Capacity Development for Healthcare Systems in Low- and Middle-Income Countries. Assessing the effectiveness of an advanced international training programme in sexual and reproductive health and rights in Africa and Asia.

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Capacity Development for Healthcare Systems in Low- and Middle-Income Countries

Assessing the effectiveness of an advanced international training programme in sexual and reproductive health and rights in Africa and Asia.

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LUND UNIVERSITY

DOCTORAL DISSERTATION

Doctoral dissertation for the degree of Doctor of Philosophy at the Faculty of Medicine at Lund University to be publicly defended on 20th June 2022 at 13.00 at Clinical Research Centre, Malmö

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Methods: The study population was healthcare practitioners (HCPs) enrolled in the ITP from 13 countries in Africa and Asia**.** In study I, in-depth interviews with 28 HCPs were conducted and analysed using qualitative content analysis. Studies II and III were based on quantitative data from a sample of 115 healthcare practitioners and analysis was done using multivariate linear regression. Study IV utilised data from an instrument designed for evaluating the ITP change projects. Data analysis was done using logistic regression and 99 change projects were included in the final analysis.

Results: Findings from study I indicate that local context, personal values, and social norms influence healthcare practitioners' SRHR attitudes and practices. In study II, high level of self-rated SRHR knowledge, normative SRHR attitudes and active knowledge seeking behaviour were significant predictors of normative SRHR practices before the ITP intervention. Study III indicates that the ITP intervention was effective in improving the participants' SRHR knowledge, attitudes, knowledge seeking behaviour and SRHR practices. Improvement in active knowledge seeking behaviour was a significant predictor of changing SRHR practices. Study IV, indicates that improved team capacity resulted in significant improvement in organisational effectiveness and support from partner organisations increased awareness of and demand for SRHR services.

Conclusion: The findings suggest that the ITP approach for improving the capacity of healthcare practitioners (as change agents) was associated with improved organisational effectiveness. Other factors that positively contributed to organizational effectiveness were support from partner organizations and involvement of the media. Support from partner organization was also critical in increasing access to, and demand for, SRHR services. The use of new SRHR approaches seemed to negatively influence the effectiveness of organizations. Additionally, the findings suggest that although healthcare practitioners understand the importance of rights in SRH, they did not conform to the principle that rights apply to all components of SRHR and all persons in all settings. Howver, contrary to the evaluation hypothesis, religion and culture did not have a significant influence on changing SRHR practices. Instead, it was the improvements in participants' knowledge seeking behavior that significantly predicted positive changes in SRHR practices at the end of the intervention.These findings highlight the potential of training interventions in contributing to the capacity development of healthcare systems in low-and middle-income countries.

Key words: Capacity Development, Capacity Building, SRHR, Low-and Middle-Income Coutries, ITP.

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Dedication, my cradle

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2. **Tumwine G,** Agardh A, Gummesson C, Okong P, Östergren P-O. Predictors of healthcare practitioners' normative attitudes and practices towards sexual and reproductive health and rights: a cross-sectional study of participants from low-income countries enrolled in a capacity-building program. Global Health Action. 2020; 13:1829827. doi: 10.1080/16549716.2020.1829827.
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Abstract

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List of abbreviations

AIDS: Acquired immunodeficiency syndrome

CD: Capacity Development

FAO: Food and Agriculture Organisation

HCPs: Health Care Practitioners

ITP: International Training Programme

LMICs: Low-and Middle-income Countries

LUMUST: Lund and MUST collaboration

MUST: Mbarara University of Science and Technology

Sida: Swedish International Development Cooperation Agency

SRH: Sexual and Reproductive Health

SRHR: Sexual and Reproductive Health and Rights

UN: United Nations

UNDP: United Nations Development Programme

WHO: World Health Organisation

Preface

During my formative days at Mbarara University of Science and Technology (MUST) in Uganda, I undertook different student leadership positions including the position of the vice-president of the students' guild for the year 2004-2005. Religion was a big part of our lives and matters of sexuality were taboo. Issues like access to condoms for the students' community would attract condemnation from our religious friends. Despite this, sexual relationships happened and as expected, unplanned pregnancies and unsafe abortions were not uncommon. Incidents of unhealthy sexual relationships between students or between students and lecturers were often talked about, before the "me-too movement". This was of great concern to us as student leaders.

An opportunity to address part of the problem occurred in 2003 when I met with Anette Agardh during a collaborative project between Lund University and MUST (LUMUST project). Through this project, we established a student-led peer education project (MUST Peer Project) focusing on students' sexuality and life planning skills. In the subsequent years, I always wondered if the changes we initiated as MUST Peer Project created the impact we desired from the start. Between 2009 and 2010, as a master's student in public health (MPH) at Lund University, I was involved in two capacity development projects: the National Training Programme (NTP) for adolescent/youth sexual and reproductive health and rights in India and the International Training Programme (ITP). I was captivated by the idea of 'change projects' as a capacity development strategy in the field of sexual and reproductive health and rights. When the concepts of monitoring and evaluation were discussed during the MPH class, my mind naturally gravitated to these projects. My exposure to the MUST Peer Project and ITP in SRHR greatly influenced my training as an obstetrician and gynaecologist. Later, I wanted to gain a deeper understanding of the ITP model. I communicated my thoughts to Anette Agardh and Per-Olof Östergren, after many discussions, my PhD project was registered in 2016.

This thesis is a culmination of these experiences.

Introduction

High fertility rates, extreme poverty and high mortality characterised much of human history [1], but with significant increases in household incomes during the industrial revolution, life expectancy began to increase, total fertility rates dropped and the quality of life in most of the western world continued a positive trajectory. However, in many low-income and middle-income countries (LMICs), not much has significantly changed. Many remain stuck in very poor living conditions characterised by preventable illnesses, high mortality and high fertility [1, 2]. Worse still, the quality of health services remains very poor, particularly in Sub-Saharan Africa and Southern Asia [3, 4]. The high burden of premature deaths and preventable diseases contributes to loss of productivity and negates progress towards national and international development goals [5].

To reverse this trend, critical investments in health systems are required both in human resource and institutional capacities [6, 7]. The World Health Organisation (WHO) defines a health system as persons and institutions whose primary role is to "promote, restore or maintain health" [8]. To strengthen health systems, investments must be made to strengthen vital elements of health systems including mechanisms of service delivery and the workforce **(Figure 1).** Unfortunately, many of the LMICs countries are resource-constrained and unable to make the necessary investments to meet their population's health and significantly depend on international development partners to run some components of their health systems to meet their health goals. This is more pronounced when international health development goals are prioritised e.g. in Millennium Development Goals or Sustainable Development Goals [4, 9-11]. Even then, then the performance of some low-and middle -income countries in the different international development agendas has been sub-optimal [12]. A critical missing ingredient for success has been the adequate capacity of national health systems to deliver on the desired goals. This has been a long-standing problem. For example, recognising this challenge in the 1970s, the United Nations (UN) through its agency for international development (UNDP) started funding programmes for 'Institutional Building' in different sectors including health. By the 1990s the concept had evolved to capacity building, defined by the UNDP as: "the creation of an enabling environment with appropriate policy and legal frameworks, institutional development, including community participation…" [13]. Over the decades the concept of building capacity for local contexts evolved into capacity

development, which gained wide acceptance among different international development agencies [14-16].

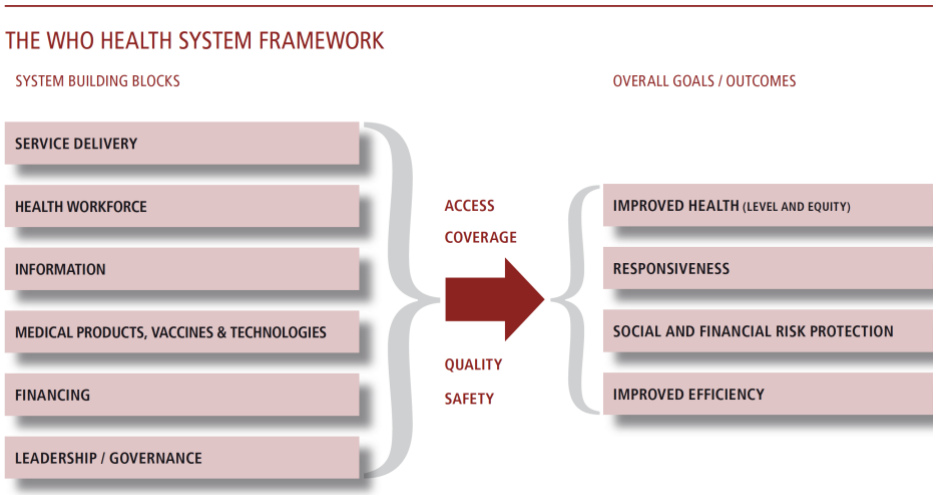


Figure 1. Source: The WHO Health Systems Framework

Capacity development: definition

The understanding of capacity development applied in this thesis is as defined by the WHO, "the […] advancement of knowledge and skills among practitioners, the expansion of support and infrastructure for health promotion in organizations, and the development of cohesiveness and partnerships for health in communities…"[17]. Although it is diversely defined by different development traditions, it is generally understood as a process where individuals, organisations and society create and maintain the capacity to manage their affairs effectively over time [18]. Different frameworks and theories of capacity development exist [19], and although their underlying assumptions may differ, the real-world significance has been an endeavour to empower individuals with knowledge and skills and improve organisational competencies to formulate policies and influence practice for change [20]. The most common capacity development tools for health systems [21] include training of health workers [22-25], self-directed learning [26], technical assistance [27, 28], community engagement [29] and internet-based interventions

[30]. Occasionally, interventions consisting of different methods are implemented [31, 32]. Most capacity development interventions for health systems in LMICs have been supported by international funding agencies like the World Health Organisation and the Swedish International Development Cooperation Agency.

Capacity development: a historical context

In the immediate post-colonial period, most newly independent countries looked beyond political independence to gain economic independence and self-sustainability. However, due to long periods of under-investment in public institutions, there was hardly enough skilled labour to undertake the task this task [33]. Over the decades, different development models were considered in different contexts to lessen these challenges including the World Bank/International Monetary Fund's structural adjustment programmes [34], the use of foreign direct investments and official development assistance [35, 36]. However, it was soon realised that lack of adequate capacity across all sectors was the most prominent challenge that had to be dealt with. Hence the capacity building concept was adopted and funded by international funding agencies to fill the gaps in human resources and build institutional competencies [37].

