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Integrating Mental Health into Primary Health Care in South Africa and Zambia
Evaluation of the Train-the-Trainer Pilot Course in the MEGA Project

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List of Abbreviations

HAW	University of Applied Sciences Hamburg
mHealth	Mobile Health
MHLS	Mental Health Literacy Scale
mhGAP	Mental Health Gap Action Programme
mhGAP-IG	Mental Health Gap Action Programme Intervention Guide
MNS	Mental, Neurological and Substance Use
SDG	Sustainable Development Goal
TTT	Train-the-Trainer
WHO	World Health Organization
WP	Work Package

1 Introduction

Mental health is defined by the World Health Organization (WHO) as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (World Health Organization, 2014). Especially children and adolescents, which are younger than 19 years of age, are at high risk to have mental health problems. 20% of the children and adolescents worldwide are estimated to have mental disorders, while half of the disorders begin before the age of 14 (Cheng, Li, Lou, & Sonenstein, 2014). Mental, neurological and substance use disorders can result into premature mortality, reduced functioning and loss of quality of life. If left untreated, comorbidity with other chronic diseases can occur. So far, mental and physical health disorders are not given equal attention. That’s why families with MNS patients challenge stigmatization, social exclusion and limited employment. In low- and middle-income countries, there are just a few resources available to treat mental health disorders. 76-85% of people with MNS conditions don’t receive the care they need. In low- and middle-income countries the number is even higher with 90%. This is not only affecting the families but also the economic development, through reduced productivity. An estimated loss of US \$ 1 trillion per year can be assigned to untreated MNS conditions. Achieving universal health coverage is a target of the Sustainable Development Goals (SDG). SDGs, which were adopted in 2015 of all United Nations member states, are a collection of 17 SDGs set by the United Nations General Assembly. Every goal has targets, which have to be achieved to accomplish the goal. The SDGs cover social, economic and environmental development with the aim to end poverty, reduce inequality, and to tackle climate change (United Nations, 1948).

Accessible, effective, and affordable services for MNS conditions would meet the target of universal health coverage (World Health Organization, 2018, pp. iv, ix).

The WHO has been talking for a long time about the development of community-based mental health services worldwide. Nevertheless, there is a big lack of mental health professionals in African countries. Families, traditional healer, and religion leader play the main role in mental disorders (Alem, Jacobsen, & Hanlon, 2008).

In Sub-Saharan Africa, primary health care is quite well- established, with variable coverage and quality of service (Alem, Jacobsen, & Hanlon, 2008). In South Africa there are 1.52 psychiatrists per 100.000 population and 0.08 children psychiatrists per 100.000

population. In Zambia only 0.06 psychiatrists per 100.000 population and none are reported to be especially for children (World Health Organization, 2017a; World Health Organization, 2017b). Comparing with the EU, in the EU the median rate is 9.9 psychiatrists per 100.000 population and 0.5 children psychiatrists per 100.000 population (World Health Organization, 2019a). Additionally, no mental health nurses, specialist doctors, or other paid mental health workers are reported in South Africa. Though in Zambia 1.43 mental health nurses and 1.40 paid mental health workers per 100.000 population are stated (World Health Organization, 2017a) (World Health Organization, 2017b). The little mental health service available for children and adolescents in South Africa and Zambia is not enough to hit the urgent need.

A solution for managing the urgent need of professional mental health services, especially for children and adolescents, can be mobile health (mHealth). The spread of mobile devices and innovations of health applications lead in the past years to a new field of electronic health, the mHealth. A definition for mHealth by the WHO is “medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices” (World Health Organization, 2011, p. 6). 7,8 billion mobile phone users worldwide (Statista, 2018) and a fast spreading mobile phone network are reasons for the transformation of access and delivery of health services. In many low- and middle-income countries mobile phone networks even surpasses other infrastructure expansion like paved roads and electricity. Nevertheless, mHealth is more common in higher income countries than in lower income countries with the highest activity in the South-East Asia region and the smallest activity in countries in Africa (World Health Organization, 2011, pp. 5, 11). To ensure the use of mHealth, the WHO has analysed the main barriers to mHealth implementation in Africa. One of the biggest barriers in Africa is the infrastructure. Nevertheless, the telecommunications infrastructure is growing fast, but the cellular network coverage is still a big challenge. There can be also seen an upward trend of network coverage and subscriber numbers, which indicates a dynamic market, but there is still a lot of space for improvement (World Health Organization, 2011, pp. 63- 67).

One project funded by the Erasmus+ programme of the European Union, the MEGA project, is using mHealth to improve children and adolescent’s mental health in South Africa and Zambia. The purpose of the MEGA project is to implement a mobile

application targeted to primary health care workers who are dealing with children and adolescents' mental disorders. A concrete output of this project is a train-the-trainer course in September 2019. The term "train-the-trainer" is explained in more detail in the following chapter. The educated trainer will teach primary health care workers subsequently on mental health. The training course of this train-the-trainer is piloted at the HAW in Hamburg (MEGA, 2019j; MEGA, 2019k). In this work the train-the-trainer pilot is evaluated with the research question: "How did the participants and trainer evaluate the train-the-trainer pilot course of the EU project MEGA?". Consequential is the guidance for the evaluation of the train-the-trainer in September.

In the following work, the main terms of this thesis are explained first, followed by the current state of research of train-the-trainer and mHealth evaluations. The MEGA project, with the project description, target group, project partners and the aims and objectives is described before the evaluation of the train-the-trainer pilot is stated. The evaluation is divided into evaluation object, evaluation criteria, data collection, data analysis, results, interpretation, as well as strength and limitations. Guidance for the evaluation of the next train-the-trainer course of the MEGA project will emerge out of the pilot course evaluation. At the end of the work the main conclusions are summarized and an outlook for the future is presented.

2 Basic Knowledge

The aim of this work is to evaluate the pilot study of the MEGA project. The pilot study is a train-the-trainer programme. At this programme primary health care workers learn how to use an application, which is based on the Mental Health Gap Action Programme. For the understanding of the following work it is important to explain some terms beforehand. In this part the terms “primary health care”, “evaluation”, “pilot study”, “train-the-trainer”, and “Mental Health Gap Action Programme” will be defined.

Primary Health Care

The overall aim of the MEGA project is to integrate mental health into primary health care. Primary health care is based on the Article 25 of the Universal Declaration on Human Rights: “Everyone has the right to a standard of living adequate for the health and wellbeing of himself and of his family, including food, clothing, housing and medical care and necessary social services [...]” (United Nations, 1948). It focuses on the needs and preferences of individuals, families, and communities. In the care the broader determinants of health are considered: physical health, mental health, social health and wellbeing. The care is not just provided for a specific disease, it is an entire-person care throughout the whole life. Therefore, it includes promotion, prevention, treatment, rehabilitation and palliative care (World Health Organization, 2019b).

Primary health care can be defined by three components:

Empowering people to optimize their health through advocates for policies, co-developers of health and social services, as self-carers, and as care-givers to others.

Primary health care focuses on public health functions, which integrate promotion, protection, prevention, curation, rehabilitation, and palliative care throughout the whole life span.

It is addressing social, environmental, economic and individual needs with actions across all sectors (World Health Organization, 2019b).

Evaluation

To assess the pilot train-the-trainer course in the MEGA project an evaluation will be conducted. The word “evaluation” means to get a value out of something (Latin: “valor” = value, prefix “e” = out). It is an assessment of the value of an object. The objects can be products, processes, or programmes. First, the information will be collected, then analysed,

and finally the results help to make decisions on the object. All the data collection and analyses have to be transparent, so that an external person can verify the results. Before the data collection and analysis is done, specific criteria have to be set. On these criteria the whole evaluation will be based on (Stockmann, 2002, p. 2).

In total, an evaluation has four main objectives: gathering of knowledge, practicing control, creating transparency for dialogues, and documenting success. The first one is to gain knowledge about the effectiveness and efficiency of the evaluation object. Based on the knowledge decisions can be made, so that it can raise the quality of programmes, actions and services. In addition, an evaluation can be directly or indirectly used for controlling the quality of the work packages from the different project partners. Another objective of an evaluation is to make the results transparent to start a dialog based on the evaluation. Stakeholders can discuss about the success, the deficits and they can learn together from the evaluation. The last objective is to document the success with the evaluation. An evaluation helps to see what the input and the output were and which impact it had. With an evaluation, different objectives can be aimed. Nevertheless, the objectives are linked very closely so that they are often just a matter of focus (Stockmann, 2002, pp. 3-5).

An evaluation can be categorized into three different types. They are defined by the stage of the programme, by the analysis perspective, and the aim of the evaluation. If an evaluation is used to plan a programme or to improve the implementation, it is called an “ex ante evaluation”. The analyse perspective is ex ante and the stage of programme is the planning phase. At the implementation phase and with an on-going analyse perspective it is an on-going evaluation. It is used to control the implementation process. For example, time management, acceptance of the participants, conflict of interests, communication, and technical problems can be tested. It is also not only tested if the goal can be reached in time with the right intervention, but also if the whole programme is useful, and if there is any development achieved, and if not, how will the programme be changed. Last, the ex post evaluation is used to test the sustainability and efficacy of the intervention. This evaluation type is applied at the end of the study and the analyse perspective is ex-post. At this stage of study, not only the variance analyses will be done, where fixed aims and criteria are compared to the outcome, but the whole impact of the programme will be evaluated. The aim of an evaluation is to find not just the intended impacts but also the not intended effects (Stockmann, 2002, pp. 5-8).

Furthermore, an evaluation can be divided into formative and summative evaluation. Formative means, that the evaluation concept is active, process oriented and constructive. In comparison to the formative evaluation, the summative evaluation summarizes the intervention and is outcome based. Both types can be used at every stage of the programme. Usually, in the planning phase of a programme a formative evaluation is applied, at the implementation stage a summative evaluation, and at an ex-post analyse a summative evaluation (Stockmann, 2002, pp. 5-6).

An evaluation can be also classified based on the driving force behind the evaluation. There are five approaches to be mentioned. The first one is the objective oriented approach, which focusses on the identification of programme objectives and an evaluation of the achievement of those objectives. Another approach is the management-oriented approach. At this evaluation the focus is on the informative satisfaction of the managing director. The consume oriented approach aims to evaluate product-oriented information with the help of the product checklist. At the expert oriented approach, the evaluation is conducted by experts of the area of practice. Furthermore, the participative approach focusses on the participation of different stakeholders, which are affected and involved in the evaluation (Stockmann, 2007, p. 47).

In order to generate high-quality evaluations, not only expertise and resources are necessary, but above all acceptance of the evaluation by the people affected and involved. This can only be achieved if all parties involved agree on importance and purpose of the evaluations and are aware of the potentials, opportunities, but also the risks and limits of evaluations. (Stockmann, 2002, p. 16).

Pilot Study

The evaluation object of this evaluation is the pilot train-the-trainer course. A pilot study is the small-scale experiment of the proposed research study to enhance the methodology of the full-scale study. It has the same design of the main study, but with a smaller sample. The pilot study should use the similar subject, the same setting and the same techniques of data collection and data analysis. It is the last chance to find out possible mistakes and to adjust the study (Razum, Breckenkamp, & Brzoska, 2011, p. 230).

Train-the-Trainer

In the MEGA project a train-the-trainer course is conducted. At a train-the-trainer (TTT) participants are educated on how to train others on the same subject. Next to the thematic content, didactic is taught at the training. For example, presentation skills, leader skills of a group discussion and much more. The individual, who has been trained, subsequently undertakes the training with others, so that the training of one individual is cascaded to many others (Lee & Scott, 2009).

The train- the- trainer is based on adult learning theories and on the innovation theory. The adult learning theories state that adults learn better when the education is relevant to their context and it is connected to their previous experience. Besides this the innovation theory says that people adopt information better if someone out of their trusted social network is doing the training (De Beurs, et al., 2016).

