), whether he or she thinks that members of the other profession agree or disagree with that view (Level II) and whether they understand that perception (Level III). The testing of the translated scale was made as a pilot study at the Clinic for Hospital home attached care (LAH) at the University Hospital in Linköping, Sweden. All nurses (n=27) and physical therapists (n=10) at the clinic participated in the study.

Results

When comparing our results with those of another study made with the original instrument (1), the results are almost the same. The differences might be explained by the differences between American and Swedish health care systems. For example, in Benson & Ducanis (1995) study, more than half the physical therapists have the opinion that nurses have very little autonomy. In the present study none of the physical therapists have that opinion.

See table 

The significant differences ($p=0.05$) between physical therapists and nurses in this study show that there is a lack of knowledge regarding the capabilities and skills of the two professions. Mainly these differences concern the areas of status, expectations, and to take charge of each other's resources. These areas affect the co-operation and are of great importance for the teamwork.

Conclusion

The Swedish translation of the IPS should be tested in a larger scale and with other professions in health care in order to compare the original instrument and the Swedish translation even further. Altogether the items cover various aspects of co-operation which is being confirmed by different theories about teamwork and group relations. The results show that IPS might be a useful instrument for the evaluation and development of teamwork and co-operation.

Key words: Inter-professional relations, co-operative behaviour, physical therapy, nurses, group processes.

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Table. The Physical therapists and the nurses view about them selves = PT about self and N about self. PT's view about nurses and N's view about PT = PT about N and N about PT, (percentage).

(Shortened questions)	PT about self n= 10	N about self n= 24	PT about N n= 10	N about PT n= 24
1. Competent	100	100	100	100
2. Have little autonomy	0	0	0	4
3. Do understand capabilities	100	96	70	92
4. Are concerned of the patient	100	100	100	96
5. Encroach	30	25	30	29
6. Are highly ethical	100	96	100	92
7. Expect to much	30	29	0	38
8. Have a higher status	20	17	0*)	46
9. Are defensive about prerogatives	90	79	80	83
10. Do trust your judgement	100	96	100	100
11. Do seldom ask your device	0	0	20	29
12. Do fully utilise your capabilities	70	71	40	79
13. Do not co-operate well	0	21	0	8
14. Are well trained	100	100	100	100
15. Have good relations	100	96	100	100

*) n = 9

Relatives' experience of living close to a person with dementia

Authors: **Petersson L, Swärdh C**, Occupational Therapy Programme, Linköping University.

Tutor: Wressle E, Master of Science in Occupational Therapy, Clinic of Geriatrics, University Hospital in Linköping, County Council of Östergötland, Sweden.

Background

Dementia is a widespread condition that affects increasing number of people. The most common types of dementia are Alzheimer's disease and vascular dementia, where the most prominent symptoms are memory deficits, speech and language disorders and impairment in abstract reasoning. This leads to several difficulties in coping with daily activities. The disease does also have a great impact on the relatives' daily life. When the relatives are bound to take care of a person with dementia they might become socially isolated and both mentally and physically strained.

Aims of the study

One aim was to achieve an increased understanding of the situation of being a relative to a person with dementia. Another aim was to study the relatives need for support.

Methods

The study was based on qualitative interviews with relatives to demented persons who live in a supported housing. The interviews had the nature of conversations, where certain topics were covered with the help of an interview guide. The analysis procedure was inspired by Grounded Theory, which includes coding and categorising the material gained from the interviews.

Results

Eight categories were discovered. The first, described the relatives' treatment of the person with dementia, which requires knowledge about the disease. The second category was respect for the person with dementia, and the importance of maintaining traditions. Physical and mental strain made it necessary for the relatives to find their own solutions, such as sharing the responsibility between family members and using coping strategies. The support from society did not always correspond with the relatives' need for support. Lack of contact with health care staff was expressed by the relatives. The information that the relatives received varied much. In some cases it was insufficient. The way the relatives were treated by the staff also varied. The staffs meeting of the individual's need were expressed positively by the relatives. The relatives shared experiences about the situation when the person with dementia had to move to a supported housing. This needed special strategies and the relatives also suffered from burdens of guilt.