Although capacities of individuals and organisations could have evolved endogenously over time with minimal interruptions from the international funding agencies, capacity development initiatives in Africa and Asia have been externally funded through development cooperation or aid [38]. Initially, it was assumed that given enough money, low-income countries would train their human resources and build the necessary capacities. Thus, the international funding agencies provided the money as development aid. The results were less impressive. Aid was mismanaged, the poor countries piled up debt and the development programmes often ended when the money run out [37, 39]. Over the years the development aid concept metamorphosised into technical assistance where expatriates were hired to manage aid projects. This resulted in huge dependence on foreign experts, and often the development projects collapsed almost as soon as the expatriates departed. The idea of assistance bred resentment among local leaders in most communities due to unequal power relations between the experts and the locals. This model also gave way to technical cooperation with emphasis on knowledge and skills transfer and local participation. However, technical cooperation was still donor-driven and strengthening institutional capacities was less successful [40, 41].

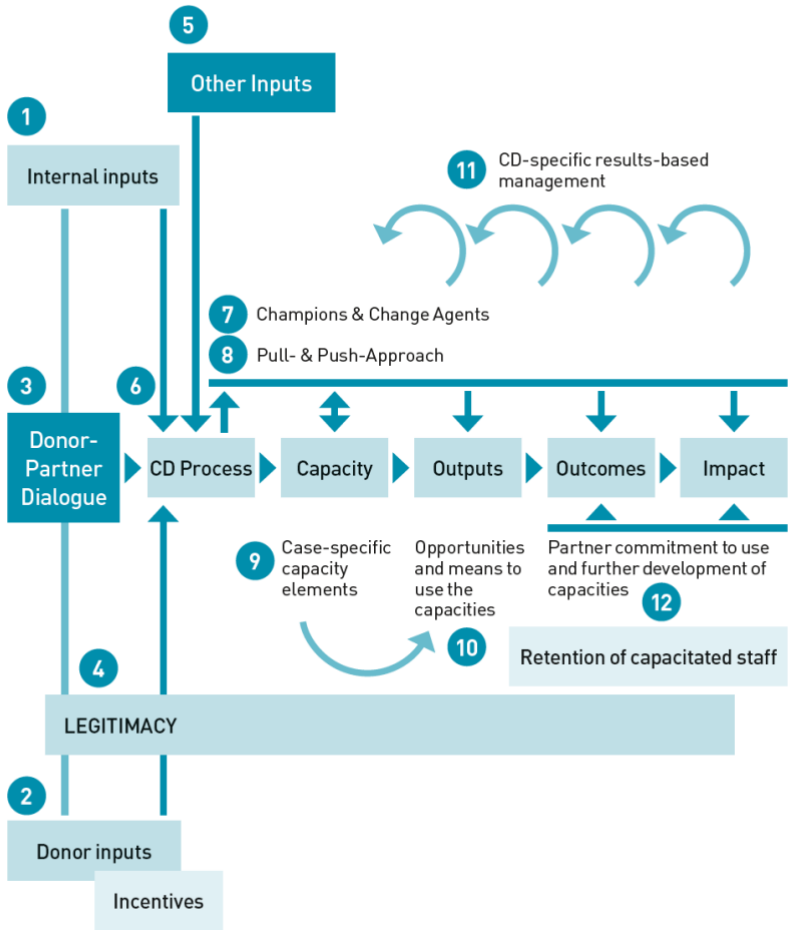
Capacity development, as currently understood and practiced, is a derivative of the failures and successes of these previous development models. The long-term goal of capacity development is that local communities manage, own and sustain their development initiatives. It demands that development partners identify and support

local priorities and are aware of local context, and through policy or institutional reforms, support local ownership of interventions for their sustainability [42].

Capacity development: theory of change

The idea behind the capacity development approach is to improve the ability of its beneficiaries to achieve their own development goals. Over the years, the idea of transfer of technical *know-how* or use of expatriates from high-income countries to low-income countries has evolved with the realisation that context-specific capacities must be developed with full participation and ownership of its beneficiaries. Theory of change framework, represented in **Figure 2,** proposed by the Swedish International Development Cooperation Agency suggests a mechanism through which the capacity development relationship can be harnessed to maximize its potential [43].

The framework recommends that right from the outset, baseline inputs (human and non-human resources) of both the donor and the recipient of any proposed capacity development initiatives are adequately appraised to establish the existing capacities and identify areas that need improvement. In addition, the appraisal process should consider the local priorities, policies and politics. The intervention objectives, incentives and expected results should also be discussed and wide consultations should be made with different stakeholders, partners, and potential beneficiaries. A comprehensive situation and context analysis should be done to understand the willingness of the local partners to support and own the initiative, identify potential change agents in local organisations and detect potential threats to the suggested changes. Together with all stakeholders, monitoring and evaluation of the suggested changes should be discussed and relevant indicators agreed upon to determine and agree on the outputs, process, expected outcomes and impact.



CD=Capacity Development

Figure 2. Theory of change: A framework for donor supported capacity development interventions. (Source-Sida evaluation 2015:2)

The international training programme (ITP) approach

The advanced International Training Programme (ITP) in sexual and reproductive health and rights (SRHR) upon which this thesis is based was part of a broader Swedish International Development Cooperation Agency's supported capacity development approach to poverty reduction in low- and middle-income countries. The ITP approach is aimed at contributing to poverty reduction through improved organisational capacities [44]. Strategically, Sida commissioned international training programmes in different sectors including human rights, education, health, social security, trade, energy, information and communication technology and environmental adaptation to climate change in low- and middle-income countries. Through the ITPs, individuals with the potential to drive change in organisations (change agents) were identified, trained and supported to form teams and networks through which interventions (change projects) were implemented [44]. Participant-led change processes were the hallmark of all the ITPs. Participants applied from public sector institutions, civil society organisations, universities and the business community [45]. It was assumed that developing the competencies of key individuals in organisations would translate into improvement in organisational effectiveness and contribute to poverty reduction in a sustainable manner.

A central ingredient in the ITP approach to capacity development has been the implementation of change projects. Contrary to traditional development assistance where development programmes commonly end with the end of external funding, the ITP approach emphasised the importance of participant-led and locally anchored change processes. The participants, within their parent organisations worked together with target populations and key stakeholders to identify community needs, mobilise local resources and design context-specific interventions which had to be integrated into existing programmes and aligned to local and national priorities and resources so that the changes initiated were locally owned and therefore more likely to be sustained. No additional funding from Sida was provided for the change projects. Between the years 2008 and 2017 more than 10 600 persons from 117 countries participated in the ITPs [44] and between 2019-2020 approximately 1400 participants were enrolled in 36 ITPs (data unpublished).

Lund University was commissioned by Sida to conduct the ITP in sexual and reproductive health and rights (SRHR) in 2005. Sexual and reproductive health and rights, as applied in the ITP, is the understanding of human rights adapted to sexuality and reproduction. Human rights are moral standards or values of human behaviours that are recognized and protected as internationally acceptable by international law. They are considered universal (applicable to all persons regardless of their gender, sex religion, nationality or any other status) and inherent [46]. A comprehensive definition of SRHR, suggested by the *Guttmacher Lancet Commission* includes sexual rights, sexual health, reproductive rights and reproductive health. These are seen as critical components of essential SRHR

services that all people are entitled to and should have access to in an equitable manner, be of good quality, and be provided by accountable service providers and health systems [47].

Sexual and Reproductive Health and Rights (SRHR): historical context

Sexual and reproductive health and rights have been part of global development since the 1950s with the use of family planning programmes to control world population. However, it was at the 1994 International Conference on Population and Development (ICPD) in Cairo [48] that the family planning discourse shifted from population control to public health and human rights and bringing the issue of gender equality and women empowerment to the fore front of reproductive healthcare [49], **Figure 3.** By the end of the conference, a programme of action, adopted by 179 countries, declared sexual and reproductive health as human rights and outlined goals to achieve universal access to reproductive health by 2015 [50, 51]. The ICPD was followed by the 1995 women's conference in Beijing which was more emphatic about women's sexual rights by asserting that it was a "woman's right to have control over and decide freely and responsibly about her sexuality…free of coercion, discrimination and violence" [52].

Figure 3. SRHR in the global development agenda

In 2000, the Millennium Development Goals (MDGs) were adopted with the overall goal of ending extreme poverty [53]. Although, sexual and reproductive health was initially omitted in the MDGs, which could have led to relatively less attention to SRH at the beginning of the implementation of MDGs access to reproductive health was later incorporated in goals 3,4 and 7 [47, 54]. Renewed focus on the centrality of sexual and reproductive health and reproductive rights is evident in the Sustainable Development Goals (SDGs) with one of targets being universal access to sexual and reproductive health and reproductive rights (target 5.6). The SDGs focus on several aspects of SRH, including comprehensive sexuality education, access to sexual and reproductive health services and one's ability to decide about one's own reproductive health [55]. Despite this, broad consensus is yet to achieved on some elements of SRHR like safe abortion, sexual rights, rights of adolescents to make their own sexual decisions and aspects of gender identity and diverse sexual orientations. Discussions continue in all international fora among human rights activists, health practitioners and advocates of these aspects of SRHR [56]. Central to these discussions is the recognition that SRH is an essential component of overall health, and as defined by *Starrs et al,* it is "a state of physical, emotional, mental, and social well-being in relation to all aspects of sexuality and reproduction, not merely the absence of disease, dysfunction, or infirmity" [47], for all age groups- from new-borns to the elderly.

SRHR and poverty

Poor sexual and reproductive health services is an outcome of poverty and access to high quality services can help in the reduction of extreme poverty. Most low- and middle-income countries (especially in Sub-Saharan African) have high total fertility rates and young populations. As a result, they have fewer people in the productive economy and relatively more dependents. In addition, because of the young population, more people in their reproductive age need essential SRH services. Access to quality SRH, including voluntary contraception, could reduce unplanned pregnancies, prevent unsafe abortions and maternal deaths and reduce total fertility rates across countries. In the medium to long-term, having more young people delaying childbearing could change the age structures of most countries favourably, reduce the number of dependants per household, increase the productive workforce and consequently boost economic development [57]. To realize this, universal access to reproductive health services is a prerequisite. Governments and development partners must invest more effectively in SRH as a facilitator to human capital growth starting with individuals' SRHR needs [58]. Evidence from

Botswana, Bangladesh and Brazil demonstrates the interlinkages between improved access to SRH services and positive trends towards economic development [59, 60].