A TTT should be multifaceted, interactive and it should use different techniques of training (Pearce, et al., 2012).

Mental Health Gap Action Programme

The Mental Health Gap Action Programme (mhGAP) from the World Health Organization (WHO) was launched in 2008, and the MEGA project is based on it. It aims to improve services for mental, neurological, and substance use disorders particular for low- and middle-income countries (World Health Organization, 2017c, p. viii). With this programme the WHO wants to treat tens of million people with proper psychosocial care and medication so that they can begin to live a normal life, even where resources are scarce. Part of the mhGAP are the free online resources, which are available at the WHO website (World Health Organization, 2019c).

One of them is the mhGAP Intervention Guide 1.0 (mhGAP-IG). It was published in 2010 as a simple technical tool for clinical decision-making of the main mental, neurological and substance use disorders. The mhGAP-IG consist of a “Master Chart”, which has information on common presentations of the priority conditions in it. This guides the health professional to the relevant modules with assessment, management, and follow-up steps. Feedback and evaluation of the mhGAP-IG 1.0 have shaped 2015 the updated version, the mhGAP-IG 2.0 (Worl Health Organization, 2016, pp. iii, 3).

One document available on the WHO Website is the mhGAP operations manual, which was published in 2018. It is made for district health managers and others responsible for integrating mental health services. Practical guidance on implementation of mhGAP, and

practical tips on solutions to the barriers facing public health leaders are included (World Health Organization, 2018, p. iv).

Also training slides and manuals are offered for trainers and supervisors and to health-care providers (World Health Organization, 2017c, p. xi). Figure 1 shows the cascade model of training from the mhGAP training manual. Here the different stages of the training programme are listed.

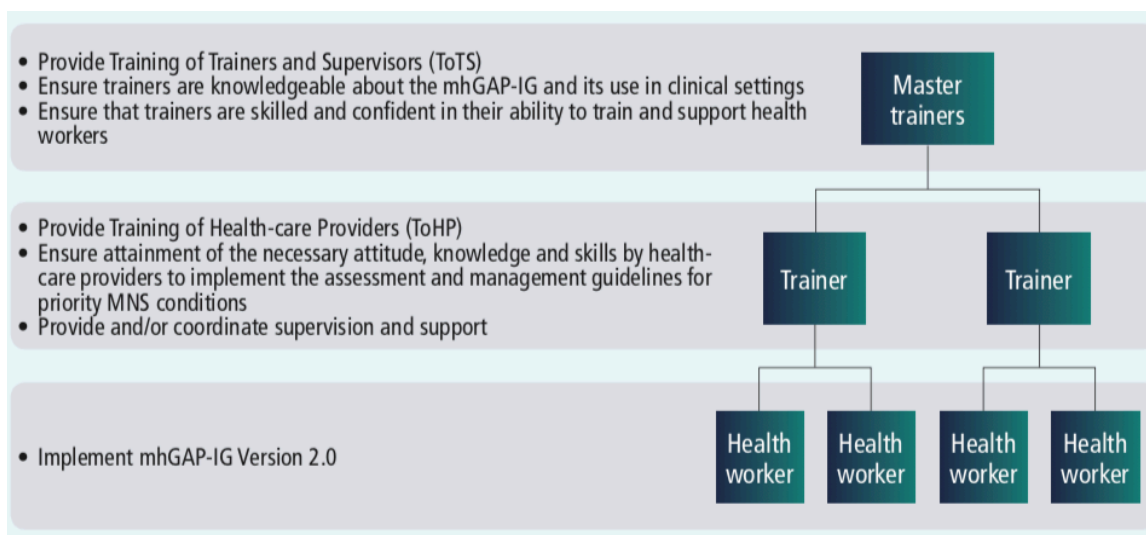


Figure 1 MhGAP Training Cascade Model (source: (World Health Organization, 2017a, p. viii))

The newest resource of the mhGAP is the mhGAP-IG mobile application. It is available since 2017 for iOS and Android. The app is based on the master chart of the mhGAP -IG. Non- specialized health-care providers get information to help them diagnose and treat mental, neurological and substance use disorders from their tablets or mobile phones (World Health Organization, 2017d).

The mhGAP is only intended to be a guide for action and it should be adapted to the situation in each country (World Health Organization, 2008, p. 13).

3 Current State of Research

In the following the current state of research, as a scientific localization of the train-trainer evaluation, is presented. The research is about evaluations of TTT courses in general and especially in the field of mental health. The focus is set on the aims, methods, and results of the evaluation. Additionally, motivation and experiences of TTT participants are stated. Furthermore, the state of research also includes an evaluation of a mHealth application. Included are international articles and articles specifically about Africa.

In the systematic review “The most effective way of delivering a Train-the-Trainers Program” 18 studies of TTT courses were analysed. Many studies of the review had the aim to evaluate the clinical outcome of the patients. But also changes in attitude, knowledge, or skills of the nurses were evaluated. The studies included in the review were using the method of randomized controlled trials or controlled trials. All studies were very different in use of group discussions, didactic presentations and role-plays. 13 of the 18 studies showed increased knowledge, improved clinical behaviour, or better patient outcome. One study showed no effect, three studies presented a possible effect and one study showed that the participants gained greater knowledge at a CD-ROM training than at a TTT course. In total, a multifaceted and interactive intervention was suggested for health care professionals (Pearce, et al., 2012).

The next study is from a TTT in the field of mental health. The training course was about enhancing mental health patient adherence by training mental health professionals. The evaluation analysed the skills, knowledge, and attitude of the mental health professionals. Evaluation data was collected pre and post the TTT. Skills were assessed with videotapes showing trainees in a roleplay before and after the training. They were blind-rated by two experienced therapists with the help of the Medication Alliance and Cognitive Therapy Scale for Psychosis. Before the roleplay started every trainee got a case vignette consisting of background information of the patient, the patients change of use of antipsychotic medicine, and the key task of the role play. The case vignette assessed knowledge in the form of analytic case formulation. After the role play trainees had to do a paper and pencil test. The Medication Alliance clinical knowledge questionnaire tested with 15 multiple choice questions the knowledge related to Medication alliance. To test the attitude of the participants the Medication Alliance Beliefs Questionnaire was used. In a 5-point Likert scale clinician beliefs and attitude, related to working with patients who have medication

adherence problems, were assessed. Moreover, the Elsom Therapeutic Optimism Scale measured the optimism of a positive clinical outcome of patients they work with. The result of the evaluation was a significant improvement in clinician measures in the three domain: clinician knowledge; clinician attitudes; and clinician skills (Byrne & Deane, 2004).

Another study in the field of mental health was analysing a TTT workshop. In the article “Evaluation of benefit to patients of training mental health professionals in suicide guidelines: cluster randomised trial” from the Netherlands, mental health professionals were trained in suicide guidelines. Aim of the evaluation was to find out whether a change in suicide ideation can be found. The mental health professionals were trained by peers in a one-day face to face course with an additional e-learning method. Data was collected with the online programme routine outcome monitoring. A control group and an intervention group were assessed. The result of the data analysis showed no significant effect on suicidal patients, but on patients with the Diagnostic and Statistical Manual of Mental Disorders-IV diagnosis of depression was found (De Beurs, et al., 2016).

In the United States of America, the evaluation study “Evaluation of a Train-The-Trainers Model for Family Peer Advocates in Children's Mental Health” also deals with the topic mental health, specifically about child mental health. From 2010 to 2016 locally trained family support specialists were trained to train others, to become also family support specialists. The evaluation of this course consisted of a baseline- and a post-questionnaire including demographics, training knowledge (multiple choice), and self-efficacy. For the self-efficacy the Vanderbilt Mental Health Services Efficacy Scale was used. The scale tests trainees feeling on offering effective help for parents to access child mental health services. Significant change in knowledge about mental health services and self-efficacy could be seen at the end of the study. No association between demographics and results could be found (Hoagwood, et al., 2018).

To understand the motivation and the experiences of participants joining a TTT course, a study was conducted in the United Kingdom. The evaluation of the course used a post course and semi structured interview. The motivation of taking part in the TTT course was mainly because of skill development, to learn from experts, making a difference and to get paid work experience. Some of the participants were anxious about being a trainer and they suggested to get a clear information about the role of the trainer. All the participants

reported that the course was well structured, interesting and enjoyable. They improved their presentation skills and team work skills (Fraser, et al., 2017).

For the MEGA project it is important to know how TTT courses are implemented in Africa and what their evaluation results are. The next study “Randomized, controlled trial of prescribing training in a South African province” is from the above-mentioned systematic review. In a four-day effective prescribing course and a generic TTT course participants, who had never trained others before, were trained. Afterwards they trained nurses at the effective prescribing course. The evaluation was based on the prescribing pattern criteria, measured by modified WHO drug use indicators. Results emerged from a pre-evaluation and two post- evaluations (1& 3 months after training). Nurses did not only retain the knowledge, they transferred it to other disease conditions, which were not part of the training. Hence, the prescribing practices were significantly improved by the training (Meyer, Summers, & Mailer, 2001).

In Kenya a TTT project, called “Integration of mental health into primary care”, started in 2005. The training was delivered to 61 trainers, who trained nurses and clinical officers. The training was multi-method and the main content was covering core concepts (knowledge), core skills, common neurological disorders, psychiatric disorders, and sector system issues of policy. For the evaluation were used: feedback from teacher and students of earlier course, regularly feedback from participants, pre- and post-evaluation of the first 1000 trained participants, routine data before and after the training, and supervision observation. Results showed increased practice, knowledge, and skills. This project has shown that a mental health course offered by trainers, who has been trained with a TTT course, can achieve effective outcomes in Kenya (Jenkins, et al., 2010).

The TTT of the MEGA Project includes a mHealth App based on the mhGAP of the WHO. The WHO has launched an own application of the mhGAP which was tested 2014 in Kenya. 14 health care workers and clinical officers were trained on screening for depression using the application on their smartphone. After the training two focus groups were employed with all the participants. The health care workers and clinical officers evaluated at the focus groups the application on its feasibility. They rated the application as feasible for diagnosis of depression. In addition to this, the participants were thinking that they can save consultation time and travel costs with the application. Also, a noted

advantage was the increased access to quality evidence-based screening (Musyimi, et al., 2018).

Next to the mhGAP application from the WHO there is currently an increasing number of mHealth applications for mental health problems available in app stores. Nevertheless, there is not sufficient research evidence on the safety, efficacy, and effectiveness of all those apps (Grist, Porter, & Stallard, 2017). Although the interest in assimilating of mHealth into mental health services is increasing, while evaluation of it is very low (12%). The WHO says that evaluation is needed to be merged into the project management life-cycle (World Health Organization, 2011, p. 2).

The current state of research indicates that TTT show improvement in the knowledge, attitude, self-efficacy, skills, or outcome in an international scale and also in African countries. To find out if the studies showed improvement, different types of evaluation were used. Moreover, the motivation and experiences of participants of TTT courses were presented.

Also, in the area of mental health application, a positive rating of feasibility, advantages, safety, efficacy, and effectiveness could be seen while more studies about mHealth are demanded by the WHO, a big lack of studies about mHealth and especially health applications is existing. Nevertheless, in one study the application “mobile mhGAP-IG” for mental health screening has been evaluated, and it showed the advantages for primary health care workers using applications for mental health screening. Besides this, no study of an evaluation of a TTT course including a mHealth application was found. Bringing together the need of more evaluations of mHealth and the lack of evaluation of TTT courses with the use of mHealth the MEGA TTT pilot using a mobile application for mental health screening will be evaluated in the following work.

4 MEGA Project

The TTT course, which will be evaluated in this work, is part of the EU funded MEGA project. In the following the MEGA project will be presented with the project description, the objectives, the target group, the project partners, and their work packages.