Conclusions

The present study shows that the support given to the relatives of demented persons can be improved when it comes to information and practical advice. It is therefore important that the staff that the relatives meet, have the required knowledge about dementia and that they understand the situation of being a relative to a person with this disease.

Key words: Burden, caregivers, dementia, family care, occupational therapy.

Anti-inflammatory properties of acetone in irritant- and UVB-light induced inflammation of human skin

Author: **Falk M**, Medical programme, University of Linköping.

Tutor: Anderson C, professor, Division of Dermatology, Dept of Biomedicine and Surgery, Linköping University, Sweden.

Background

In dermatology, local application of corticosteroids has been established as the dominating treatment for inflammatory disorders of the skin. As well as corticosteroid therapy, other methods are frequently used as a supplement, e.g. decongestant baths and dressings of different kinds. A further development of such methods could possibly reduce the need for and the extent of corticosteroid therapy in inflammatory skin disorders. In a study performed on guinea pig skin, it was recently found that acetone has anti-inflammatory effects on toxic and allergic contact reactions (1).

Aim of the study

In this study, our intention was to investigate whether acetone has anti-inflammatory effects on irritant- and UVB-light induced cutaneous inflammatory reactions in man.

Materials and methods

In a test series of 22 healthy subjects without known skin disease, local cutaneous inflammatory reactions were induced by UVB-light illumination. In an additional test series of 8 subjects, reactions were induced by UVB-illumination as well as by provocation with the irritant substance sodium lauryl sulphate (SLS). Immediately after completed provocations, induced reactions of both kinds were treated with topically applied acetone, under occlusion, and compared to untreated control reactions. In the additional series composed of 8 subjects, UVB -and SLS-reactions were also treated with the corticosteroid clobetasone propionate (Dermovate), as a comparison. Subjective visual assessments of UVB-reaction diameters, and estimation of the superficial skin blood perfusion by Laser Doppler Perfusion Imaging (LDPI), was performed after 6 and 24 hours. SLS-reactions were examined by inspection, LDPI, and evaporimetry, for estimation of transepidermal water loss (TEWL), after 6 and 24 hours (2).

Results

The results show that acetone-treated inflammatory reactions had significantly smaller diameters ($p < 0.05$) and lower mean perfusion values, compared to non-treated control reactions 6 hours after illumination, this was much less pronounced than for Dermovate. After 24 hours there was no statistical significant difference between acetone-treated UVB-reactions and control reactions treated with Dermovate. In the SLS-induced reactions, there was no uniform difference between untreated control reactions and reactions treated with either acetone or Dermovate, when examined after 24 hours.

Conclusions

Our conclusion is that acetone has anti-inflammatory effects on UVB-light induced inflammatory reactions in human skin, when examined 6 hours after illumination. We could however not prove that acetone has a similar effect on SLS-induced irritant skin reactions.

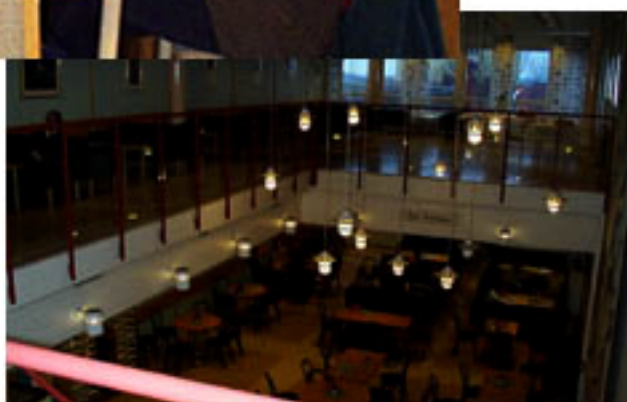
Key words: Inflammatory disorder, anti-inflammatory effect, dermatology.

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- Science and students -

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A comparison between electrostimulated acupuncture and stimulated acupuncture as treatment of hyperemesis gravidarum

Author: **Sternö E**, Medical Programme, Faculty of Health Sciences, Linköping University, Sweden.

Background: Hyperemesis gravidarum affects about 1% of all pregnant women. Some, but not all women, are cured or relieved by pharmacological therapy. **Objective:** To assess whether electrostimulated acupuncture and superficial needle insertion were efficient as treatment of hyperemesis gravidarum.