As envisioned by the UN general assembly, achieving universal access to SRH will be an important step towards achieving the sustainable development goals [61-63]. Although governments are committed to this goal through international agreements, inadequate resources and unfavourable local contexts (e.g., hostile policy and legal environments, religious and social norms, plus gender-based inequalities) often make implementation of these commitments difficult. In fact, recent reviews of essential packages of healthcare services in low-and middle-income countries indicate that most countries do not cover SRHR comprehensively or poorly finance some critical components it [63-65]. Exclusion of some components of SRHR from the essential packages of healthcare services disenfranchises the poor and compromises the efforts for achieving SDGs. Although less impressive progress has happened in improving access to safe abortion services, reducing sexual and gender based violence and fighting discrimination against sexual minorities, some improvements have been made in other components of SRHR like maternal/new born health and HIV/AIDS services over the last two decades [47]. These achievements and failures, if well studied and documented, can improve our understanding of context specific determinants of accessibility to SRHR services in low- and middle-income countries. This could inform different governments and implementing partners to design context-sensitive frameworks for scaling up access to high quality SRHR services.

Social norms, values and SRHR

The normative dimension of SRHR is the expectation that SRHR services are available, accessible, acceptable and of high quality to everyone [66]. In many contexts this is hampered by societal norms and values. Social norms have been defined as "rules and standards that are understood by members of a group…to guide or constrain social behaviours without the force of law"[67]. Social norms prescribe what is accepted or forbidden, normal or abnormal, evil or good, natural or unnatural and what is considered moral or immoral. Norms arise from the social pressures to belong [68]. In this sense, norms define the boundaries of behaviour in a society [69-71]. Social norms apply both to individuals (individual norms) as what individuals approve of, and to a society (collective norms) as to what social groups or communities approve [70]. Values are internalised social norms with deeper far-reaching meaning and implications arising from a long history of socialisation. Norms and values are rooted in religion and culture and they determine the visible fabrics of individual and societal attitudes and practices [72]. Attitudes are variously defined [73], but generally understood to mean individual's feelings towards something. Attitudes evolve from ones past and present [74]. Attitudes influence

practices and are influenced by social norms and beliefs [75]. **Figure 4** illustrates the relationship between social norms, attitudes, values and practices. SRHR interventions designed to change attitudes and practices of health care practitioners must be aware of the influence of individual and societal values and norms.

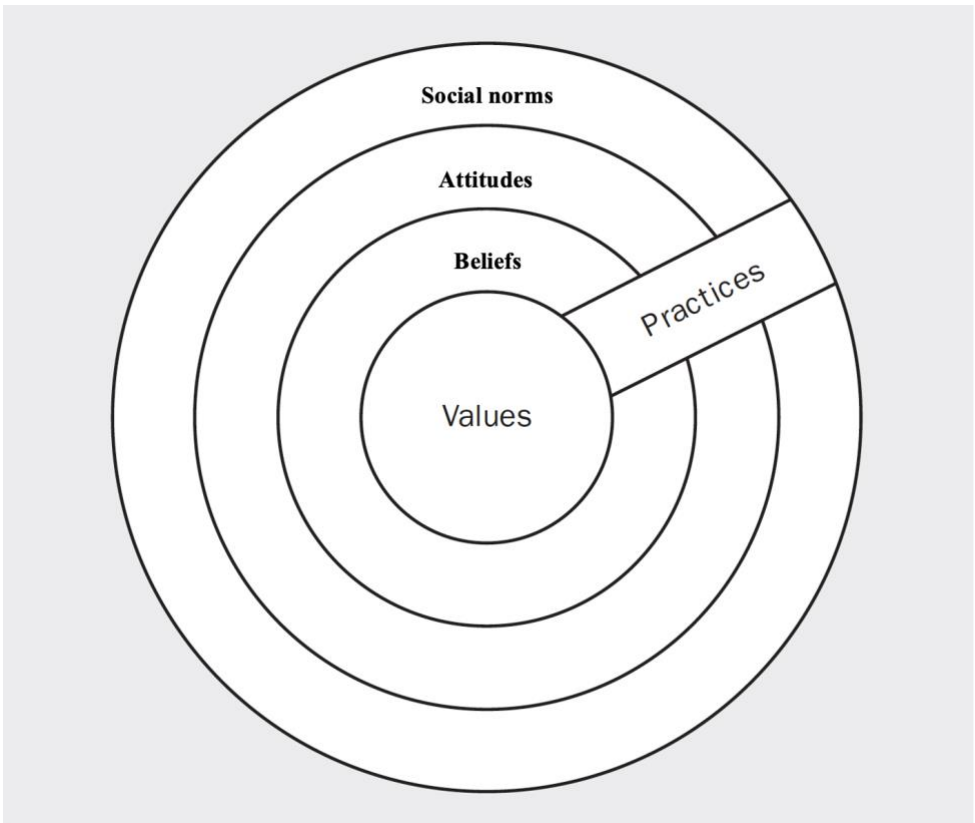


Figure 4: Understanding the depth of influence-from social norms to values in SRHR practices. (Adopted with modification from Hofstede's onion model)

Evaluation of healthcare interventions: principles and concepts

Healthcare interventions constitute any activities that are intended to maintain, improve or promote the health of individuals or populations. They include behavioural change campaigns, advocacy for policy changes and educational programmes. The success or failure of healthcare interventions is influenced by the context in which they are implemented [76].

Defining evaluation

Evaluation studies measure processes and outcomes of interventions (projects, policies or programmes). To document change, evaluation studies make observations before and after interventions. Inferences are made on whether the observed changes are attributable to the interventions [76, 77]. The purpose of an evaluation therefore is to determine, to the extent possible, whether the outcomes of interest in the study population are a result of the intervention or whether the outcomes are a result of factors other than the intervention itself [76]. The World Health Organisation (WHO) defines evaluation as an objective and methodical assessment of "an activity, project, programme, strategy, policy, theme, sector, operational area, or institutional performance…" to determine "…the expected and achieved results, processes, contextual factors and causality…" as well as the " relevance, impact, effectiveness, efficiency and sustainability of the interventions…" [78]. Evaluation of healthcare interventions informs stakeholders, implementers and policy makers [79]. Evaluations can be done for accountability or to generate information about the intervention.

Different types of evaluations exist, depending on the purpose of evaluation. However, two broad categories are commonly used, i.e. formative and summative evaluation [76]. Formative evaluations focus on evidence to support and improve ongoing interventions. On the other hand, summative evaluations gather evidence of outcomes or impact of an intervention to inform decisions on the wide application of an intervention or as a basis for reform in future (similar) interventions [76, 80].

Methods of evaluation

Outcomes of healthcare interventions are measured in terms of their efficacy, effectiveness or efficiency [81]. Evidence of efficacy is generated from interventions designed in ideal controlled conditions (controlled trials). On the other hand, effectiveness is a measure of how an intervention performs in non-controlled real-world conditions. This evidence is often obtained through observational studies. Additionally, some studies assess intervention outcomes in terms of their efficiency i.e. whether the intervention outcomes were obtained in the most economical way [81, 82].

Different approaches can be used to conduct evaluations. The choice of methods is guided by the purpose of the evaluation and an understating of the inputs, processes and objectives of the intervention [76]. The approaches are either experimental controlled designs (e.g. Randomised Controlled Trials), where outcomes in a control group are compared to outcomes in the intervention group, or observational in which the characteristics of the study population are measured without the interference of the researcher, e.g. cohort studies, case-control studies, before-and-after evaluation designs and interrupted time series. The before-and-after study design, which is employed in this thesis, compares characteristics of a study population (without a control group) before and after an intervention [76, 82].

Conceptual framework

This thesis is an evaluation of an advanced international training programme (ITP) in sexual and reproductive health and rights. The ITP intervention worked with healthcare practitioners from low-and middle-income countries as change agents in their healthcare systems. Through training, the intervention was intended to develop the capacity of participants and their organisations to deliver SRHR services more effectively.

This evaluation was designed around a hypothesis that participating in the ITP resulted in positive changes in SRHR practitioners' knowledge, attitudes and practices and improved organisational ability to provide SRHR services more effectively. Therefore, the outcomes of the ITP intervention are reported in two dimensions: *individual-level outcomes* and *organisational-level outcomes* and assess the role *SRHR work environment* in the ITP intervention.

The evaluation model (***Figure 5***) is based on the FAO capacity development framework [83].

Figure 5. Conceptual framework: Evaluation of the International Training Programme in SRHR (Adopted from the FAO capacity development learning module 2015a).

*The conceptual model as applied to this thesis is illustrated in **Figure 6.***

Study I explores healthcare practitioners' attitudes and behaviours towards sexual and reproductive health and rights before they participated in the training. Further, it explores how social, religious and cultural factors influenced their perception of SRHR and or their professional behaviours as service providers. **Study II** examines the potential relationship between individual baseline characteristics (e.g., religion and culture), the SRHR work environment and SRHR practitioners' normative SRHR attitudes and practices.

Study III assesses whether participating in the international training programme resulted in significant changes (improvement) in SRHR practitioners' knowledge, attitudes and practices. **Study IV** assesses whether improving the capacities of the teams which were implementing the change projects resulted in improved organisational effectiveness and/or improved access to SRHR services.