4.1 Project Description

The MEGA project- Building capacity by implementing mhGAP mobile intervention in SADC countries, is funded by the European Union. It is financially supported by the “Capacity Building in the Field of Higher Education” funding line of the Erasmus+ programme (Lahti, et al., 2019). The aim of the project is to improve care for mentally ill young people in South Africa and Zambia. Directions and plans for the project and proceedings were outlined at the first meeting in end of November 2017 in Pretoria, South Africa. At the 3-year long project nine African and European partners are working alongside (MEGA, 2018).

The project is divided into four phases: 1) Survey implementation with primary health care workers in South Africa and Zambia; 2) Development and field testing of mobile application as an assessment tool for children and adolescent mental health 3) Evaluation of a TTT and the subsequently training programme in the use of the mobile application, and 4) Evaluation of the feasibility and acceptability of the mobile application with primary health care workers in South Africa and Zambia (Lahti, et al., 2019).

The mobile application is developed by the Latvian partner, and it is based on the mhGAP-IG 2.0 of the WHO. It is an assessment tool to help treat children and adolescents with mental health disorders. Moreover, the application is designed by mental healthcare and IT specialists to be as feasibly as possible, so that it could be used also without any training. It aims to reduce workload of primary health care workers (MEGA, 2018).

The main goal of the MEGA project is to improve the access to mental health services for children and adolescents in South Africa and Zambia, by developing a primary health care application, as a mental health screening tool (Lahti, et al., 2019).

4.2 Objectives

Within the SDG number three (Good Health and Well-Being) the target 3.4 is directly related to mental health. Within target 3.4, the WHO strives “by 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment

and promote mental health and well-being” (United Nations, 2019). To promote mental health, new innovations are needed. The MEGA project has set their objectives to meet the global goals, with the focus on children and adolescents.

The overall aim of the MEGA project is to improve the access to mental health services and proper care for children and adolescents in South Africa and Zambia (Korhonen, 2018).

To reach the goal following objectives are set:

1. Analysing the situation of primary health care workers in Southern African Development Community countries
2. Developing a mobile application based on the mhGAP-IG of the WHO
3. Developing eLearning materials and innovation pedagogy solutions
4. Training the trainers and educate primary health care workers
5. Implementing and evaluating the mobile version of the MEGA application
6. Spreading information of the results
7. Raising knowledge about environmental influence on mental health.

(MEGA, 2019j)

Therefore, a mobile application is developed as an assessment tool to screen for depression, anxiety, post-traumatic stress disorder and substance abuse in children and adolescents. This application and related mental health content will be taught at a TTT programme (Lahti, et al., 2019).

The MEGA partner also aims to improve the higher education and emphasize the relevance of the topic for the labour market and the society by spreading information on the results and raising knowledge about environmental influences on mental health (MEGA, 2019j).

4.3 Target Group

The implemented objectives of the MEGA project will benefit the direct target group through the help of the indirect target group. The group directly affected by the project activities is called direct target group. This group can be influenced by another group, which is located in their environment. The so-called indirect target group can have an influence on the direct target group. During the programme planning the direct and indirect target groups have to be taken into consideration (PHINEO, 2018).

At the MEGA project the direct target group are the youth and adolescents in south Africa and Zambia (Lahti, et al., 2019). 20% of children and adolescents in South Africa suffer from mental disorders and many persist into adulthood (Dawes, Sorsdahl, Lund, & Myers, 2012). Factors which influence mental health of children and adolescents in South Africa and Zambia are stigma, low priority of mental health related to other health topics, and little awareness of the connection between poverty and mental disorders (Kleintjies, Lund, & Flisher, 2010).

The main target group of the MEGA project is the indirect target group of primary health care workers in three provinces in South Africa (Free State, Gauteng and Western Cape) and in three provinces in Zambia (Lusaka, Southern and Central). As a result of the MEGA project will the well-educated nurses influence the health situation of the direct target group: the children and adolescents in South Africa and Zambia (van Rensburg-Bonthuyzen, Jansen, & Coetzee, 2018).

The main objective of the project, the mobile application, is aimed to be used by primary health care workers in South Africa and Zambia. Primary health care workers are defined as:

1. Registered, enrolled nurses and clinical officers working at the defined provinces in South Africa and Zambia
2. Participants who are able to speak, read, and write English
(van Rensburg-Bonthuyzen, Jansen, & Coetzee, 2018)

An exclusion criterion is, retirement of a primary health care worker or clinical officer during the training programme (2017-2020) (van Rensburg-Bonthuyzen, Jansen, & Coetzee, 2018).

The target group will be trained on health literacy and on how to use the application as an assessment tool. Part of the study phase 1 and objective 1, a survey was conducted with 98 nurses from the province Free State in South Africa, to get to know the educational needs and mental health literacy of the primary health care workers. One of the findings was about the use of screening instruments for mental health conditions. 61 of the nurses said that they had used the Adult Primary Care guideline before. 48 nurses used the DoH Checklist before. Another finding was, just more than half (54,6%) of the nurses felt that mental health services are available at their district. In addition to this a third (34%) experienced difficulties providing mental health services. Reasons mentioned were inadequate access to staff training and staff shortage. Just 59% received formal training in

diagnosis and treatment. Nevertheless, the majority recognised symptoms of bipolar disorders, major depressive disorders, generalised anxiety disorder, and social phobia. However, 45% believe that people who are mentally ill could control their situation if they wanted to. Besides this, one third responded that they refuse to have someone with mental illness being married into their family, or that they would be unwilling to employ someone with mental illness (28%) (van Rensburg-Bonthuyzen, Jansen, & Coetzee, 2018). Aim of the MEGA training workshops of the nurses will be to strengthen the mental health literacy of nurses and innovate ways of implementing mental health screening tools and appropriate mental health care to improve access to mental health services for the direct target group, the children and adolescents in South Africa and Zambia (Lahti, et al., 2019).

4.4 Project Partner and their Work Packages

At the MEGA project nine universities from five different countries (Finland, Latvia, Germany, South Africa, Zambia) are working together (MEGA, 2019k). In the following the project partner and their work packages (WP) at the MEGA project are presented. The lead partner of the project is the Turku University of Applied Sciences in Finland. They are responsible for the preparation and organization of the project (WP 1), mapping the landscape (WP 2), developing continuing professional education using innovation pedagogy of children and adolescents mhGAP part (WP 4), and the project management (WP 9) (MEGA, 2019k). A project manager (Dr. Mari Lahti), two researchers (Dr. Heikki Ellilä, Joonas Korhonen), a project advisor (Anita Narbro), and a controller (Arina Kiseleva) are part of the Finish team (MEGA, 2019e).

The Latvian Riga Technical University is the project leader for WP 3, and therefore responsible for developing the mobile application (MEGA, 2019k). On basis of collected data and discussions with experts, Riga Technical University develops the mobile application. Their team consists of a project manager (Timo Turunen), a lead analyst (Kārlis Valtīņš), an ICT expert (Ieva Kudina), and two administrative assistants (Anete Beinarovica, Vera Lipsta) (MEGA, 2019c).

The German partner university is the HAW. In their responsibility are the WPs 5 and 7. The TTT pilot, which is evaluated at this work, is located at the WP 5 (MEGA, 2019k). Trainers are trained at the comprehensive TTT. General knowledge about mental disorders in adolescent and childhood, and the use of the MEGA mobile application is taught at the TTT pilot. The quality of the training concept is evaluated by the HAW to identify

potential for improvements for the TTT in September. Besides this, the HAW is lead partner of the monitoring and quality control of the whole project (WP 7). This includes continuous internal and external evaluations of all works steps. Prof. Dr. Gunter Groen, as the lead researcher and project manager, is working with Astrid Jörns-Presentati, as the content expert in the HAW team (MEGA, 2019a).

South Africa has four partner universities, which are part of the MEGA project. The University of Pretoria is the national lead in South-Africa and represented by a lead researcher and project manager, Dr. Gerhard Grobler, and a research assistant, Tumisang Chiloane (MEGA, 2019g). They are lead partner at the WP 6, which is the implementation and evaluation of the mobile application in South Africa and Zambia (MEGA, 2019k). Regional and superregional health policy makers are to be informed about the MEGA project at round-tables, publications, and symposia. The aim of WP 6 is to attracting attention to mental health, the adequate treatment and prevention of it at the societal level (Groen & Jörns-Presentati, 2018).

Stellenbosch University got no WP assigned to, but as part of their team they have three content experts (Prof. Soraya Seedat, Dr. Sharain Suliman, Dr. Leigh van den Heuvel), a trainer for the TTT workshop (Irene Mbanga) and a grant manager (Surene Grobler), who is responsible for the overall financial planning (MEGA, 2019d).

The third university from South Africa is the University of Cape Town. A co-principal investigator (Dan J. Stein), two researchers (Dr. Elsie Breet, Weslin Charles), and two administrative manager/ trainer (Weslin Charles, Renier Swart) are supporting the MEGA project (MEGA, 2019f).

Also, from South Africa is the University of the Free State. The South-African team consists of a project manager (Ronelle Jansen), an administrative manager (Ega Janse van Rensburg-Bonthuyzen), and a researcher (Marita Coetzee) (MEGA, 2019h).

Moreover, two universities of Zambia take part in the MEGA project. One of them is the Lusaka Apex Medical University. They are the lead partner for the WP 8, which is about internal, national and marketing dissemination organisation. Lusaka Apex Medical University organizes and holds internal and national dissemination seminars and the final dissemination conference (MEGA, 2019k). Part of their team is a project manager, Prof. John Mundenda, a project coordinator, Dr. Thomas Tailoni Y Sukwa, and a finance officer, Abraham Kaluba (MEGA, 2019b). Another project partner from Zambia is the University of Zambia. A team leader/ project manager, Dr. Lonia Mwape, a project planner/controller, Dr. Patricia Mukwato, two researcher/experts, Ruth Wahila Ngom and

Fabian Chapima, and one project accountant, Peterson G. Mumbuluma, form the Zambian team (MEGA, 2019i).

In addition to many online meetings, the international project team has met a few times in person, where they got to know each other and they discussed about different work steps and procedures (Groen & Jörns-Presentati, 2018).

5 Evaluation of the MEGA Pilot Course

As written in the chapter state of research there are different kind of evaluations done on the topic TTT in general, and with the topic mental health. Different evaluation criteria have been used to evaluate the value of the TTT courses. Most courses showed a positive effect. The TTT pilot course of the MEGA project will be evaluated in the following with the aim to improve the TTT course in September 2019.

Mixed method as pre- post questionnaire, the Mental Health Literacy Scale, and a focus group were used. The research question, “How did the participants and trainer evaluate the train-the-trainer pilot course of the EU project MEGA?”, indicates the direction of the evaluation.

This evaluation is an intern on-going evaluation, because it takes place at the implementation phase of the MEGA project and it is done by an intern of the MEGA project. It is used to control the implementation process. An on-going evaluation tests, if the goals can be reached with the intervention, if the whole course is useful, if there is any development achieved, and how the programme can be changed (Stockmann, 2002, pp. 5-6).

It is also a formative evaluation, because the evaluation concept is active, process oriented and constructive (Stockmann, 2002, pp. 3-5).

In this evaluation the participative evaluation approach is applied. The focus is on the needs of the target group, the nurse students. It captures the diversity of the different interests and perspectives of the participants (Stockmann, 2007, p. 48).

To improve the future TTT course in September 2019, knowledge has to be gained from the pilot course. It is gained by collecting opinions of the participants and trainer on the course and the application, and by assessing the participants for being future trainer. Out of the knowledge a curriculum of the TTT in September will arise. In addition to this, the

transparent results help the project partners to decide about improvements to raise the quality of the whole MEGA project.