Material: Eighteen pregnant women hospitalised due to hyperemesis gravidarum, which had not been relieved by pharmacological therapy.

Method: All women received 10 minutes of acupuncture therapy bilaterally in the Neiguan point twice daily for three days. They were randomised between electrostimulated therapy with 10 Hz or without electrostimulation. Effectiveness was evaluated with a number of different questions on a formula equal for both groups. Subjective feelings were assessed on visual analogue scales.

Results: Both groups considered that they had increased their ability to eat during the hospital stay. Electrostimulated acupuncture appeared to significantly decrease the severity of nausea and number of hours with nausea, whereas superficial needle insertion did not induce such effects.

Conclusion: Electrostimulated acupuncture seems to be a tool in the therapy of hyperemesis gravidarum but further studies should be performed to find out more efficient modes of acupuncture, perhaps also in combination with pharmacological therapy.

Chest pain - management and follow-up in primary care

Authors: **Assel K, Blomkvist C, Engblom D, Holmgren S, Karlsson E**, Medical Programme, Faculty of Health Sciences, Linköping University, Sweden.

Chest pain is one the most frequent complaints for which patients seek primary care. This symptom can be caused by a broad spectrum of diseases of which many require extensive investigations and the utilisation of many resources. Despite this fact, chest pain does not seem to have been investigated to a greater extent in the Swedish primary care. The aim of this study is to examine the investigation and follow-up of patients, who for the first time have consulted a primary care physician due to chest pain, as well as to map the resources that were used during this investigation. This was done using the computerised medical record system that was in use at the primary care centres included in the study. Due to the computer system set up, the patient sample had to be restricted to patients who received either the diagnosis chest pain or the diagnosis ischemic heart disease. Data were collected at four primary care centers in the county of Östergötland and were based on available medical record notes from 950101-961206. Among the patients who received the diagnosis chest pain at the first visit, the discomfort was most frequently considered to originate from musculoskeletal disorders (34%), ischemic heart disease (13%) and psychosomatic disorders (9%). Nevertheless, 40% of the patients had a chest pain that were still of unknown genesis at the end of the last investigated visit. Regarding the patients who received the diagnosis ischemic heart disease at their first visit, only 65% had a confirmed ischemic heart disease noted in their medical record after completed investigation.

Increased levels of nitric oxide metabolites in urine from patients with pulmonary tuberculosis, leprosy and cutaneous leishmaniasis

Authors: Schön T¹, Gebre N², Sundkvist T¹, Adarai G³, H/Mariam H S⁴, Engeda T⁴, Asrat D³, Britton S², ¹Division of Medical Microbiology, Faculty of Health Sciences, Linköping University, Sweden. ²Armauer Hansen Research Institute (AHRI, Addis Ababa, Ethiopia. ³Black Lion Hospital, Addis Ababa, Ethiopia. ⁴All Africa Leprosy And Rehabilitation Training Center (ALERT), Addis Ababa Ethiopia.

The presence of nitric oxide (NO) and its role as a factor in host defense against intracellular pathogens in humans is controversial. In this report we measured the metabolites of NO - nitrite (NO₂⁻) and nitrate (NO₃⁻) - in urine from Ethiopian patients suffering from infectious diseases targeting the macrophage. For the reduction of nitrate to nitrite, a nitrate reductase from *Aspergillus* in the presence of NADPH was used. The NO₂⁻/NO₃⁻ -level was then determined spectrophotometrically by Griess reaction. The urinary level of NO₂⁻/NO₃⁻ in a group of healthy Ethiopians was 1020±471 µM (n=22). Untreated HIV negative patients with active pulmonary tuberculosis (1574±588 µM, p=0.003, n=12), leprosy patients in the reactional stage of the disease (1735±546 µM, p<.001, n=16), healthy contacts to tuberculosis patients (1949±812 µM, p<0.001, n=7) and patients with cutaneous leishmaniasis (1575±671 µM, p<0.02, n=9) all had significantly higher levels than the control group. Untreated HIV positive patients with pulmonary tuberculosis did not have significantly different levels (1101±614 µM, p>0.1, n=6). Some of the HIV negative untreated patients with pulmonary tuberculosis (1710±519 µM, n=6) were followed up after treatment and showed a reduction in the levels of urinary NO₂⁻/NO₃⁻ 1 week after treatment (945±599 µM, p<0.001). In conclusion these results show that increased levels in urine of the metabolites of nitric oxide, NO₂⁻/NO₃⁻, are found in patients with active pulmonary tuberculosis, cutaneous leishmaniasis, leprosy in a reactional stage of the disease and healthy contacts to patients with tuberculosis.