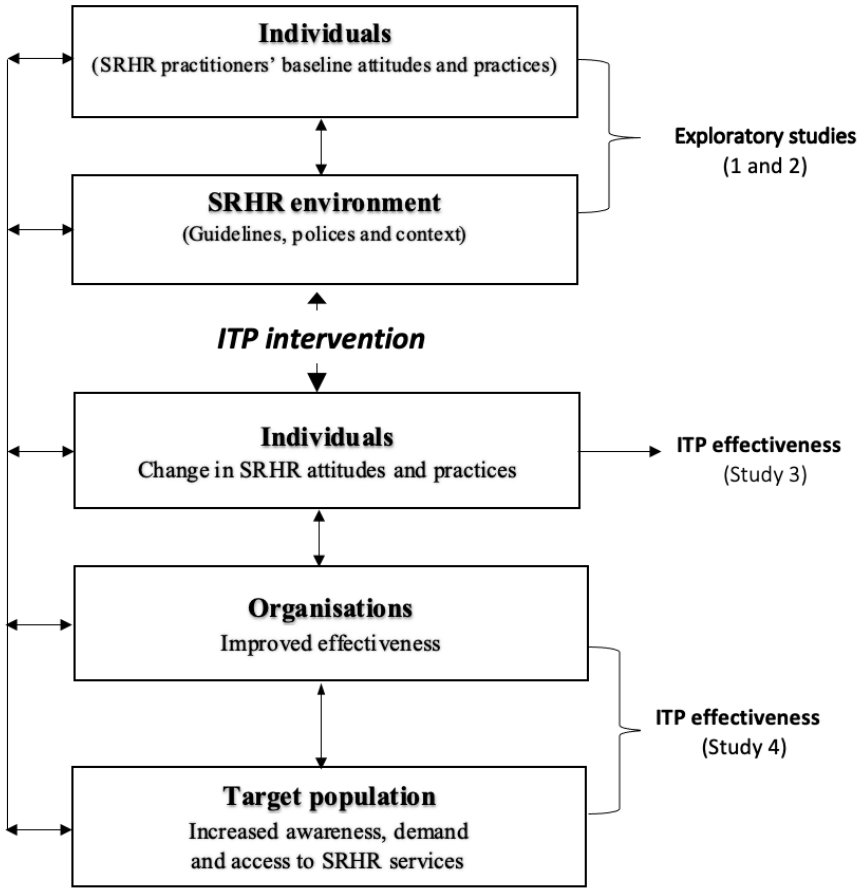


Figure 6. The conceptual model applied to the thesis studies

Theoretical framework

This thesis makes use of two theoretical frameworks to assess for changes in healthcare practitioners' SRHR attitudes and practices: the Knowledge-Attitudes-Practices theory, which proposes that acquiring new knowledge influences attitudes and changes behaviours [84], and the Transtheoretical Model (stages of change) which suggests that changing behaviour is a staged process. That is individuals are at different levels of readiness to change and will go through a 5-staged process of consisting of precontemplation, contemplation, preparation, action, and maintenance [85]. The transtheoretical model was chosen as the main behavioural change theory because it makes it possible to assess individuals' transition through stages of behaviour after the intervention. The process of change is often cyclical over time, **Figure 7** [86].

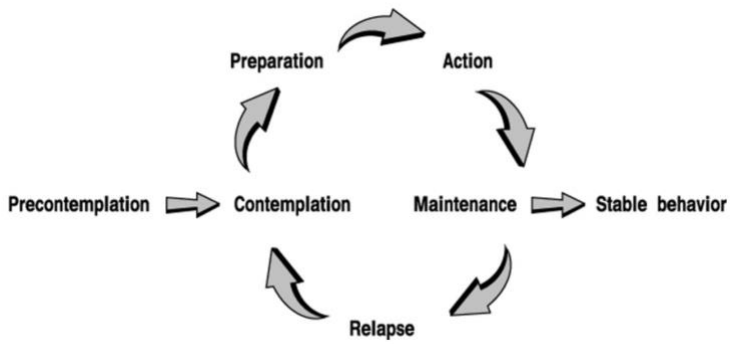


Figure 7. Stages of change: (Source Health & Fitness Journal14(4):8-13.)

Rationale

Access to good quality and equitable sexual and reproductive health and rights services (encompassing all components of sexual health, sexual rights, reproductive health and reproductive rights) is a good investment for individual well-being and social development.

At a time in history when global health has generally improved with improved global life expectancy [87], estimates in low- and middle-income countries indicate persistently high levels of unmet SRHR needs. For example, almost half (49%) of pregnancies in LMICs are unplanned and only 59% of deliveries are attended by skilled health workers [88]. The unmet need for SRHR services is worse among young people, sexual minorities and the poor. High maternal morbidity and mortality, discrimination by health providers and discriminatory laws are widely reported in many low- and middle-income countries [47].

The reduction in the under-five mortality rate over the past five decades demonstrates that global health initiatives can be effective in improving health outcomes in low- and middle-income countries [89-91]. Governments world over have committed to achieving universal health coverage i.e. providing all health services that people need without impediments [92]. Universal access to sexual and reproductive health care services (Goal 3. Target 3.7) and universal access to sexual and reproductive health and reproductive rights (Goal 5. Target 5.6) are important steps towards achieving universal health coverage, reducing maternal mortality and consequently poverty reduction.

Many countries have not yet integrated a comprehensive package of SRHR services into their essential health care packages [64] due to resources constraints and other factors precipitated by deeply held social norms against some aspects of SRHR (such as safe abortion, contraception, and sexuality education). Although international policies are clear on what needs to be done to achieve universal access to SRHR, how to do it effectively remains a challenge in many LMICs.

Capacity development is recommended as a potential tool that can be used to achieve the sustainable development goals, although evidence of its effectiveness is limited. The evaluation of the capacity development ITP in sexual and reproductive health and rights seeks to contribute to the knowledge about the effectiveness of capacity development interventions aiming at improving SRHR outcomes in

LMICs. This evidence will inform policymakers, and SRHR practitioners in low resource settings.

Aim

The aim of this thesis was to evaluate the effectiveness of the international training programme (ITP) in sexual and reproductive health and rights (SRHR) and to understand the role of different actors and contextual factors in capacity development for health systems in low-and middle-income countries.

Hypothesis

1. ITP improved health practitioners' SRHR knowledge, attitudes and practices and increased organisational effectiveness
2. Religion and culture were significant determinants for changing healthcare practitioners' SRHR knowledge, attitudes and practices.

The thesis had two main areas of investigation:

i) To understand the effect of the ITP intervention on healthcare practitioners as change agents, participants' SRHR knowledge, attitudes, and practices, and the associated factors were assessed before and after the intervention.

ii) To determine the outcomes of ITP on the healthcare systems, the extent to which the intervention achieved its objectives was examined.

Four studies were conducted. Studies I and II were pre-intervention studies and studies III and IV were conducted after the intervention.

The knowledge generated contributes to the understanding of training interventions in capacity development for healthcare systems in low-resource settings.

Specific objectives

Study I: To understand healthcare practitioners' attitudes and behaviours towards sexual and reproductive health and rights (pre-intervention).

Study II: To understand the association between background characteristics, SRHR work environment and healthcare practitioners' normative SRHR attitudes and behaviours (pre-intervention).

Study III: To assess the effect of the international training programme on healthcare practitioners' SRHR knowledge, SRHR attitudes and SRHR practices and determine if background characteristics influenced changes in their attitudes and practices after training.

Study IV: To examine whether improvement in team capacity of healthcare practitioners resulted in improved organisational effectiveness and/or improved SRHR outcomes in low-income countries after the ITP intervention.

Materials and methods

The thesis focuses on the ITP participants and their interventions (change projects) implemented in 13 countries in African and Asia.

The ITP in sexual and reproductive health and rights

In line with the overall objective of the Sida supported international training programmes, the ITP in sexual and reproductive health and rights is aimed at contributing to the improvement of the living conditions of the poor through improved access to SRHR services in low- and middle-income countries. It has three specific objectives [93]:

1. Increasing access to adequate sexual and reproductive healthcare
2. Promoting sexual education
3. Increasing the awareness and demand for SRHR services

The objectives are to be achieved through targeted interventions called change projects. Change projects are designed to address SRHR needs specific to vulnerable populations in the participants' healthcare systems using resources mobilised within their own organisations, partners and stakeholders. No additional funding is provided from Lund University for change projects.

ITP participants

Participants were healthcare practitioners occupying key positions in their healthcare systems with potential to make decisions and influence change processes. They included midwives, nurses and doctors, middle-level managers and policymakers with different experiences in the field of SRHR. In this thesis the term 'healthcare practitioners' (not health workers) was used since some of the participants were not in routine clinical work. They were from different countries in Africa and Asia, with different religious and cultural backgrounds. This thesis project involves participants enrolled in ITP between 2005 and 2018 from Uganda, Kenya, Tanzania, Zambia, Zimbabwe, South Sudan, Sudan, Ethiopia, Cambodia, India, Myanmar, Liberia and Bangladesh. Each yearly intake consisted of 25-30 participants from 5-6 different countries. From its inception, about 650 participants from 37 low- and middle-income countries have participated.

Structure and content of the ITP

The ITP was funded through Lund University by the Swedish International Development Cooperation Agency (Sida). The programme was offered as an advanced course at Lund University equivalent to 22.5 ECTS (European Credit Transfer System) [94]. Different participatory methods of learning were used during the training including interactive lectures, team-based learning, case-based sessions, value clarification exercises, student-led seminars, different forms of theatre/role-playing and study visits to different SRHR services in Sweden and different countries in Africa and Asia.

The programme was based on the assumption that the training would contribute to positive changes in healthcare practitioners' SRHR knowledge and attitudes, which would precipitate changes in their professional behaviours and consequently lead to improvements in health systems in the participating countries. Central to the ITP strategy was that the participants and their organisations commit to addressing the SRHR needs of the most vulnerable populations in their communities through targeted interventions (change projects) following the human rights principles.

This thesis covers the ITP intakes between 2015 and 2019. During this period, 99 change projects were implemented in 13 countries. Although the implementation structure evolved over the years, the programme was implemented in 4-5 main phases:

After enrolment, the selected participants teamed up in their home countries to review and reflect on their home country's SRHR indicators in relation with international SRHR policies and standards (1-2 months). After this, the participants travelled to Lund University, Sweden for an intensive period of training in SRHR policies and guidelines, shared experiences with participants from other countries, and (with support from Lund University supervisors) designed the change projects in line with the ITP objectives (1 month). This was followed by the implementation phase in which participants implemented the change projects in collaboration with local partners and stakeholders for 6 months. During the implementation phase, supervisors visited the change projects to monitor progress. Participants and their supervisors then convened in one of the participating countries for a one-week's results seminar to share the progress of their interventions and discuss prospects for their sustainability. During the final phase of the ITP, i.e the sustainability phase, participants were encouraged to anchor the changes to the parent institutions.

The change projects were implemented in different aspects of SRHR including among others youth-adolescent sexual and reproductive health, maternal and new-born health, sexually transmitted infections (STIs), sexual minorities, commercial sex workers and gender-based violence (SGBV).

Overview of the studies included in the thesis

Four studies are included in this thesis, i.e one qualitative study and three quantitative studies **(Table 1)**. Studies I and II were exploratory studies to understand ITP participants as SRHR healthcare practitioners and the contexts within which they worked. Studies III and IV assessed the effect of ITP on SRHR practitioners and the participating organisations respectively.