The object of this evaluation is the TTT pilot course in the MEGA project, which will be described in the following chapter. Thereafter the evaluation object, evaluation criteria, methods and instruments for the data collection, data analysis, and finally the results of the MEGA pilot TTT are presented. Strength and limitations of the evaluation are pointed out leading to guidance for the next TTT.

5.1 Evaluation Object

The object of the evaluation is the TTT pilot course, which is located in the WP 5 (see chapter 4.4). The TTT took place at the HAW Hamburg on the 29th April, 6th of May, and 20th of May, 2019. Prof. Dr. Gunter Groen and Astrid Jörns-Presentati from the HAW Hamburg were the trainer of this course. Prof. Dr. Gunter Groen is a psychologist and psychotherapist. Since 2010 he has been working as a professor of psychology with a focus on clinical psychology and child and adolescent psychotherapy in the department social work at the HAW Hamburg. Astrid Jörns-Presentati finished her master's degree in social work and she is a research associate in the department social work at the HAW Hamburg. In total, the course included six hours, which were divided over the three days in two hours each. Dual nurse students from the sixth semester from the HAW Hamburg participated in the pilot course. On one hand the participants were in the role of future trainers as well as in the role of primary health care professionals.

It is important to note that the MEGA mobile application was not developed at the time the TTT pilot course started. The application is in progress and will be developed latest for the TTT course in September. Instead of the application suggested questions for the MEGA app were used (see Appendix A).

With the help of the pilot TTT the methods and content of teaching are evaluated to develop a curriculum for the TTT in September. The TTT course in September also aims to teach participants to become trainer for nurses in the area of mental health. Well-trained trainers are important for the effectiveness of the primary health care training in South Africa and Zambia. Children and adolescents will benefit in turn from the well-trained primary health care workers.

At the first course day an overview of the MEGA project, the aim of the TTT pilot course, and the role of the participants were presented. After the introduction, participants had to

fill out the pre-questionnaire, and the Mental Health Literacy Scale Questionnaire (see Appendix B, C). Furthermore, key facts on adolescents' mental health problems were presented (knowledge). The course contained also stigma and prejudice of mental health problems (attitude), determinants and risk factors of mental health, and the disorder depression (knowledge). As part of the skill category participants got to know the helpful person and they downloaded the application mhGAP as preparation for the next course (skill). Discussions about possible reactions towards people with mental illness (attitude), and about risk factors of mental health (knowledge) were asked in between.

The second course day had the topic "communication skills" for the effective identification and management of mental disorders. It consists of active listening, basic emotional support, and empathy. In a practical exercise, participants practiced active listening, and in a role play between a nurse, mother, and daughter they could apply the gained skills about communication (skill). In a video called "I had a black dog, his name was depression" a story about what it is to have depression was told (knowledge, attitude) (World Health Organization, 2012). At the end of the course the participants should look at the depression part in the mhGAP application and discuss about how to integrate it at the work of a nurse (knowledge, skill).

In the last and third course day the mhGAP application and mainly the MEGA application were discussed. Suggested app questions were given out for the MEGA application and participant should do a role play as a nurse and a patient (skills). At the end a half an hour-long focus group was conducted and the post-questionnaire with the MHLS Questionnaire (see Appendix B, D) were filled out and collected afterwards.

To summarize, knowledge was trained by didactic and discussion, attitude by reflecting the own prejudice and thoughts by filling out the MHLS Questionnaire, and by discussing about stigma of mental illnesses. Skills were part of the TTT course as role plays, using the mhGAP application, and as learning about how to be a helpful person. (see figure 2)

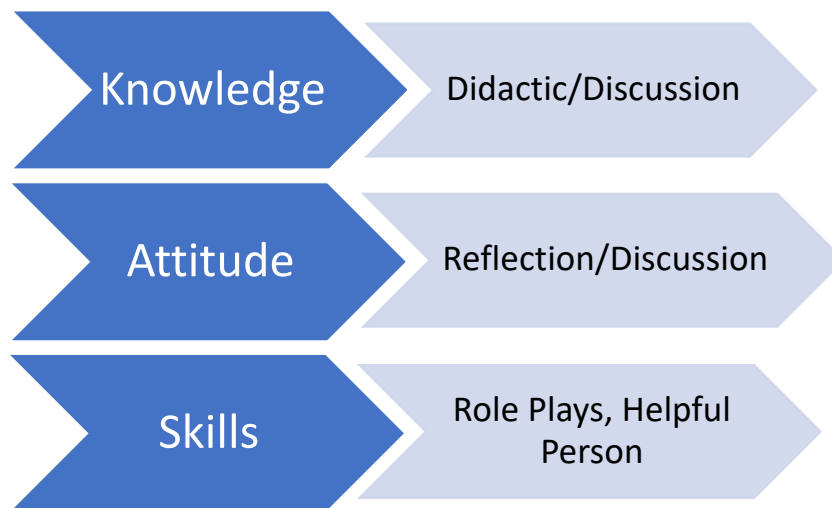


Figure 2 Teaching Categories of the MEGA TTT Pilot Course (source: own figure)

5.2 Evaluation Criteria

The evaluation of the TTT pilot has the objective knowledge for the development of the future TTT course. For this purpose, criteria have to be set on which the evaluation will be based on. Like studies in the state of research this study also uses as evaluation criteria knowledge, attitude, and skill.

Knowledge is defined as: “awareness, understanding, or information that has been obtained by experience or study, and that is either in a person’s mind or possessed by people generally” (Cambridge Dictionary, 2019). At the Cambridge dictionary the definition of attitude is: ”a feeling or opinion about something or someone, or a way of behaving that is caused by this“ (Cambridge Dictionary, 2019). And the definition of skill used for this paper is:” an ability to do an activity or job well, especially because you have practised it” (Cambridge Dictionary, 2019).

Knowledge, attitude, and skill are part of the competency-based health education in the medical science field. They are described as the key aspects of competence, which is one of the main goals of educational programs for professionals (Applin et. al., 2010). In the competency-based education the teaching and practice is adjusted according to the competencies that students should accomplish (Mohtashami et. al., 2013).

The MEGA project is based on the the mhGAP of the WHO, where the competency-based education is part of the teaching and assessment in the training of trainers and supervisors. The training is designed to increase the knowledge, attitude, and skills of health care

professionals. While doing the assessment it has to be considered that competencies are dynamic and dependent on the situation (World Health Organization, n. d., pp. 90-104).. Raising knowledge of symptoms and early signs of mental, neurological and substance use disorders is important to prevent and promote mental illness. Knowledge can help to reduce risk, prevalence, and incidence of mental illnesses. This affects also the impact the condition has on the patient and the family members. Giving knowledge to health workers can raise the awareness and empower them to be a main role in combating stigmatization (World Health Organization, 2018, pp. 20, 50, 49).

Accurate information about the MNS conditions and their treatment options can influence the attitude of people. Attitude is also a competency that health care providers should gain at the training of the mhGAP programme. A change in attitude is relevant because people with MNS condition are at risk for violations of their human rights, stigmatization and discrimination. An improvement of attitudes towards mentally ill patients can enhance their help-seeking behavior and reducing discrimination. This makes them able to fully participate in the society (World Health Organization, 2018, pp. 48, 66).

The third competency that is taught in the TTT course is skill. Skill in this evaluation means the ability to manage and identify MNS illnesses, psychosocial interventions, managing of crises, providing education and support to patients and their families. Part of it are the communication skills, which are also essential for the effective connection of health care providers and further services (World Health Organization, 2018, pp. 21, 29, 41).

Summarizing, the MEGA TTT pilot course is designed to improve the knowledge, attitude, and skills of the future trainer. In the following the TTT pilot course is evaluated on the base of these evaluation criteria.

5.3 Data Collection

To evaluate the TTT pilot course in the MEGA project, a mixed-method approach was employed using pre- and post-questionnaires, the Mental Health Literacy Scale, and a focus group.

Pre- and Post-Questionnaires

The pre- and post- questionnaires were handed out to the participants at the beginning of the first course day and at the end of the third course day. In addition, a post-questionnaire

was handed out to both trainer Astrid Jörns-Presentati and Dr. Gunter Groen after the third course day. A mix of closed format questions and open format questions were used to get a feedback of the participants and the trainer. Closed format question with predetermined answer categories have the advantage to be comparable, while with open format questions without set answers criteria a wider range of answers is received (Diekmann, 2014, p. 477).

At the pre-evaluation form for the participants (see Appendix C) the first two questions aim to see how prepared participants feel to train others on the topic of children and adolescents mental health disorders. The first two questions come from the “Tips on Evaluating “Train the Trainer” Workshops” paper from Dr. Sullivan (Sullivan, 2014). The questions ask how confident the participants feel about having the information needed to train others in the MEGA project and how comfortable they feel to train others. These two questions are 4-point rating scale questions. Rating scale questions are used for attitude and rating surveys (Diekmann, 2014, p. 472). At the pre-questionnaire, questions about the background information were asked, too. To understand who attended the training three questions in an open format, one dichotomous question (yes- or no question), and two ratings scale questions were asked. Those background questions were used beforehand for the MEGA survey among primary health care practitioners. To match participant’s surveys without identifying individuals, a unique ID was created at the pre-questionnaire and post-questionnaire (Sullivan, 2014).

At the participant’s post- evaluation form (see Appendix D) the same two questions about how prepared the participants feel, were asked to compare results. A row was left underneath for additional comments. Two more question from the paper “Tips on Evaluating “Train the Trainer” Workshop” (Sullivan, 2014) were added, which are asking in open format for obstacles of training others on the topic, and for suggestions for the training. Furthermore, 3-point rating scale questions from the mhGAP training manual (World Health Organization, 2017c, p. 54) were used for the evaluation of the overall three- day TTT with a column for additional comments. The questions are about the quality of content, slides and handout, trainer, activities, overall quality of the course, amount of content and number of activities.

As written in the state of research there is currently an increasing number of mHealth applications without sufficient evaluation data. For the effectiveness of the MEGA project the application has to be interesting, reaching the target group, easy to use, visually appealing, and the quality of information has to be high. That’s why the MEGA

application, as MEGA suggested app questions, was also part of the evaluation by the nurse students at the post-evaluation form. Those questions are based on the Mobile Application Rating Scale from the Queensland University of Technology. Mobile Application Rating Scale was developed because there was no reliable, and multidimensional scale to measure the quality of mHealth applications. Only one question per category was chosen for the MEGA project and the answer choices were shortened because of time limitations. The questions were rated on a 3-point scale from “1. Inadequate” to “3. Excellent” (Stoyanov, et al., 2015).

To get a feedback from another perspective, the trainers of the pilot course were asked about the content, activities, and the overall quality of the course (see Appendix E). This form consists of 3-point rating scale questions about the content, activities, and the overall quality of the course out of the mhGAP training manual (World Health Organization, 2017c, p. 55). Space was left for additional comments on the right. Two open format questions were also used from the mhGAP training manual, asking for what was best about the training, where were the participants most engaged, and suggestions on how to improve the training (World Health Organization, 2017c, p. 55).

Mental Health Literacy Scale

To assess all attributes of participants’ mental health literacy, the Mental Health Literacy Scale (MHLS) was used (see Appendix B). Mental health literacy was derived from health literacy, which describes the association between low functional literacy and poor health outcomes. The current construct of health literacy defined by the WHO can be adopted for the mental health literacy construct. According to that four domains conceptualized mental health literacy: 1) understanding how to obtain and maintain good mental health; 2) understanding mental disorders and their treatments; 3) decreasing stigma against mental illness; and 4) enhancing help-seeking efficacy. Those domains are addressing three outcomes: knowledge, attitudes, and help-seeking efficacy. According to that mental health literacy has the potential to improve the individual and population mental health (World Health Organization, 2013, pp. 4-5; Wei, et al., 2015).