Microdialysis assessment of adipose tissue metabolism in children

Authors: **Alkén J, Eriksson J**, Department of Pediatric and the Pediatric Endocrine Research Unit, Huddinge Hospital, Sweden.

Microdialysis is a recent technique that may be used to continuously monitor ongoing metabolism in the adipose tissue. The general principle underlying this method is to mimic the function of a capillary blood vessel by slowly perfusing a dialysis tube implanted in the tissue. The concentration of metabolites in the outgoing perfusate are determined to reflect the corresponding levels in the interstitial fluid due to equilibration of substances across the semipermeable dialysis membrane. Of utter importance is to simultaneously monitor the local blood flow. E.g. a decrease in the concentration of a specific metabolite may reflect merely a dilutional effect secondary to increased blood flow. Thus, we have established an ethanol-clearance based technique to evaluate the microcirculation during the dialysis. Our aim is to evaluate the feasibility of using the microdialysis technique to study glucose, lipid, and lactate metabolism in children. We are presently able to determine the absolute concentration of glucose, lactate, and glycerol in the interstitial fluid (glycerol is a product of lipolysis), and these levels are in excellent agreement with the corresponding blood levels. Thus, microdialysis of children with e.g. hypoglycemic prone disorders can conveniently and accurately be monitored to avoid life threatening drops in blood glucose. We are especially interested in hypoglycemia and diabetic fetopathy in newborns.

Consolation - an interpersonal aspect of nursing care

Authors: **Fredholm-Nilsson A, Jakdal M**, Nursing programme, Faculty of Health Sciences, Linköping University, Sweden.

The identification and analysis of specific concepts are relevant to nursing and consolation is believed to be one of the concepts that need to be further explored. The aim of this phenomenological study was to explore the phenomenon of consolation as a human interaction and increase the comprehension of what the phenomenon can mean to various people. Data were collected through in-depth interviews with eight people, aged 23-30. The interviews were transcribed and analysed according to a modification of Giorgi's phenomenological psychological method. The overriding theme of the phenomenon of consolation is the experience of sharing difficulties with someone who cares. The study also indicates that the physical contact between people is of importance for consolation. Consolation is believed to contain a sense of being confirmed, and a sense of hope and faith. This study can increase the understanding of consolation as a nursing intervention.

A flow cytometric assay for the study of dense granule function in human platelets

Authors: **Ramström A S, Fagerberg I H, Lindahl T L**, Graduate School in Biomedicine, Faculty of Health Sciences, Linköping University, Sweden.

Even though the platelet lacks a nucleus, it performs many complex functions. One of the events leading to haemostasis is the release of agents from granule in activated platelets in a process called degranulation. A decreased number of platelet granules or a defect in the release reaction may lead to increased mucocutaneous bleeding tendencies and increased bleeding after delivery, tooth extractions and surgical procedures. We have developed a method to study the amount of and release from platelet dense () granule, The uptake of the fluorescent marker mepacrine into platelet dense granule were measured using flow cytometry. The platelet population was identified by size and binding of a phycoerythrin-conjugated antibody against GPIb. Cells within the discrimination frame were analysed for green (mepacrine) fluorescence. Both resting platelets and platelets previously stimulated with collagen and the thrombin receptor agonist peptide SFLLRN were analysed for mepacrine uptake. By subtracting the value for mepacrine uptake after stimulation with the value for uptake without stimulation for each individual, the "releasable pool" of platelet dense granule could be estimated. Whole blood from 22 healthy individuals were analysed. Mepacrine incubation without previous stimulation gave mean fluorescence intensity (MFI) values of 83 ± 6 (mean ± 1 SD, range 69-91, reference interval 71-94). The MFI difference between resting and stimulated platelets were 28 ± 7 (range 17-40, reference interval 15-41). 6 members of a family with suspected - storage pool disease were analysed, with various results. The two members (mother and son) who showed prolonged bleeding times also showed values separated from the normal population in this analysis. One daughter with bleeding problems but a normal bleeding time showed values in the lower part of the reference interval.