Table 1: Assessing the effectiveness of ITP in SRHR in Africa and Asia. Overview of studies included in the thesis

Study	**Study design**	**Data source**	**Participants**	**Data analysis**
I	Qualitative	Indepth interviews	28 SRHR practitioners	Qualitative manifest and latent content analysis
II	Quantitative Cross-sectional	Self-administered questionnaire	115 SRHR practitioners	Univariable and multivariable linear regression analysis
III	Pre-post	Self-administered questionnaire	107 SRHR practitioners	Univariable and multivariable linear regression analysis
IV	Quantitative Cross-sectional	Self-administered questionnaire	99 change projects	Univariable and multivariable logistic regression analysis

Study I: Study population and data collection

Participants in study I were 28 healthcare practitioners enrolled in the ITP for the 2016 intake. In-depth interviews using a semi-structured interview guide [95] were conducted at the beginning of the 'Swedish phase' of the training before any course activities commenced. Before the interviews, a group communication was made to all participants informing them about the study and inviting those who were interested to participate. During the group communication, the purpose of the study was explained to all participants, and they were assured of anonymity and confidentiality. It was also made clear that the interviewers were not going to be actively involved in their training.

After obtaining informed consent, interviews were conducted in secluded rooms at Lund University. The first author (GT), and one other male public health specialist conducted the interviews. Both interviewers had prior training in qualitative research methodology and had lived and worked in Sub-Saharan Africa. The interviews lasted between 30-120 minutes. All the participants who had consented to participate in the study were interviewed. Below is the overview of the topics we explored in the study (**Figure 8).** All interviews were audiotaped and transcribed verbatim.

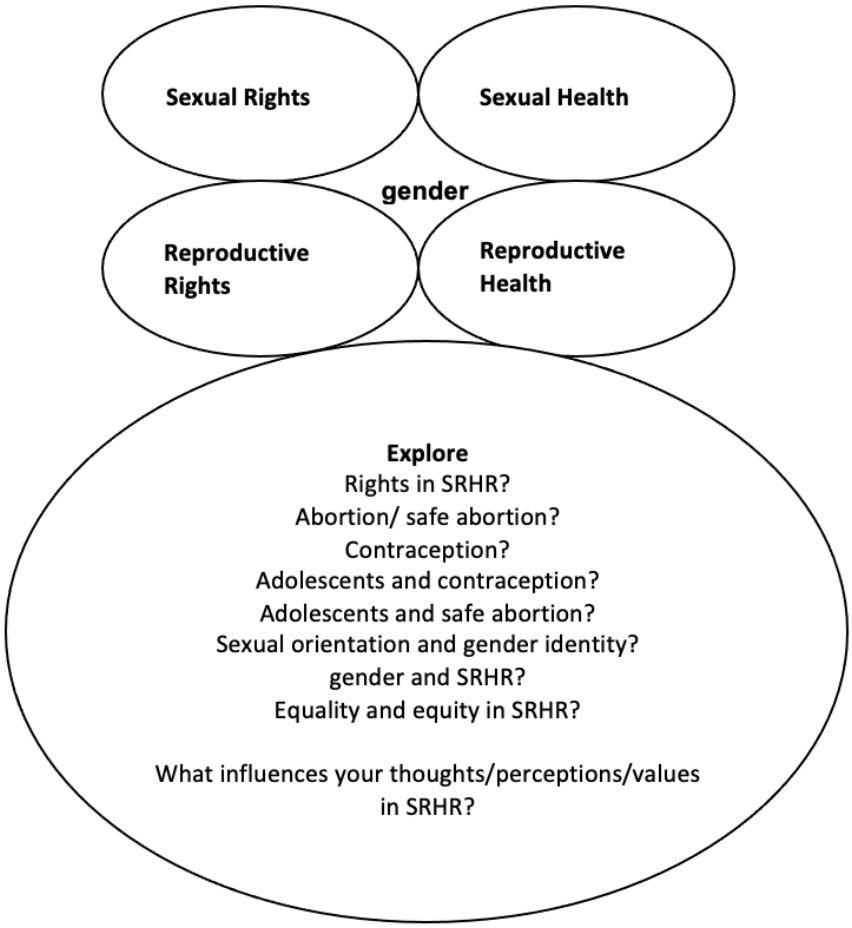


Figure 8. Interview guide: Understanding health care practitioners' perceptions, attitudes, and practices towards SRHR in low-income countries.

Study I: Data analysis

To explore and understand the participants' attitudes and behaviours towards SRHR, manifest and latent content analysis as described by Graneheim and Lundman [96, 97] was used. To get familiar with the content in the interviews, the first author (GT) listened to the interviews multiple times before transcribing them and then read through the transcripts repeatedly. Then the first author highlighted parts of the transcripts that were related to the study objectives as meaning units. The meaning units were then condensed and assigned codes, and the codes were aggregated into subcategories and categories based on their descriptive meaning. The meaning units, codes, sub-categories, and categories were discussed with the co-authors before themes were constructed. The study themes were constructed from the underlying meaning abstracted from the categories **(Table 2).**

Table 2: Understanding health care practitioners' attitudes and behaviours towards sexual and reproductive health and rights. An example of the analytical process moving from meaning unit to category

Meaning unit	Condensed meaning unit	Code	Sub-category	Category
Well, I think of SRHR as the right that people have to enjoy with regards to their sexuality, sexual education, accessing of SRH services, and with regard to…what is in their countries' constitution.	SRHR as a right to enjoy one's sexuality, sexual education, access SRH services, and in regard with country's constitution.	SRHR being rights to sexuality	Ability to make free choices being key to well-being	Rights being fundamental for SRH
		SRHR being rights to sexual education		
		SRHR being rights to access SRH services		
		SRHR varying with country laws	Local context determining application of rights	SRHR not existing in a vacuum

Studies II and III: Study population and data collection

The study population consisted of the healthcare practitioners enrolled in the 2017 and 2018 ITP intakes from 10 countries: Ethiopia, South Sudan, Bangladesh, Uganda, Kenya, Myanmar, Zambia, Tanzania, Zimbabwe and Liberia. A self-administered questionnaire **(Appendix 1)** designed by the first, second and last author as an evaluation instrument for this PhD project was used. In the questionnaire participants reported on their individual characteristics, SRHR work environment, SRHR knowledge, attitudes and practices before and after the ITP training. In total 115 participants (100% response) completed the questionnaire at the baseline and after 7 months 107 (93%) completed the same questionnaire at the end of the results seminar (Phase IV).

Gender, age, level of education, the role of religion and culture in personal lives, the influence of religion and culture in SRHR professional decisions and SRHR self-rated knowledge were measured as individual characteristics. The SRHR work environment was assessed from questions indicating the participant's sector of employment (e.g. health or education both in public or private), level of employment (service providers or managers) and the area of operation (national, regional or local).

The items in the questionnaire used to assess SRHR knowledge seeking behaviour and SRHR practices were derived from the Transtheoretical model (TTM) [85]. The knowledge attitudes and practices theory [84] was used to design questions assessing SRHR attitudes.

Participants' SRHR knowledge was assessed on a scale of 1-5 (1= very low, 5= very high) and each participant rated their knowledge in the following items: comprehensive sexuality education, cervical cancer screening, contraception, health needs of LGBT persons, sexual identity and orientation, sexual coercion and SRHR policy.

In this study, SRHR attitudes were assessed as SRHR practitioners' beliefs towards each of the following components of SRHR. Participants rated their level of agreement or disagreement with statements representing the following aspects of SRHR: abortion being a woman's right, young people accessing contraception, young people accessing comprehensive sexuality education, the LGBT persons having equal access to HIV/STI care, SGBV affecting both males and females, sexual orientation and gender identity being human rights, and inequality affecting maternal and neonatal outcomes. The responses were represented on a scale of 1-5 (1=strongly disagree, 5 strongly agree).

SRHR practices were defined as individuals' actions (or intended actions) to ensure access without discrimination, to safe abortion services, cervical cancer screening, contraception services for young people, HIV/STI care for the LGBT community, and sexual gender-based violence services. Knowledge seeking behaviour was defined as individuals' intention to seek knowledge about access to safe abortion, young people and their contraceptive needs, young people accessing comprehensive sexuality education, the LGBT having equal access to HIV/STI services, sexual coercion and sexual violence, sexual orientation and gender identity and local and international SRHR policies. Participants reported on a scale of 1-5 the extent to which they were taking actions (SRHR practices) and to which they were acquiring more SRHR knowledge (knowledge seeking behaviour). The levels on the scale of 1-5 represented the five stages of the transtheoretical model. For the purposes of this thesis the words behaviour and practices have been used interchangeably.

The questionnaire was discussed with the supervisors and some ITP course members to ensure that important elements of the intervention were captured, and it was pre-tested among students attending the masters programme in public health at Lund university.

Study II: Data analysis

To understand the role of individual characteristics and work environment factors in determining healthcare practitioners' SRHR attitudes and practices, cross-sectional data was analysed using SPSS version 24.

It was hypothesised that religion and culture were the main predictors of SRHR attitudes and practices in low-and middle-income countries. Therefore, using multivariate linear regression, the association between the influence of religion and culture on SRHR attitudes and practices was examined while controlling for individual characteristics and SRHR work environment. Further analysis was conducted to test whether participants' self-rated knowledge predicted their SRHR attitudes and practices at baseline.

Study III: Data analysis

To assess if participation in the ITP resulted in changes in healthcare practitioners' SRHR knowledge, attitudes and practices, the difference between each practitioner's pre-and post-intervention scores in SRHR knowledge, attitudes and practices was calculated as *delta scores*.

Paired samples t-test and independent samples t-test were used to determine whether the difference between post-and pre-intervention scores was statistically significant.

Following Baldwin and Ford's Transfer of Training model (**Figure 9),** the relationship between healthcare practitioners' individual characteristics, their SRHR work environment and the changes (delta scores) in their SRHR attitudes and practices after the training was examined using linear regression.

Further analysis was conducted to determine if changes in SRHR knowledge and attitudes were predictive of SRHR practices.

Data was analysed using SPSS version 27.

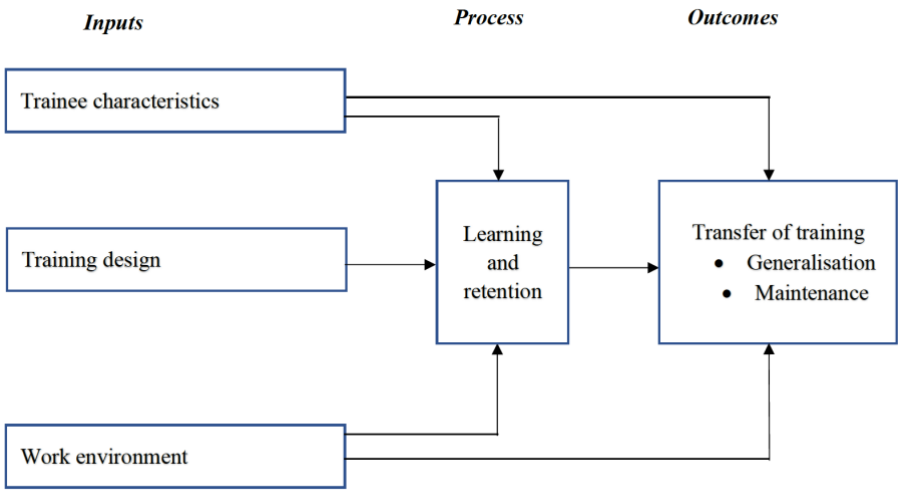


Figure 9. The Baldwin and Ford's Transfer of Training Model: Assessing the effectiveness of the international training programme on healthcare practitioners' SRHR attitudes and practices.