The scale measures with a total of 35 items the ability to recognise disorders, knowledge of information seeking, knowledge of causes and risk factors, knowledge of self-treatment, knowledge of available professional help, attitudes that promote recognition, and the correct help-seeking behaviour. Multiple choice questions, dichotomous questions (true/false), and 5-point scale questions are the response format. The scoring system is

stated in the MHLS. A total score is produced by summarizing all items. 4-point scale questions are scored 1 point- very unlikely/unhelpful to 4- very likely/helpful. And at the 5-point scales 1 point is given for strongly disagree/definitely unwilling up to 5- strongly agree/definitely willing. 12 items are scored reversed. The maximum score to reach is 160 points and the minimum score 35 points. Reverse answers are used to increase the cognitive processing and to make the answers less obvious (O'Connor & Casey, 2015). Participants were asked to fill out the MHLS after the pre-evaluation form and to write on every sheet the same individual ID-code. At the post- evaluation the MHLS was stapled with the post-evaluation form.

Focus Group

Another method, which was used to evaluate the MEGA TTT course was a 30-minute-long focus group. The focus group was held by Astrid Jörns-Presentati on the 20th May, 2019 in a classroom at the HAW campus Berliner Tor, in the Alexanderstraße. For a better understanding German was chosen as the communication language. In the focus group 1 man and 11 women participated. The participants were dual nurse students in the 6th semester from the HAW. A voice recorder on the mobile phone was used to record questions asked by Astird Jörns-Presentati, and the answers of the students. She asked open format questions, which were about participant's thoughts of an effective application, how it should be programmed; their thoughts about the mhGAP application, suggested core elements for the next TTT course and how they should be taught.

5.4 Data Analysis

The different data, collected with the help of questionnaires, MHLS, and the focus group, is analysed on the set criteria: knowledge, attitude, and skill. First, the analysis of each evaluation instruments is presented. Thereupon the evaluation parts were assigned to the respective evaluation criteria. Data was analysed with the programmes SPSS and Excel.

Pre- and Post- Questionnaire

The Pre- and Post- Questionnaire was filled out by participants and a post-questionnaire was filled out by the trainer. First the data of the participants is analysed followed by the data of the trainer.

15 participants filled out the evaluation form. Five evaluation forms had to be defined as invalid, because they just participated in either the pre- or the post evaluation. That is why only 10 evaluation forms were further analysed.

To understand who attended the training the background questions were analysed. The mean age of the participants was calculated and a frequency table with the socio demographic distribution was created with SPSS.

The questions about how prepared the participants feel, were matched by their individual ID code from the pre- and the post- evaluation form. For this purpose, the frequency tables were created with SPSS. The pre- and post- answers were given points. One point for the answer “not at all”, two points for “slightly”, three points for “moderately”, and four points for “very”. The pre- and post-questions were analysed separately and the point difference from pre- and post-evaluation was calculated.

The course evaluation and the application evaluation were also part of the post-evaluation form. Both data were used to create frequency tables with SPSS. Comments were collected matched to the answer.

Trainer feedback on the course were collected for a frequency table with SPSS. Comments were matched to the particular answers. If a question got two answers the count was divided. Open questions from the participant’s and trainer post-evaluation form were collected and all answers will be presented in the result chapter.

Mental Health Literacy Scale

For analysing the mental health literacy of each participant, the total score of the MHLS was calculated. This was done by summarizing all items following the scoring system of the MHLS. Both the pre- and post-MHLS were matched and compared to identify the impact the course had on the mental health literacy of each participant.

According to the used definition of mental health literacy, it can be divided into knowledge, help-seeking efficacy, and attitude. In the development of the MHLS 35 items were chosen, which consist of the ability to recognise disorders, knowledge of information seeking, knowledge of causes and risk factors, knowledge of self-treatment, knowledge of available professional help, and attitudes that promote recognition or the correct help-seeking behaviour (O’Connor & Casey, 2015). Adapting it to the used definition of mental health literacy the first 15 items were assigned to the category knowledge. Accordingly does the category knowledge consist of the ability to recognise disorders (items 1-8), the knowledge of risk factors and causes (items 9,10), knowledge of self- treatment (item

11,12), and knowledge of available professional help (items 13-15). The items 16-19 became part of the help-seeking category. And items 20-35 were assigned to the attitude. The score was calculated for each participant in each category and the average change of all participants was calculated at the end in Excel.

Focus Group

As a method for the analysis of the focus group the qualitative content analysis by Philip Mayring was applied. Aim of the content analysis is to analyse communication material systematically. The qualitative content analysis is theory-driven and rules dependent (Mayring, 2008, p. 13). For this work the inductive content analysis is chosen. Following general content-analytical process model is used:

- 1) Material definition*
 - 2) Analysis of data collection situation*
 - 3) Formal characteristics of the material*
 - 4) Analysis direction*
 - 5) Theoretical differentiation of the question*
 - 6) Analysis technique procedure*
 - 7) Definition of analysis units*
 - 8) Analysis steps using the category system*
 - 9) Back check the category system of theory and material*
 - 10) Interpretation of results*
- (Mayring, 2008, p. 54)

Step 1 and 2 of the qualitative content analysis can be found in chapter 5.3 in the paragraph focus group.

3) Formal characteristics of the material

The formal characteristics of the material used for the content analysis is the 30-minute-long voice record of the focus group. Only the passages, which are content related to the research question were transcribed. Citations about the programming of the application were left out. Unimportant parts in the sentences were excluded [...] (see Appendix J).

4) Analysis direction

The analysis aims to find out the opinion and suggestions of the participants about a TTT course. This knowledge should be used to adjust the curriculum of the following TTT in September. This analysis is carried out in the direction of the thematic object of the material. According to the content-analytical communication model of Mayring, the analysis is based on the cognitive background of the communicator (participants), which includes the subjective horizon of meaning, the communicator's level of knowledge, his expectations, interests and attitudes.

5) Theoretical differentiation of the question

In the state of research, evaluation of other TTT and mHealth, with its aims, methods and results were presented. Mainly positive outcomes were the results of the TTT. The MEGA TTT in September should be as effective as possible. That's why the qualitative content analysis plays a main role in developing a trainings curriculum adjusted to the participants opinion, in regard of the content knowledge, attitude, and skill. The qualitative content analysis uses as the lead question the research question: "How did the participants and trainer evaluate the train-the-trainer pilot course of the EU project MEGA?". In this content analysis it will be looked at how the participants evaluate the TTT pilot course and what course content is evoking form it. Furthermore, the qualitative content analysis can be connected to the evaluation criteria (see 5.2). This results in the following question: "Which course components are important to teach participants knowledge, attitude, and skill?" In summary it can be said that the general research question of the evaluation is the main question of the qualitative content analysis with the sub-question of how knowledge, skills, and attitude can be taught.

6) Analysis technique procedure

This qualitative content analysis is a summarizing content analysis. The general content-analytical process model from Mayring was applied. As a central element the analysis-units have to be defined first, because not the whole transcribed sentences will be analysed but defined segments. It gives direction on how sensitive the analysis will be (Mayring, 2008, p. 54).

7) Definition of analysis units

analyse units:

coding unit (smallest text component): noun

context unit (largest text component): sentences

recording unit (analysis process): transcribed focus group

8,9) Analysis steps using the category system, back check the category system of theory and material

The summarizing content analysis follows a set process model using the category system. Following steps were used to summarize the transcribed focus group (see Appendix K):

- I. Paraphrasing content relevant passages (Z1- rule)
- II. Determination of the desired level of abstraction, generalization of the paraphrases below this level of abstraction (Z2- rule)
- III. Reduction by selection, crossing out paraphrases of the same meaning (Z3- rule)
- IV. Reduction through bundling, construction, integration of paraphrases at the desired abstraction level (Z4-rule)
- V. Compilation of the new statements as a category system

As written in step II of the summarizing content analysis, an abstraction level had to be determined for the generalization. Paraphrases should be generalized towards the question: “how should knowledge, skills and attitude be taught?”. Paraphrases on the level of abstraction were not changed.

After the compilation of the new statements as a category system the categories were back checked in regard of theory and material. Moreover, for every category an expressive quotation out of the focus group was chosen.

10) Interpretation of results

Results will be presented in the next chapter and the interpretation of the results will be combined with the other results in the chapter “Interpretation”.

After the data analysis of each instrument was done, the results were categorized into the evaluation criteria of knowledge, attitude, and skill (see figure 3). The criteria knowledge got following parts of the evaluation assigned to: question about how confident the

participants feel to have the information needed to train others, knowledge related course evaluation parts of the post- questionnaire from the participants and the trainer, knowledge question of the MHLS, and the knowledge related category from the focus group.

Following results were assigned to the evaluation criteria skill: question about how comfortable the participants feel to train others, help-seeking efficacy questions of the MHLS, skills related course evaluation parts of the participants and trainer, and skills related categories of the focus group. Attitude was evaluated by the attitude-related items of the MHLS.

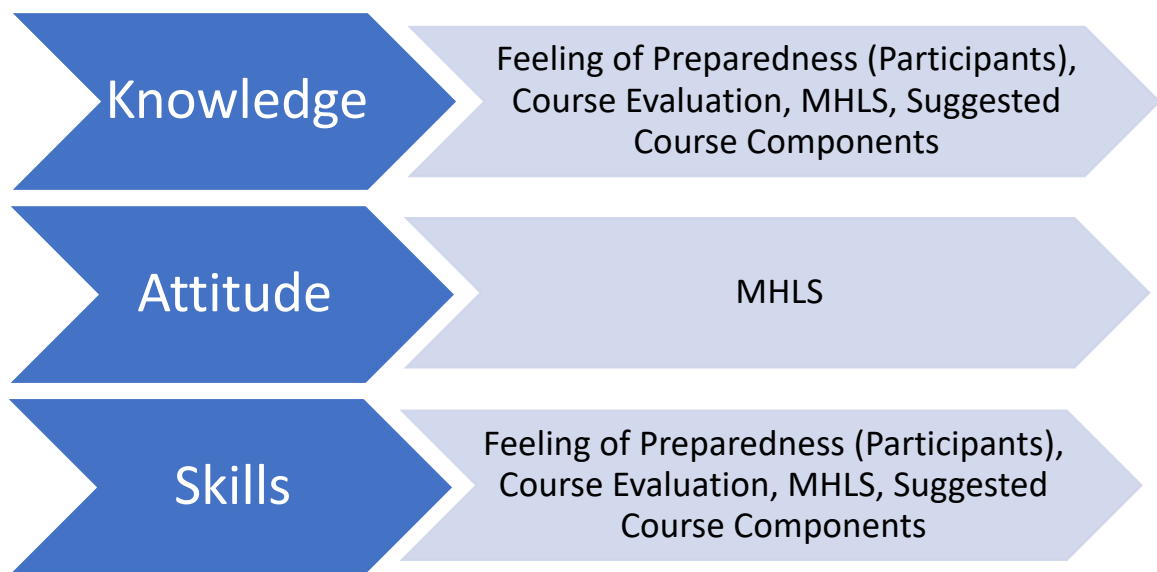


Figure 3 Overview of Evaluation Criteria with Respective Evaluation Parts- MEGA TTT Pilot Course (source: own figure)

5.5 Results

In the following the results from the mixed-method approach are presented. The results can be used as a guidance for the future MEGA TTT course in September 2019. The results are categorized underneath the criteria knowledge, attitude, and skill. First the background of the participants, and the total score of the MHLS is presented. Then the results for each criterion will be displayed. Additional results, which could not be assigned to knowledge, attitude, or skill, will be presented at the end.