Female genital mutilation in a rural area in Sudan I: knowledge and practice

Authors: **Almroth L, Almroth-Berggren V, Lithell U-B, Bergström S,**
Department of Public Health Sciences, Division of International Health Care
Research (IHCAR), Karolinska Institutet, Stockholm, Sweden.

The aim of this study was to outline knowledge, attitude and practice of female genital mutilation (FGM) among men and women of the youngest parental generation and among grandparents in a rural area in Sudan. The 120 villagers randomly interviewed had a high level of knowledge about FGM and related complications. Young parents believed to a higher degree than grandparents that FGM affects health negatively for the woman ($p < 0,001$). All saying FGM affects health could give examples of complications. It was also revealed that there were male complications related to FGM. Men found religious support for FGM to a higher degree than women ($p < 0,03$). More of those who found religious support for FGM let their daughter undergo the procedure ($p < 0,01$). Only those young men who had low education level denied that FGM affects health ($p < 0,05$). Among young women there were significantly more of those with higher education who did not let their daughter undergo FGM ($p < 0,03$). What is needed in future campaigns against FGM might be to involve religious leaders and to facilitate communication rather than spread information about risks. To raise the general level of education might also affect the practice of FGM.

Female genital mutilation in a rural area in Sudan II: attitudes and communication

Authors: **Almroth-Berggren V, Almroth L, Lithell U-B, Bergström S,**
Department of Public Health Sciences, Division of International Health Care
Research (IHCAR), Karolinska Institutet, Stockholm, Sweden.

Female Genital Mutilation (FGM) is a complex and controversial issue, important to understand. The aim of the study was to elucidate knowledge, attitude and practice of FGM among men and women of the youngest parental generation and among grandparents in a rural area in Sudan. 120 villagers were randomised for interviews. Significantly more of those in the younger groups would have accepted a woman without FGM to be his/her son's wife ($p < 0,001$). A majority of the young men would have preferred to marry a woman without FGM, which was significantly more than among the grandfathers ($p < 0,01$). All grandparents had let their daughter undergo FGM, but 44% of the young parents had the ambition not to let their daughter undergo it. There had been a shift from the most severe form to milder forms of FGM. Tradition and social pressure were the main motives to perform FGM. Sexuality was an important aspect, mentioned both in relationship with complications and as motives for and against FGM. Many villagers, but especially young parents, expressed attitudes disfavouring FGM without telling others these attitudes. What is needed in future campaigns against FGM might be to facilitate communication rather than spread information.

Does estrogen affect well-being in postmenopausal women without vasomotor symptoms? - A placebo-controlled, randomised study

Authors: **Skarsgård C, Hammar M**, Department of Obstetrics and Gynaecology, Faculty of Health Sciences, Linköping University, Sweden.

Objective: To establish whether estrogen treatment affects well-being in postmenopausal women without vasomotor symptoms.

Methods: Forty postmenopausal women, aged 45-59 years, with vasomotor symptoms were included. They were blindly and randomly allocated to either estrogen or placebo. At baseline and after twelve weeks of treatment the women completed a questionnaire which reflects well-being, The Psychological General Well-Being (PGWB) Index.

Results: The women scored high on the PGWB Index, both at baseline and after twelve weeks. There was no significant difference in wellbeing with estrogen therapy compared to placebo.

Discussion: There is a gradual decline in estrogen during the climacteric, and it is controversial to which extent this affects women's mental health. To clarify the aetiological role of estrogen in psychological symptoms it is important to study postmenopausal women without vasomotor complaints. The PGWB scores in this study were high, reflecting that these women represent a selected sample. Estrogen does not improve well-being in women without vasomotor complaints. The positive effect on quality of life shown with estrogen therapy in women with vasomotor symptoms seems to be secondary to alleviation of symptoms.