Study IV: Study population and data collection.

Change projects were examined as the study population. Change projects were SRHR interventions designed and implemented by teams (3-6 members per team) of ITP participants in their home countries to address SRHR needs of a target population in relation to the ITP objectives. Between 2015 and 2019 when the study was conducted, 99 SRHR change projects had been implemented in 13 countries in Africa and Asia.

Data was collected at the end of the fifth phase (6months after the results seminar) using a study instrument designed by the ITP team at Lund University for documenting ITP outcomes. The instrument **(Appendix 2)** consisted of 36-48 items (a few items were added over the years) assessing different aspects of the ITP intervention. Each participant completed the questionnaire individually.

Table 3 shows the different scales' reliability tests for the composite variables used in this study.

Table 3: Study IV variables and their scales' reliability test scores.

	Item-total correlation	Cronbach's alpha if item deleted	Scale's Cronbach alpha
Improved organisational effectiveness (6 items)			**0.93**
Organisation's effectiveness in planning processes has improved	0.83	0.92	
Organisation's ability to address internal and/or external factors affecting a planned project has improved.	0.80	0.92	
Organisation's effectiveness in monitoring and evaluation of new projects has improved.	0.84	0.92	
Organisation´s effectiveness regarding working routines has improved	0.84	0.92	
Organisation's ability to increase the target group's knowledge and demand for SRHR has improved.	0.79	0.92	
Organisation's attitudes towards the target group have changed for the better	0.73	0.93	
Improved team capacity (6 items)			**0.97**
ITP provided new knowledge on the subject matter	0.87	0.96	
ITP improved my technical skills to plan and implement change	0.94	0.96	
ITP provided skills to deal with the change processes within the organisational framework	0.91	0.96	
ITP had an important impact on value issues that were important for the implementation of the change	0.85	0.97	
ITP made me "think outside the box" which became an important factor for the change implementation.	0.94	0.96	
ITP gave access to a network of colleagues and other individuals of importance for the change implementation	0.92	0.96	
Stakeholder involvement (6 items)			**0.83**
Oral presentation to Embassy of Sweden	0.58	0.81	
Oral presentation to UN	0.68	0.81	
Presentation of sustainability plan to own organisation	0.61	0.81	
Presentation of sustainability plan to Embassy of Sweden	0.62	0.81	
Presentation of sustainability plan to UN	0.58	0.82	
Writing a report to ministry of health and education	0.52	0.82	
Adopted new SRHR approaches (3 items)			**0.79**
Change project led to the development of new guidelines	0.58	0.76	
Change project led to implementation of new policy in other organisations	0.52	0.77	
Change project led to implementation of new guidelines in other organisations	0.62	0.76	

Study IV: Data analysis

To determine whether implementation of the change projects was associated with organisational effectiveness and/or improved SRHR outcomes in the target groups, logistic regression was used to analyse cross-sectional evaluation data for the 99 change projects. Improving the capacity of individuals in their teams (change project teams) was examined as the main exposure variable for organisational effectiveness and controlled for adopting new SRH approaches, involvement of stakeholders, partner organisations and the media in the implementation of change projects. The Inputs-Process-Outputs-Outcome-Impact model **(Figure 10)** was used in the conceptualisation and analysis of the data.

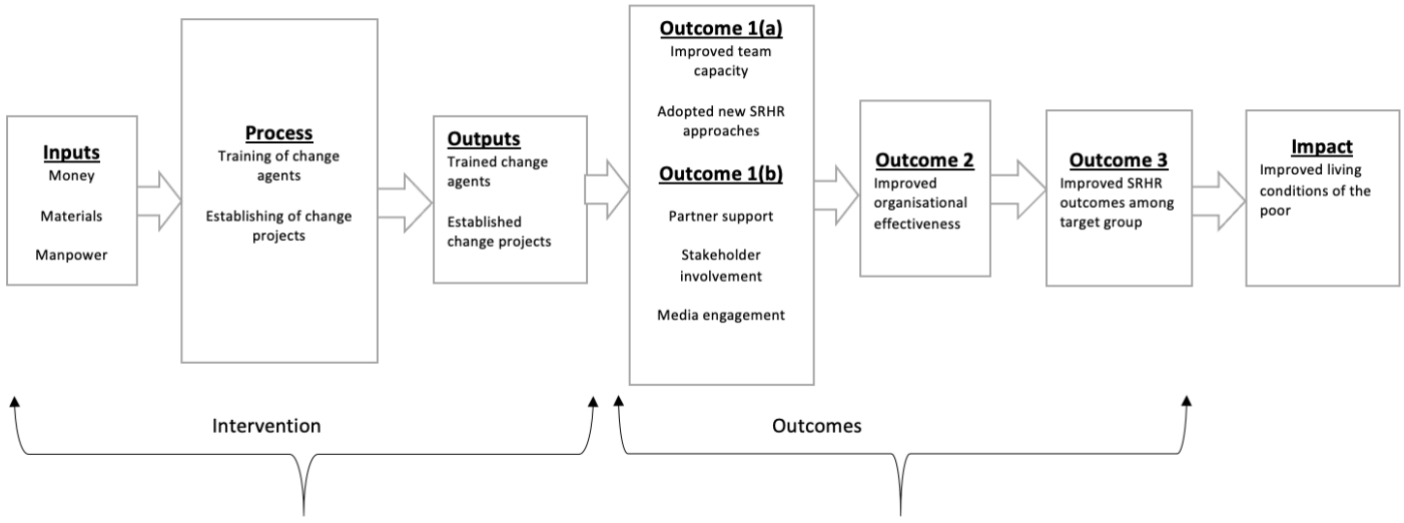


Figure 10. The “Inputs-Processes-Outputs-Outcomes-Impact” framework used in study III: The evaluation of capacity development interventions implemented in 13 countries in Africa and Asia.

Ethical considerations

The four studies included in this thesis were conducted in accordance with the ethical standards as defined by the Helsinki declaration [98]. We ensured that participation in our studies was voluntary and that participants were aware of their freedom to opt-out of the studies at any point without fear of any consequences, and informed consent was obtained. The data collection tools were anonymised, and all potential identifiers removed. Discussions concerning sensitive aspects of SRHR were handled respectfully to minimise any potential psychological harm that could arise from arousing personal experiences with SRHR. To maintain confidentiality, only the co-authors (and statisticians) involved in the studies had access to the collected data. Study I was approved by the Regional Ethical Review Board in Lund, approval number DNR 2017/293. Studies II and III were based on the same instrument and received ethical approval from the Regional Ethical Review Board in Lund, number DNR 2017/823. Study IV was a retrospective review of institutional records and did not require ethical approval. However, we sought advice from the Regional Ethical Review Board in Lund and obtained "rådgivande yttrande" DNR 2022-01285-01.

Main Results

Study I

All the 28 participants who consented to the study were interviewed. They included midwives, doctors, nurses, healthcare managers and policymakers from 5 different countries. Three main themes emerged from qualitative content analysis:

The first theme, '*one size doesn't fit all*,' depicts how participants' understanding of SRHR was informed by the local contexts in which they practiced. They believed that enjoyment of rights depends on societies' religious, cultural, economic and legal contexts.

The second theme, '*aligning a pathway to service delivery'*, describes the attitudes, values and other individual attributes that influenced the participants' decision making as service providers. Often inadequate knowledge, belief in gender-based stereotypes or conflict between personal values, society norms and professional expectations had a strong influence on how SRHR practitioners dispensed services.

The third theme of '*healthcare practitioners as gatekeepers'* illuminates the actions of healthcare practitioners as either enabling, e.g. when they disregard discriminatory practices or hindering access to SRHR services by re-enforcing barriers in service delivery.

Study II

Study II utilised baseline data from 115 participants among which 60% were female. Most of the participants reported that religion and culture were important in their lives (89%) and (69%) respectively). However, a smaller proportion reported that religion and culture influenced their SRHR decisions (45% and 42% respectively).

Reporting that religion or culture was important did not have a significant influence on participants' normative SRHR attitudes and practices. Normative attitudes and active knowledge seeking behaviour were the strongest predictors of normative SRHR practices at baseline (**Table 4).**

Table 4: Association, by means of linear regression, between normative SRHR attitudes scores, active SRHR knowledge seeking scores and normative SRHR practice scores adjusted for age, gender, education and self-rated SRHR knowledge (N=115).					
	Normative SRHR practice scores				
	B (95% CI)	B (95% CI)	B (95% CI	B (95% CI)	B (95% CI)
		Model 1	Model 2	Model 3	Model 4
Normative SRHR attitudes (Ref: Non-normative attitudes)	**1.12***** **(0.65–1.59)**	**1.23***** **(0.65–1.61)**	**0.65**** **(0.21–1.08)**	**0.65***** **(0.23–1.08)**	**0.67**** **(0.24–1.11)**
Age, 40 years or less (Ref: 41 years or more)		-0.24 (-0.315–2.67)	-0.47 (-2.94–1.99)	-0.14 (-2.59–2.33)	-0.48 (-3.00–2.03)
Gender, Male (Ref: Female)		0.66 (-2.25–3.58)	1.18 (-1.28–3.65)	0.77 (-1.70–3.23)	0.97 (-1.55–3.48)
Active SRHR knowledge seeking (Ref: Less likely to seek knowledge)			**0.64***** **(0.45–0.83)**	**0.67***** **(0.47–0.86)**	**0.70***** **(0.48–0.91)**
Higher education (Ref: Bachelor's degree)				-1.66 (-3.35–0.03)	-1.58 (-3.29–0.13)
High SRHR self-rated knowledge (Ref: Low self-rated knowledge)					-0.08 (-0.35–0.19)

P value = *<0.05, **<0.01, ***<0.001, B= Unstandardised coefficient

Study III

Most of the healthcare practitioners who participated in this study were female (62.6%), young (age ≤40 years) and had completed a bachelor's degree (92%). 57% worked with the public sector at the time of the training.