Background (Pre- Questionnaire Participants)

Analysing the background questions of the pre- questionnaire following results appeared (see Appendix F). The 10 valid participants, 1 male and 9 females, had an average age of

23 years. None of the 10 participants have, as their highest completed level of education, a certificate, diploma, or degree (BA, MA, PHD). Everyone ticked the option: other. Five participants have stated to be a student, one stated to be a paramedic and four gave no answer. Furthermore, seven participants have a working experience of one to five years, while three did not answer. All the participants haven't had any previous courses or training in child mental health.

Mental Health Literacy (MHLS)

Pre- and post-evaluation of the participants mental health literacy has shown an average improvement of 3,9 points in the total score of the MHLS. The average point score at the pre-evaluation was 125 points and at the post-evaluation 129 points. In figure 4 the changes of the MHLS of each participant can be seen.

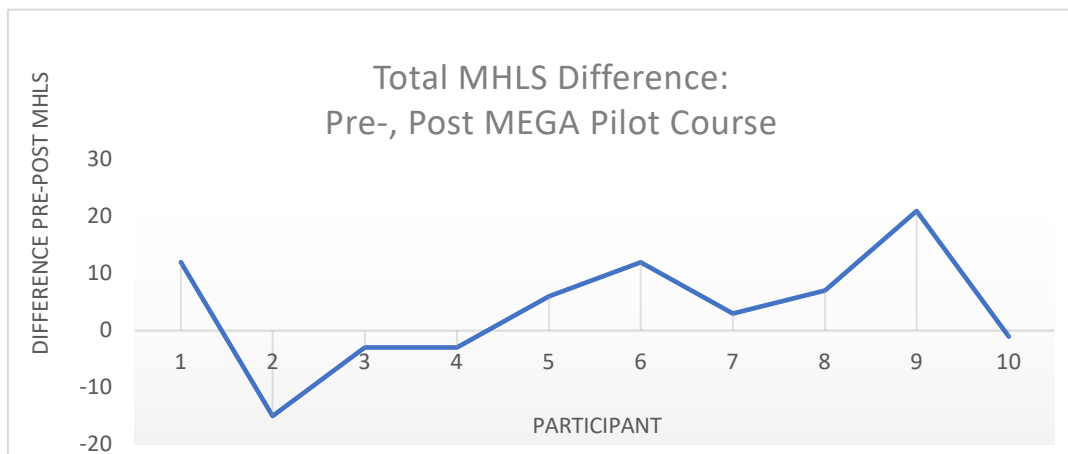


Figure 4 Total MHLS Difference (source: own figure)

KNOWLEDGE

Knowledge was trained by didactic and discussion and it was evaluated by the question about how confident the participants felt to have the information needed to train others, the course evaluation of the participants and trainer, MHLS, and the focus group.

Feeling of Preparedness (Pre- and Post-Questionnaire Participants)

The pre- and post-questionnaire asked about how prepared the participants feel. At the beginning of the course six nurse students didn't feel confident at all to have the information needed to train others on child and adolescents mental health disorders. Four were slightly confident. This changed at the post evaluation to five participants that didn't feel at all confident and four which remained as slightly confident.

Table 1 Pre- and Post- Comparison Participants: Feeling of Confidence

How <u>confident</u> are you that you have the information needed to train others on children and adolescents mental health disorders?	Confident pre	Confident post
No Answer	0	0
Not at all	6	5
Slightly	4	4
Moderately	0	1
Very	0	0

(source: own table)

Course Evaluation (Post- Questionnaire Participants)

Most of the participants rated the amount of content, the quality of content and the information as average. Participants who rated the course content as average commented that they missed more background information about the procedure after the suspicion of a disease, and there was a bigger interest in further content, also about other illnesses. One participant who rated the quality of content as average noted a temporary unclear structure. Half of the nurse students evaluated the quality of slides as excellent, while 4 students evaluate it as average and one as poor. One comment was that the handouts were partly too complicated, but the student liked the slides of the PowerPoint as a handout. The quality of trainer was rated average with 50% and with the other 50% as excellent. Highlighted was that the trainer tried to explain difficult content easier (see Appendix G).

Course Evaluation (Post- Questionnaire Trainer)

Both trainers rated the amount of content as average. They commented that too many disorders were to cover in six hours. The quality of content was evaluated by the trainer as average and excellent. A comment to the average rate was that videos of how to do an assessment and culturally validated person stories were missing (see Appendix I).

Mental Health Literacy (MHLS)

The knowledge of the participants was evaluated by the items 1-15 in the MHLS. An improvement of 1,1 point scores of the participant's knowledge was evaluated. Figure 5 shows the difference of pre- and post- MHLS in the category of knowledge.

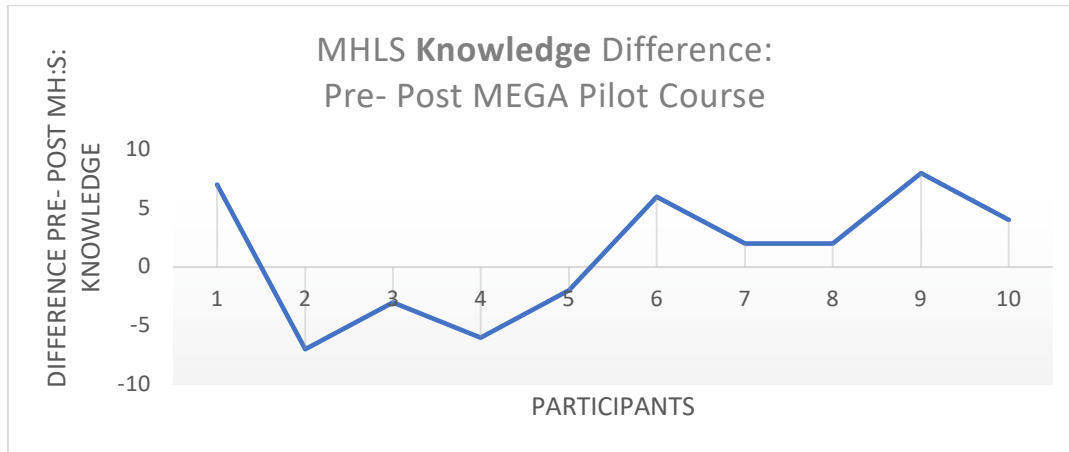


Figure 5 MHLS Knowledge Difference (source: own figure)

Suggested Course Components (Focus Group)

The following category is a results of the qualitative content analysis of the focus group. A result is that for teaching participant's knowledge, the course should include knowledge about mental illnesses. The teaching content of the illnesses should be about symptoms and causes as well as demarcation of the illness. With enough knowledge about the diseases following content of the statement of one participant can be prevented:” *We are in examination week, and my life is more stressful, I may feel a little overworked and would say accordingly: yes, I feel more stressed and more depressed than usual. But that's why it doesn't necessarily have a depression.*” (translated from German by the author)

K5 Knowledge about Mental Illnesses

Symptoms and causes

Demarcation of diseases

(see Appendix K)

ATTITUDE

Attitude was part of the course by reflecting the own prejudice and thoughts by filling out the MHL Scale Questionnaire and by discussing about stigma of mental illnesses. It was evaluated by the MHLS.

Mental Health Literacy (MHLS)

The attitude of the participants was evaluated by the items 20-35 in the MHLS. An average change of attitude by 1,3 point scores was the result. Figure 6 shows the pre- and post-MHLS for attitude of each nurse student.

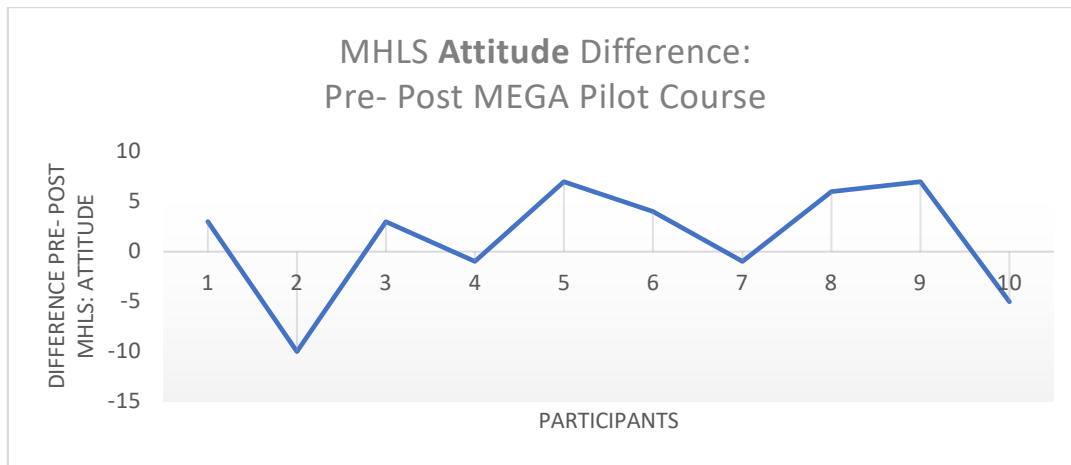


Figure 6 MHLS Attitude Difference (source: own figure)

SKILLS

Skills were taught mainly by role plays, by using the mhGAP application, and by learning about how to be a helpful person. It was evaluated by the question about how comfortable the participants felt to train others, the MHLS, the course evaluation of the participants and trainer, and the focus group.

Feeling of Preparedness (Pre- and Post-Questionnaire Participants)

At baseline two participants felt not comfortable at all, five slightly comfortable, and three moderately comfortable to train others about children and adolescents' mental health disorders.

After finishing the course, two felt not comfortable, six felt slightly comfortable and two moderately comfortable.

Reasons mentioned for not being prepared for training others on the topic were too little background knowledge and experience, and also missing of educational and teaching skills.

Table 2 Pre- and Post- Comparison Participants: Feeling of Comfort

How <u>comfortable</u> would you be in training others about children and adolescents mental health disorders?	Comfortable pre	Comfortable post
No Answer	0	0
Not at all	2	2
Slightly	5	6
Moderately	3	2
Very	0	0

(source: own table)

Course Evaluation (Post- Questionnaire Participants)

80 % of the nurse students rated the quality of activities and role plays, as well as clarity of instructions as average. The number of opportunities for active participation was rated with 70% as average and 30% as excellent. One participant who rated the number of active participation as excellent, commented that trainers were always open for opinions (see Appendix G).

Course Evaluation (Post- Questionnaire Trainer)

Trainer judged the quality of activities mainly as average and also as excellent. One trainer commented that a heterogeneous motivation of participants was noticed. Additionally, one trainer commented that a model needs to be developed. Because of not enough opportunities for active involvement the active participation was rated as poor by one trainer. The other trainer categorized it as average and excellent.

Trainer noted that the active participation by role play, case studies, discussion was best about the training and doing this the participants were most engaged (see Appendix I).

Mental Health Literacy (MHLS)

Items 16-19 of the MHLS evaluated the participants help-seeking efficacy. An average positive change by 1,5 point scores resulted out of the pre- and post-evaluation. Figure 7 displays the scoring points difference of each participant.

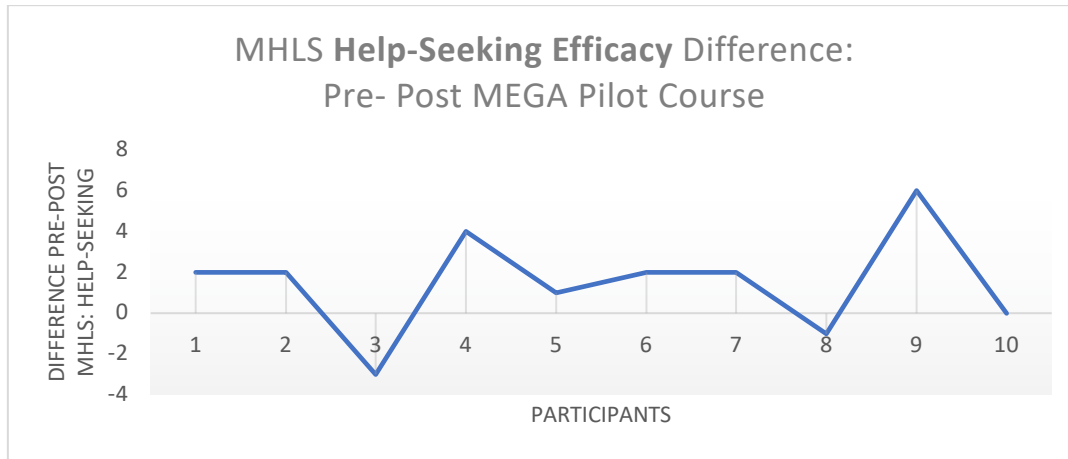


Figure 7 MHLS Help-Seeking Efficacy Difference (source: own figure)

Suggested Course Components (Focus Group)

The following categories are the results of the qualitative content analysis (see Appendix K). The course components for teaching participant's skills should include communication skills and practical exercises. The suggested teaching content of the communication skills and practical exercises are listed below. The participants were talking in the focus group about what is important for communicating with the patient. One of the sentences was „*I believe that empathy plays a big role and the patients' openness*".

For the practical exercise, results emerged out of the sentence: "*We actually learned to ask open questions so that the patient talks by himself*". Both quotations are translated from German by the author.

K1 Communication Skills:

- flow of conversation
- Building up trust
- Empathy
- Emotional support (basic emotional support)
- Active listening
- Moment of opening
- eye contact
- various question types

K2 Practical Exercises:

- role play with different types of questions
- memorize questions
- questions integrated into conversation
- open questions
- focus on the patient
- convincing nurses
- integration into the treatment context
- questions about patients' resources

ADDITIONAL RESULTS

Suggested Course Components (Focus Group)

In addition to the suggested course components in regard of knowledge, attitude, and skills suggestions were made by the participants on adult education components and framework conditions (see Appendix K). Adult education and framework conditions should be also considered while developing the TTT course.

Part of the adult education components is to transfer exercises. This can be for example emergency situations. The quote is addressing this: "*What do I do in emergency situations? What is the emergency plan? How can I act well and safely, so I do not feel guilty just because I found out a suspicion?*". The need of specific framework conditions, like a clear schedule emerged from the focus group. One nurse student asked in the focus group: "*What is the progress? Are you further referred to a real specialist who then makes a real diagnosis?*". Both quotations were translated from German by the author.

K3 Adult Education Components

- relevance of the project
- visualization
- dealing with fears
- active involvement of mobile application
- pay attention to the strengths of the participants
- transfer exercises
- technology affine trainer
- convincing trainer

K4 Framework Conditions

- clear schedule
- positive attitude of the participants
- meaningful mobile application
- support opportunities
- psychosocial aid

Comments (Post-Questionnaire Participants)

One participant commented that his/her English was not good enough to understand the whole content. Another student wrote down that it was good that they could be part of the course and that different opinions were allowed.

Suggestions for Improvement (Post- Questionnaire Trainer)

Concluding suggestions of the trainer to improve the training was to focus on less content, only focus on depression, posttraumatic stress disorder, suicide and self-harm, effective communication and mental health literacy.

MEGA Suggested App Questions (Post-Evaluation Participants)

60% rated the MEGA questions as moderately interesting to use and that it would engage the user for some time. 40% assessed it as not interesting at all.

The target group was rated as acceptable but not targeted by 80%. The other 20% found the target group completely inappropriate.

Half of the students found the questions useable after some time, while 40 % found the instructions limited and the menu labels as confusing and complicated. One student felt able to use the application immediately.

One student did not answer the question about the visual appeal of the suggested app questions. Another student rated it as not visual appealing, and from 8 students it was rated as neither pleasant nor unpleasant.

The quality of information was rated by nine participants as moderately relevant, and by one participant as highly relevant (see Appendix H).

5.6 Interpretation

The research question: “How did the participants and trainer evaluate the TTT pilot course of the EU project MEGA?” gives guidance for a TTT, which uses mHealth as a solution for managing the urgent need of professional mental health services, especially for children and adolescent. By gaining knowledge about the pilot TTT a curriculum for the TTT in September will arise out of it. The transparent results can be helpful for the project partners to decide about improvements to raise the quality of the whole MEGA project.

In this evaluation the TTT pilot course was analysed in knowledge, attitude, and skill. The participants will be rated conclusory and the suggestions for the TTT in September will be summarized in each evaluation category.

None of the 10 valid participants ever had a previous course or training in child mental health. This was affecting the results of the MHLS. Nevertheless, the TTT course improved the mental health literacy of seven out of 10 participants. In average they showed an improvement in knowledge, attitude, and skills. These results are comparable with the state of research.

The knowledge of the participants improved as seen in the results, but to improve the knowledge even more, suggestions on the amount of content, clearer structure, videos of how to do an assessment and culturally validated person stories came up. An improvement of 1,1 point scores at the knowledge questions in the MHLS showed that participants, which had not much knowledge beforehand about mental health, need to be taught more knowledge which include the suggestions from the focus group symptoms and causes as well as demarcation of diseases.

In addition to this, the participants improved at their skills in the MHLS. To teach skills more background knowledge and experiences is needed as well as educational and teaching skills. The trainers should retain their openness for opinions, but more active participation should be integrated to engage the participants. The course components for teaching participants' skills should include communication skills and practical exercises. Nurse students changed in average by 1,3 points in the attitude part of the MHLS. In the results are no improvement suggestions for teaching attitude.

Additional results like the suggested course components by the participants and the evaluation of the MEGA suggested app questions can help improving the MEGA project. As written in the state of research a big lack of studies about mHealth and especially health

applications is existing. Therefore, the development and evaluation of the MEGA application should be prioritised to use it at the future TTT in September.

Furthermore, resulting from the focus group were two categories adult education components and framework conditions like clear schedule, positive attitude of the participants, meaningful mobile application, support opportunities, and psychosocial aid, which should be also part of the development of the TTT curriculum for September. The focus of the course should be only on depression, Posttraumatic stress disorder, suicide and self-harm, effective communication and mental health literacy.

The current state of research indicated that a TTT shows improvement in knowledge, attitude, self-efficacy, skills, or outcome. The pilot course showed already small improvements in the change of knowledge, attitude, and skills of the participants. Because the course was a pilot TTT the results only give a direction of how the final results of the impact the TTT course can be. Nevertheless, a lot of improvement potentials with specific suggestions are consequences from the results. The TTT pilot can use the suggestions to develop the curriculum of the MEGA TTT in September. An evaluation of the final curriculum in the final setting South Africa and Zambia should be done.

5.7 Strength and Limitation

Strength and limitation are about the MEGA evaluation results and the consequential chapter pronounces guidance for the next evaluation of the MEGA TTT.

A strength of the evaluation is the participative evaluation approach, where the target group is part of the evaluation. Therefore, the focusses is on the need of the target group. However, the evaluation has its limitation. That is why the results should be interpreted with caution. One of the limitations that should be noted is that German nurse students were asked, which only have little working experience. Moreover, language problems were commented by one participant, which might have led to understanding difficulties. A language bias might have affected the results.

The experiences and the setting in Africa and South Africa are completely different so that the results of the evaluation only give an overview of the opinions from German nurse students and it cannot be generalized. The attitude towards using a phone in the practical work as a nurse might be different in South Africa and Zambia as well.

By using different evaluation perspectives (participants, trainer) diverse results were formed, but the generalization is also limited because of individual case orientation.

The evaluation was made by an intern which gives the advantage of having intern knowledge and this can shorten the time of implementation and preparation of the evaluation. On the other hand, it can lead to missing independence and missing distance. When the evaluation forms were handed out little was explained about the importance of the evaluation and how to fill out the forms. Some participants ticked twice or non-response bias occurred.

Additionally, some parts of the evaluation of the MEGA application is not valid, because the evaluation was only based on the suggested app questions printed out on paper. How interesting the application is, the ease of use, and the visual appeal could not be sufficient answered.

Like any pre-post evaluation that does not have a control group the evaluation findings must be interpreted with caution. Furthermore, the self-report questions about how confident and comfortable participants feel are substantially weak, because they might have over- or underestimated their ability to train others. That is why the MHLS is additionally testing the participants on knowledge, attitude, and skills.

Nevertheless, the results are working as guidance for the next TTT. Most of the limitations can be prevented at the TTT course and its evaluation in September. Therefore, a guidance was developed also in regard of the strengths and limitations.

6 Evaluation Guidance

After the TTT in September nurses will be trained subsequently. In the following, guidance for evaluating the TTT course in September will be presented. The TTT course can be evaluated by evaluating participants of the TTT, or by evaluating the nurses subsequently, which are taught by the trained participants after finishing the TTT. Besides this, the outcome of the patients could be evaluated.

It should be noted that it is not expected from the nurses and trainer that they will adopt every competency perfectly at the end of the course. The competencies are dynamic, so that they will not be assessed on passing or failing, but on where they still need improvement. The evaluation should be kept as short as possible and the participants should be allowed time for completing the evaluation. The confidentiality of the evaluation forms should be noted as well. In order to generate high-quality results, the participants must be informed about the use and importance of the evaluation. Before filling out the

evaluation forms, the way of filling out should be explained beforehand to prevent invalid evaluation sheets. On every evaluation form, the nurses or trainer should write down their individual and confidential ID number. The comparability made out of the ID number will lead into a more detailed evaluation.

One possibility is to evaluate the future trainer of the TTT course. In the following TTT course the future trainer (participant) should gain skills and confidence to train health workers. The evaluation can be consisting of informal feedback like discussion and formal feedback like evaluation forms. At the TTT a pre- and post- test for the participants in form of multiple-choice questions can be conducted to assess the competencies. It can be found in the mhGAP training manual (World Health Organization, 2017c, p. 40). Questions should be left out if the content was not part of the TTT course. Furthermore, the questions about how confident and comfortable the trainer are to train other should be retained from the evaluation sheet of the pilot course (Sullivan, 2014). A participants and trainer feedback on each module can be implemented as well (World Health Organization, 2017c, pp. 54, 55). Because of the little time of the TTT course one overall participant's feedback and one overall trainer feedback can be used.

The impact of the TTT course can additionally be measured by evaluating the subsequently trained nurses. For this reason, knowledge, attitude, skills, and self-efficacy of the nurses can be evaluation criteria.

Background information can be collected with the MEGA Background Questionnaire. A question, for excluding a language bias, should be added. It can be a self-evaluative question asking participants about their own assessment of their language difficulties in the course. This assumption is emerged out of the results of the pilot course evaluation, where one student said that she did not understand all of the course content, because she has insufficient English knowledge. This leads into difficulties with analysing the results. Best practice would be if the evaluation, and the whole course are in the language all of the nurses understand so a language bias can be excluded from the evaluation results.

Like in the evaluation of the TTT participants, feedback forms for participants and trainer can be used from the mhGAP (World Health Organization, 2017c, pp. 54, 55, 437, 438). It can be used for each module or for an overall feedback.

For testing the knowledge of the nurses, WHO material from the mhGAP is suggested. Knowledge can be measured with the same multiple-choice questions like in the evaluation of the trainer (World Health Organization, 2017c, pp. 40, 424). Another multiple-choice

question form assessing knowledge can be found in the mhGAP training manual (World Health Organization, 2017c, p. 411). An advantage of standardized multiple-choice questions is that they are cost- and time effective. Questions with undiscussed content should be left out.

Attitude of the nurses can be assessed with role play and observation of the trainer. The attitude should be observed over a long period. As an evaluation instrument the competency assessment form of the mhGAP can be used (World Health Organization, 2017c, pp. 435, 436).

The same competency assessment form can also be used for assessing the skills of the nurses. Role plays can help participants to practice the learnt skills and for assessing the skills of them.