Comparing individuals' pre-and post-intervention scores using paired samples t-test, there were statistically significant improvements in participants' SRHR Knowledge, SRHR attitudes, SRHR knowledge seeking behaviours and SRHR practices scores. The trainees with the lowest pre-training scores in SRHR attitudes and SRHR practices reported higher improvements at the end of training.

Most individual and SRHR environment factors did not seem to influence changes in the measured attitudes and practices. However, high level of baseline SRHR knowledge was significantly associated with positive improvements in SRHR attitudes. Further the relationship between improving SRHR knowledge, changing SRHR attitudes and changing SRHR practices was examined, and the results indicate that although the ITP intervention had resulted in improved knowledge, attitudes and practices, there was no significant association between improved knowledge and changing attitudes and practices. However, improvements in knowledge seeking behaviour were significantly associated with changing SRHR practices (**Table 5).**

Table 5. Association between changes in SRHR self-rated knowledge, changes in SRHR attitudes and changes in SRHR practices adjusted for change in SRHR knowledge seeking behaviour and other covariates by multiple linear regression (N=107).			
	SRHR practices delta scores		
	Model 1 B (95% CI)	Model 2 B (95% CI)	Model 3 B (95% CI)
SRHR self-rated knowledge *(Ref: low delta scores)*	-0.01 (-0.26-0.25)	-0.01 (-0.26-0.24)	0.13 (-0.24-0.27)
SRHR attitudes *(Ref: low delta scores)*	0.22 (-0.12-0.55)	0.20 (-0.13-0.53)	0.22 (-0.12-0.56)
SRHR knowledge seeking behaviour *(Ref: low delta scores)*	**0.28 (0.11-0.46) ****	**0.28 (0.11-0.46) ****	**0.28 (0.10-0.0.46) ****
Age (Ref: 41 years or more)	-	0.23 (-2.29-2.73)	-0.34 (-2.94-2.25)
Gender *(Ref: Female)*	-	-1.82 (-4.29-0.65)	-1.77 (-4.31-0.78)
8 years or more working years *(Ref: Less than 7 years)*	-	-1.88 (-4.35-0.59)	-1.99 (-4.47-0.49)
No religious influence *(Ref: Influence)*	-	-	1.55 (-1.08-4.19)
No cultural influence *(Ref: Influence)*	-	-	0.53 (-2.10-3.16)
Service providers *(Ref: Officers and managers)*	-	-	1.76 (-0.89-4.40)

P value = *<0.05, **<0.01, ***<0.001, B= Unstandardised coefficient

Study IV

During the study period, 99 change projects were implemented in 13 countries in Africa and Asia. The common themes in the change projects were youths and adolescent SRHR, maternal and neonatal health, sexuality education, sexual and gender-based violence, sexually transmitted infections, sexual minorities and sex-work.

Multivariate logistic regression analysis **(Table 6**) showed that improving the capacity of the teams that were implementing the change projects was the strongest predictor of organisational effectiveness. Other enabling factors for organisational effectiveness were support from partner organisations and involvement of the media in the ITP interventions. However, change projects that adopted new SRHR approaches also reported significantly reduced organisational effectiveness.

Having secured support from partner organisations was the only study variable significantly associated with increasing awareness and demand for, and increasing access to, SRHR services (table not shown).

Table 6.Multivariate logistic regression between improved team capacity and improved organisational effectiveness adjusted for other covariates in four models (N=99).

	Improved organisational effectiveness			
	Model 1 AOR (95% CI)	Model 2 AOR (95% CI)	Model 3 AOR (95% CI)	Model 4 AOR (95% CI)
Improved team capacity *Ref (Disagree)*	**5.97** **(2.01-17.72) *****	**6.11** **(2.02-18.47) ****	**10.76** **(3.02-38.36) *****	**12.96** **(3.35-50.19) *****
Adopted new SRH approaches *Ref (No)*	**0.38** **(0.16-0.93) ***	**0.36** **(0.14-0.92) ***	**0.29** **(0.10-0.79) ***	**0.26** **(0.079-0.83) ***
Stake holder involvement *Ref (No)*		0.80 (0.31-2.06)	1.15 (0.42-3.18)	1.33 (0.40-4.40)
Media engagement *Ref (No)*			**5.07 (1.69-15.16) ****	**5.28** **(1.57-17.71) ****
Partner support *Ref (No)*				**4.42** **(1.45-13.43) ****

p value* ≤0.05, p value** ≤0.01, p value *** ≤0.001, AOR=Adjusted Odds Ratio

Discussion

The aim of this thesis was to evaluate the effectiveness of an advanced international training programme (ITP) in sexual and reproductive health and rights (SRHR)-a capacity development intervention in low-and middle-income countries. To do this, two frameworks of evaluation were adopted: The Baldwin and Ford's Transfer of Training Model to assess the effect of the intervention on SRHR practitioners and the Inputs-Process-Outputs-Outcome-Impact framework to assess the effect of the intervention on the participating organisations and the target populations.

Two baseline studies (studies I and II) were conducted to understand healthcare practitioners' SRHR knowledge, SRHR attitudes and SRHR practices, which formed the basis for the assessment of improvements after the ITP intervention conducted in study III. We did not have baseline data on organisational performance and SRHR outcomes upon which to base our assessment of organisational effectiveness in study IV. However, the study instrument was designed to report improvements in organisational effectiveness as perceived by the ITP participants themselves.

Summary of main findings

Finding from the two exploratory studies (I and II) suggested that personal values and societal norms (rooted in religion and culture) defined the contexts in which SRHR was understood and practiced by healthcare practitioners. Particularly, religion had a significant influence on SRHR practitioners' attitudes but not their professional behaviours as service providers. Significant to note too is that high levels of SRHR knowledge, active knowledge seeking behaviour and more working years with SRHR were positively associated with normative SRHR practices.

Study III indicates that the ITP intervention significantly improved SRHR practitioners' knowledge, attitudes and practices. Religion and culture were not found to have a significant influence on changing SRHR practices after the ITP intervention, but rather the key determinant of improving SRHR practices was active knowledge seeking behaviour.

In study IV improving the capacity of the teams that were implementing the change projects was significantly associated with improved organisational effectiveness.

Importantly, support from partner organisations significantly influenced improved organisational effectivity, increased awareness, and demand for, and increased access to, SRHR services. Adopting new SRHR approaches seemed to negatively influence organisational effectiveness. A summary of the thesis results is illustrated in **Figure 11**

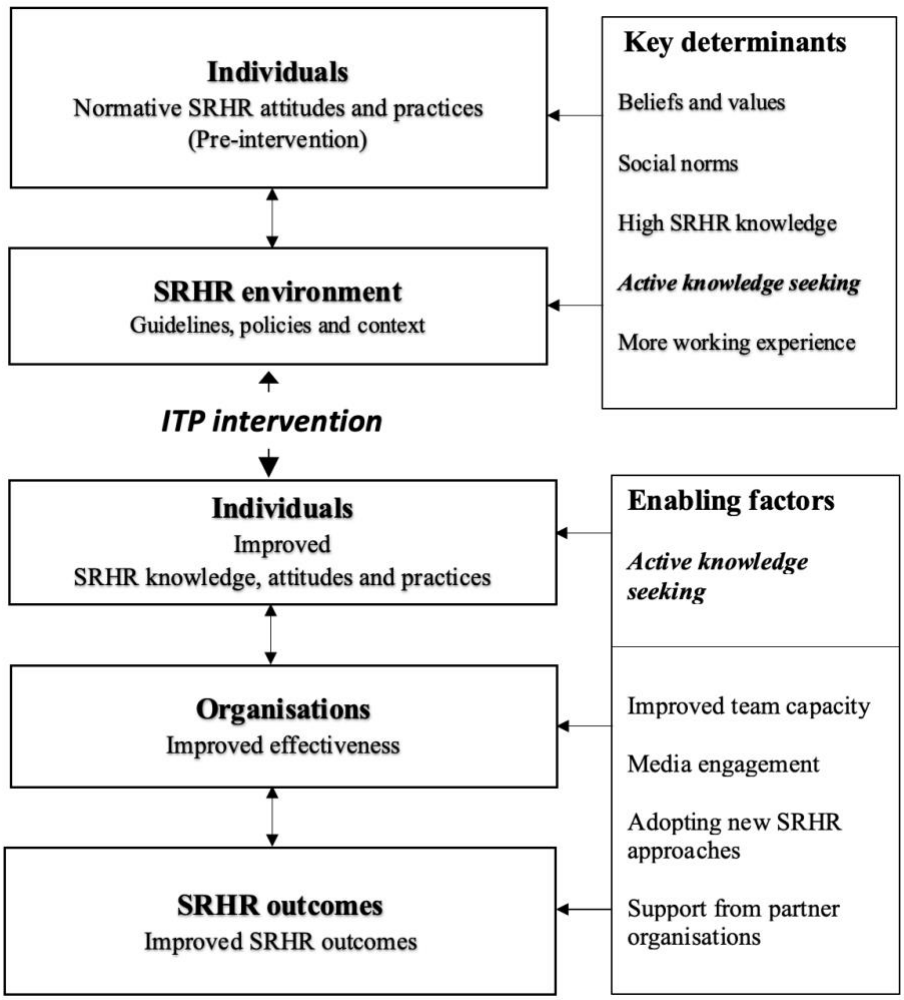


Figure 11: Summary of results

Interpretation of findings

The SRHR context in LMICs

It is almost three decades since the 1994 international conference on population and development in Cairo linked SRH to human rights. Despite multiple efforts to scale up access to SRHR in LMICs, progress has been slow and the claim of SRH rights remains a distant dream for most women and other vulnerable groups. Even where reasonable consensus across countries exists, e.g. ending child marriages, preventing unplanned pregnancies or addressing gender gaps, meagre improvements have been made [99]. Key among the factors affecting progress are de-prioritisation of SRHR by governments [64], discriminatory social norms and unstable national and international development agendas [100, 101].

Societal values and social norms determine local politics. Politics determine prioritisation of resources and dictate the policy formulation process of nations. Politics is not value-free; its heavily influenced by the dominant social cultural actors of any given society, who in turn might have allegiance to religious, cultural or civil society organisations. The laws, rules and regulations affecting accessibility to (SRHR) services reflect the value systems in place in that society in which they are framed. As proposed by *Walt et al* in the 'policy triangle framework' [102] the context (and actors) in which interventions are implemented is as important as the content of the intervention. This is particularly vital for the sustainability of externally funded interventions like ITP that need to be anchored in local organisations and networks. In this thesis support from home organisations was a significant contributor to organisational effectiveness, increasing awareness/ demand for, and access to, SRHR services. Ultimately, the responsibility of running health systems lies with governments. Governments formulate policies and determine priorities that eventually get funded. This requires a good appreciation of the roles, concerns and mandates of different political, social and cultural actors and stakeholders in the different countries to harness multisector collaborations for SRHR.

Often the context extends beyond national borders to international partners and funding agencies, for example the 2017 United States of America's 'gag rule', the executive order to defund organisations providing abortion and contraceptive services affected a broad range of other SRH services [101]. Multiple times aid to LMICs is suspended to due local conflicts or international disagreements. Unstable financing affects service delivery especially to the most vulnerable that depend on the already underfunded public health systems.

To achieve the goal of universal access to reproductive health and reproductive rights by 2030 a compressive appreciation of local contexts is necessary.

Enablers of effectiveness of SRHR interventions in LMICs

The findings in study III indicate that the ITP in SRHR was effective in improving the participants' SRHR knowledge and changing their SRHR attitudes and practices. Evidence supporting training as an effective tool for imparting new knowledge and changing attitudes and behaviours is widely studied in global health [103-106] and has a solid theoretical basis that suggests that changing attitudes with new knowledge will influence behaviour [74, 84]. A recent systematic review of capacity development interventions for health care practitioners affirms that education-based (training) interventions can be effective in enhancing individuals' knowledge and changing practices when designed to match local context and priorities [21]. Further, this review also provides evidence that training can be effective in increasing organisational capacity to raise awareness (for SRH), promoting sexual education and networking organisations [21, 22]. However, in this study, there was no significant association between acquiring new knowledge and changing SRHR attitudes or SRHR behaviours. The effect of the acquired new knowledge on changing attitudes or behaviours might require processing time by the individuals in the context of their SRHR environment. This is in line with McGuire W.J et al who proposed the 'information processing model' which suggests that time must be allowed for information-based interventions to show effect [107, 108]. Another paradigm suggests that it is behavioural intention towards the desired outcomes rather than the knowledge-attitudes-practice continuum that should be a focus of knowledge-attitudes-practices based interventions [109-111]. This is in line with our findings in this study which suggest that improved scores in active SRHR knowledge seeking behaviours (a form of intentional behaviour) were significantly associated with normative SRHR practices (pre-intervention) and changing SRHR practices after the ITP intervention.

Support from partner organisations, and media involvement, during the implementation of change projects positively contributed to the outcomes of the ITP intervention. Although the mechanism through which the media influenced the outcomes of the change projects was not a focus of this thesis, it is generally understood that the media infiltrates all aspects of life in most societies, is a major tool of socialisation and influences behaviour [112]. Local ownership of externally funded interventions is often stated a favourable precondition for sustainability. In Sida's evaluation of the ITP approach to capacity building, support from host organisations was found to be among the key success factors for change projects. The change projects reported better outcomes when they were closely linked to local and national priorities and attracted local resources [113]. It is also urged that the dismal performance of most aid funded projects in LMICs is largely due to the reluctance of local partners to sustain the interventions or lack of capacity to manage aid initiatives transparently. Aid has had a greater impact where local partners demonstrated a greater willingness to build institutional capacity for better governance [114-117].

Methodological considerations

An exploratory approach was used in studies I and II [118] to learn about the patterns and determinants of beliefs, attitudes and practices among SRHR practitioners. This was necessary because of the diversity among the study participants. They were of different age groups, gender, race, religions, cultures, sexual identities and orientations, nationalities and professional training. In addition, the core subject of the ITP intervention (sexual and reproductive health and rights) is broad. It was difficult to imagine, for example that a person could have "universal" attitudes towards SRHR or be uniformly influenced by the same background factors across all components of SRHR. Qualitative and quantitative approaches were used to achieve this objective.

In study I, in-depth interviewing was used as the main data collection method [119]. In-depth interviews were chosen because some of the questions were of a personal nature including feelings and SRHR beliefs. Well-conducted in-depth interviews can provide high-quality data on interviewees' experiences, perceptions and beliefs about their reality. However, one major criticism of in-depth interviews is that they do not accurately represent the interviewees' reality because the interviewer's experiences, assumptions and beliefs equally influence the process and direction of the interviews [120]. In our study, both interviewers were male healthcare practitioners who were affiliated with Lund University (the host institution for the interviewees). Both interviewers had prior experiences of working and living in low-income countries. This could have influenced the process (nature of probing) and the extent of the interviews.

Qualitative interviews were conducted before participants began their ITP phase 2 training in 2016 at Lund University. To capture the diversity of participants in the group, all the 28 participants who consented were interviewed. In addition, the study aim was broad (understanding participants' SRHR perceptions, attitudes and behaviours-and the factors that influence them) and bearing in mind that the study sample was diverse, we considered that a larger sample size would be appropriate to obtain the necessary information power for this study [121].To ensure consistency in the interview process, frequent discussions were held between the two interviewers themselves and between the interviewers and the main supervisor (AA). When all the interviews were conducted, the first author (GT) transcribed them and started the analyses as described by Graneheim and Lundman [97].

Studies II and IV are based on cross-sectional data. The cross-sectional nature of the data makes it difficult to make causal inferences. Study III is based on pre-and post-intervention measurements without a control group. Pre-and post-intervention study designs without control groups are prone to a measurement error, i.e. regression to the mean [76, 122], a phenomenon that makes natural differences in repeated measurements appear as real outcomes of the intervention when in fact the

changes could have occurred naturally without the intervention. One of the methods to reduce this phenomenon in our study could have been the use of a control group. This was not possible because of cost and time limitations. However, during data analysis, using scatter plots and analysis of covariance (ANCOVA), we found that this phenomenon did not significantly affect the reported results.

Other study limitations that need to be considered while interpreting the study findings include the issue of social desirability bias and selection bias. Social desirability bias could have arisen since the participants evaluating ITP were invited by Lund University to attend the course that they were now required to give feedback about. However, the use of self-administered questionnaires and taking measures to ensure the anonymity of study participants could have reduced its potential effect in our study [123]. When interpreting the results of this thesis, it is important to be mindful of the fact that participants were a specifically selected grouped of SRHR health practitioners and may not be representative of all health practitioners in low-and middle-income countries. Additionally, the sample size was small in all the three quantitative studies. This may have limited the studies' statistical possibilities to detect true associations. To reduce the risk of type I error, composite variables were used i.e by combining 2 or more items (questions). To obtain meaningful composite variables, the items in the composite variables must be statistically correlated and conceptually related [124]. Factor analysis was used to select the number of variables included in the composite scales [125], and Cronbach alpha test was used to determine the internal consistency (inter-item correlations) of the constructed composite variables [126]. Composite variables were obtained by summation of the items in each scale [127, 128]. The main disadvantage of combining variables is that it may alter the relations between the composite variable and other variables in the study [128].

Another consideration to bear in mind when interpreting our study findings is that self-reported data (self-rating scales) were used in the quantitative studies. Self-rating is highly susceptible to social desirability bias and response bias both of which may result in participants overstating or underreporting some study variables [129]. Self-reporting constitutes the majority of behaviour related assessment studies [130]. Although other options of measuring perceptions, attitudes and behaviours were plausible, for example participant observation using observer rating scales, it was not logistically possible in our studies.

Implications for future research

This thesis was about evaluating the effectiveness of a capacity development intervention for healthcare systems in low- and middle-income countries. This evaluation only reports outcomes of the ITP intervention within 7-13 months of implementation. Due to different contextual factors, the implementation of the change projects could have required different lengths of time in the different change projects. The author recommends that a follow up study of the change projects is done to determine the long-term impact in the participating healthcare systems.

The ITP intervention was limited in scope with a small number of pilot projects within a few organisations and limited number of countries. This limits the potential for wide application of our study findings. However, this study contributes to the understanding of the mechanism of change [131] induced by the ITP approach i.e. how ITP achieved its outcomes. This approach should be scaled-up to broaden its reach and test the concept of change projects in larger populations of healthcare practitioners and in the different aspects of healthcare systems, e.g leadership and governance or financing of health systems, in more LMICs.

Active knowledge seeking behaviour, a form of self-regulated learning [132], was a significant predictor of normative SRHR practices before the ITP intervention and was significantly associated with positive improvement in SRHR practices after the training. This should be examined further, using experimental design, as a potential effective tool for improving the competencies of healthcare practitioners in LMICs.

The findings in this thesis also suggest that normative SRHR attitudes and practices as prescribed in international SRHR agreements are subject to individual and/or societal values when applied to local contexts. Often, individual values contradict professional standards or expectations of being a healthcare practitioner. The extent to which this phenomenon negatively influences the quality of health services could not be determined in this thesis and requires further investigation. The finding in this thesis can also serve as a basis to explore the feasibility of a new SRHR dialogue about the universality of SRH rights. A dialogue that acknowledges the diversity of societal norms while ensuring the protection of the most vulnerable.

For different historical reasons, countries and societies differ in the norms and laws that govern family life and schools, both of which are key foundations of socialisation that determine healthcare practitioners' values and practices. Healthcare practitioners determine how international SRHR frameworks are operationalised in their local contexts. The extent to which this will influence progress towards universal access to SRHR needs to be studied in LMICs.

Finally, our findings suggest that the SRHR landscape is changing in LMICs. Although religion and culture are very important aspects of people's lives, they may not have as much of an influence on healthcare practitioners SRHR decisions as

previously thought. More research is needed to understand the role of other contextual factors like the legal environment and education systems that were beyond the scope of this thesis

Conclusions

The findings suggest that the ITP approach for improving the capacity of healthcare practitioners (as change agents) was associated with improved organisational effectiveness. Other factors that positively contributed to organizational effectiveness were support from partner organizations and involvement of the media. Support from partner organization was also critical in increasing access to, and demand for, SRHR services. The use of new SRHR approaches seemed to negatively influence the effectiveness of organizations.

Additionally, the findings suggest that although healthcare practitioners understand the importance of rights in SRH, they did not conform to the principle that rights apply to all components of SRHR and all persons in all settings. However, contrary to the evaluation hypothesis, religion and culture did not have a significant influence on changing SRHR practices. Instead, it was the improvements in participants' knowledge seeking behavior that significantly predicted positive changes in SRHR practices at the end of the intervention.

These findings highlight the potential of training interventions in contributing to the capacity development of healthcare systems in low-and middle-income countries.

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