Skills, Knowledge and self-efficacy can be additionally measured with the MHLS. The MHLS adopted by the MEGA project should be preferred instead of the original scale. For the MHLS must be noted that it should be filled out intuitively and every question must be ticked and only one tick per question. With the help of these explanations non-response bias can be prevented.

Our evaluation only tested the knowledge, attitude, and skill of the participants. Interesting would be if the change in knowledge, attitude, and skill are also seen in the outcome of the patients. After evaluating the trainer and the nurses, the outcome of the patients could give a final conclusion about how effective the TTT course was. The outcome could be evaluated via routine data monitoring. These outcome measures could be connected to the nurses they have trained and the trainer that have trained the nurses. The evaluation of the trainer, nurses and the outcome of the patients can be put in context and be interpreted together.

It is an advantage that the nurses in the next training course will be in South Africa or Zambia. This is part of the suggestions from the results that the course has to be cultural imbedded. Hence, concrete results about the cultural situation on site will be given.

Future evaluation should be done by an extern evaluator, which receives intern knowledge. The distance and independence will be secured this way. Furthermore, the final MEGA application should be evaluated before the TTT course, to get a sufficient answer on ease of use, the visual appeal and how interesting the application is to use. The Mobile Application Rating Scale can be the application rating tool (Stoyanov, et al., 2015).

All in all, the evaluation forms of the mhGAP should be used as foundation material for the next TTT evaluation. Additional evaluation sheets for the MEGA project can be the MHLS, and the Mobile Application Rating Scale. The whole evaluation instruments should be adjusted in regard of training content and cultural context.

7 Conclusion

The evaluation was about a TTT pilot course of the MEGA project, which uses mHealth as a solution for managing the urgent need of professional mental health services in South-Africa and Zambia. This course is part of the MEGA project, which is supported by the European Union. The MEGA project has as the overall aim to improve the access of mental health services for children and adolescents by developing a mobile application as a mental health assessment tool. Future trainer will be educated in a TTT course, which in turn train nurses on mental health and on how to use the MEGA application in the practical context. With the pilot course of the TTT, the project partner of the MEGA project aimed to gain knowledge about how to develop the actual TTT course in September. The pilot course was conducted at the German HAW with participants of the dual nurse study course. In the evaluation the participants were in the role of trainer and nurses to get overall results. The pilot course was evaluated with the following research question: “How did the participants and trainer evaluate the train-the-trainer pilot course of the EU project MEGA?”

A mixed method evaluation used diverse questionnaires and a focus group. Suggestion on how the next TTT should be, emerged out of the evaluation. The results were categorized under the evaluation criteria knowledge, attitude, and skills.

Results were that the TTT improved participant’s knowledge, attitude, and skills. Participants felt by a small number more confident that they have the information needed to train others on children and adolescents mental health. In average there was no improvement seen on how comfortable participants felt about training others about children and adolescents mental health disorders. Nevertheless, the main aim of the pilot course was mainly to get information about how the TTT in September should be structured. Questionnaire and focus group led to many suggestions on content, methods and structure for the TTT in September.

A challenge of the MEGA pilot course was that instead of the final MEGA application suggested questions in paper format had to be used. That led into insufficient results of the application evaluation. Some of the participant's suggestion on how to improve the course were also based on the missing application. In the next MEGA TTT course the development of the application should be finished to avoid those limitations.

In addition, evaluation and limitations provided guidance for the evaluation methods and instruments of the next TTT. The TTT and the following training of the nurses are dependent on each other and result into the outcome of the patient. That is why guidance was developed on evaluating trainer, nurses, and the patient's outcome.

After the TTT course, the future trainer should have gained knowledge about the MEGA application and on how to use of it in the clinical setting. Skills and confidence to train primary care professionals are competencies the future trainer should have learned. On the basis of these aims the guidance was developed for the TTT. Trainer can be assessed in the TTT course with a pre- and post-questionnaire in form of multiple-choice questions. For each module a feedback sheet can be given to participants and trainer. Furthermore, pre- and post- questions about how confident and comfortable the participants feel to train others should assess the effectiveness of the TTT course.

For the evaluation of the subsequently trained nurses the criteria knowledge, attitude, and skill can be used again. First background question will help understand who is participating in the course. The same feedback sheet as in the TTT can be used for training the nurses. It can be filled out by participants and trainer. Evaluating the knowledge is done by the same pre- and post- questionnaire like in the TTT. Additionally, more multiple-choice questions are available to test the knowledge of the nurses. The attitude can be assessed by a competency assessment of a role play. The same competency assessment tool can be used for evaluating the skills of the participants. Moreover, the MHLS can be used to assess also the knowledge, attitude, and self-efficacy of the nurses. Best practice would be if also the patient outcome would be tested with routine data. This would give an overall feedback about the earlier TTT course.

It is important that further evaluation will be done to secure a continuously improvement of the MEGA project. One of the main reasons to evaluate the TTT in September and the nurses from South-Africa and Zambia is that the results from the pilot course with German nurse students cannot be transferred to the situation in South- Africa and Zambia. The MEGA project has to ensure that the course will be culturally embedded with adjusting the material and content. The challenge to develop a training course for two different

countries, with two different situations of mental health professionals can be overcome with a flexible course curriculum, which can be adjusted on site. For preparing the training course an analysis of the situation on site has to be conducted to adjust the course accordingly.

At an overall perspective the MEGA TTT has as a positive side effect that mental health is given more attention. This can in turn help reducing stigma, social exclusion and unemployment. In countries like South Africa and Zambia where there is a big lack of mental health professionals, especially for children and youth it is important to try out new ways of delivering mental health services. With the help of health applications used as screening tools adolescents and youth can receive the service they need. For this it is of great importance to make sure that ongoing support is offered for the patients and also for the nurses.

All in all, there is potential to improve the mental health situation in South Africa and Zambia by using TTT courses, which include mHealth, as a tool to screen youth and adolescents for mental health. The training course and the MEGA application should be continuously evaluated and adapted accordingly to assure the best service possible.

The fast-growing dynamic telecommunication market in Africa with a growing network coverage and subscriber number can support mHealth development by building a solid foundation for an increasing number of mHealth solutions.

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Declaration of Academic Integrity

Hereby, I declare that I have composed the presented paper independently on my own and without any other resources than the ones indicated. All thoughts taken directly or indirectly from external sources are properly denoted as such.

This paper has neither been previously submitted to another authority nor has it been published yet.

Hamburg, July 10, 2019

Marieke Gerstmann

Appendix

A. MEGA Suggested App Questions

Adolescent Identifying data

Adolescent ID:

Adolescent DOB:

Adolescent age:

Adolescent gender:

Individuals present at assessment

Adolescent assessed

- alone
- with primary caregiver present
- with other caregiver present
- Other

Specify/provide details:

Reason for visit

Brief description of main complains or symptoms:

Reason for the visit to the facility (tick all that apply)

- Infectious or parasitic diseases
- Endocrine, nutritional or metabolic diseases
- Mental, behavioural or neurodevelopmental disorders
- Diseases of the nervous system
- Diseases of the circulatory system
- Diseases of the respiratory system
- Diseases of the digestive system
- Diseases of the skin
- Diseases of the musculoskeletal system or connective tissue
- Diseases of the genitourinary system
- Pregnancy, childbirth or the puerperium
- Injury, poisoning or certain other consequences of external causes
- Other

Specify/provide details:

Is the visit for a

- New problem
- Follow-up of an existing problem
- Both

Screening modules

Introduction (read this to the adolescent)

Young people often struggle with emotional and personal problems that are difficult to share or to ask for help with. We want to ask you some questions to see if there are any problems you may have that we can help you with.

Depression screener

Introduction (read this to the adolescent)

Sometimes young people feel down, blue or depressed for days or weeks at a time.

In the last month, have you been feeling more down, blue or depressed than usual?

- Yes
- No

In the last month, have you noticed that you are not enjoying things or are less interested in things than you normally are?

- Yes
- No

If the adolescent answered 'Yes' to either of these questions than they need to be assessed for possible depression.

Anxiety screener

Introduction (read this to the adolescent)

Young people can often feel very stressed or have a lot of things they worry about.

In the last month, have you been feeling nervous, stressed, or anxious a lot of the time?

- Yes
- No

In the last month, have you been having a lot of physical feelings of stress, such as feeling short of breath, heart pounding, sweating, shaking or feeling dizzy?

- Yes
- No

In the last month, have you been worrying about a lot of different things, or avoiding certain things because they made you feel too scared or anxious?

- Yes
- No

If the adolescent answered 'Yes' to either of these questions than they need to be assessed for possible anxiety disorders.

Trauma and PTSD screener

Introduction (read this to the adolescent)

Sometimes young people go through very frightening or stressful situations that can continue to affect them in negative ways. Examples of these types of situations can include traffic or other accidents, physical or sexual assaults and natural disasters, like earthquakes or floods.

Have you ever been in a very frightening situation where you or someone else could have been seriously hurt or injured or you felt threatened in some way?

- Yes
- No

Specify type of event:

In the last month, has this stressful event still been affecting you negatively? Such as having repeated memories or dreams about the event, avoiding things because they remind you of the event or feeling more frightened, nervous, down or negative because of the event?

- Yes
- No

If the adolescent answered 'Yes' to either of these questions than they need to be assessed for possible post-traumatic stress disorder.

Substance use screener

Introduction (read this to the adolescent)

Young people often experiment or start using alcohol or different drugs for various different reasons. Using these substances can have negative effects or cause problems in a person's life.

In the last month, have you used any alcoholic drinks, such as beer, wine or spirits?

- Yes
- No

In the last month, have you had any problems because of your alcohol use? Such as, health problems, increased conflict with friends or family, getting into trouble or struggling with school or work?

- Yes
- No

In the last month, have you used any drugs, such as cannabis, crystal meth, heroin, cocaine or mandrax?

- Yes
- No

Specify all drugs used:

In the last month, have you had any problems because of your drug use? Such as, health problems, increased conflict with friends or family, getting into trouble or struggling with school or work?

- Yes
- No

If the adolescent answered 'Yes' to any of these questions than they need to be assessed for a possible substance use disorder.

Suicide and self-harm screener

Introduction (read this to the adolescent)

Sometimes young people feel very hopeless and start having thoughts of hurting themselves or considering suicide.

In the last month, have you been having thoughts that it would be better if you were dead or wishing that you were dead?

- Yes
- No

In the last month, have you had any thoughts that you wanted to kill yourself or hurt yourself in any way?

- Yes
- No

If the adolescent answered 'Yes' to either of these questions than they need to be assessed for suicide risk immediately.

Responses if adolescents screened positive on any of the modules

Screen positive for depression (read this to the adolescent)

Based on you answers to these questions were are concerned that you may be struggling with symptoms of depression and would like to ask you more about this and to see if there is any way we can help.

Screen positive for anxiety (read this to the adolescent)

Based on you answers to these questions were are concerned that you may be struggling with symptoms of anxiety and would like to ask you more about this and to see if there is any way we can help.

Screen positive for trauma/PTSD (read this to the adolescent)

Based on you answers to these questions were are concerned that you have been through a trauma and would like to ask you more about this and to see if there is any way we can help.

Screen positive for substance use (read this to the adolescent)

Based on you answers to these questions were are concerned that you may be having problems with alcohol or drug use and would like to ask you more about this and to see if there is any way we can help.

Screen positive for self-harm (read this to the adolescent)

Based on you answers to these questions were are concerned that you may be having thoughts of harming yourself and would like to ask you more about this and to see if there is any way we can help.

Information sources – link to background/clinical/training information

More information on

- Depression
- Anxiety disorders
- Trauma and PTSD
- Substance use disorders
- Suicide and self-harm

B. Mental Health Literacy Scale

Mental Health Literacy Scale

The purpose of these questions is to gain an understanding of your knowledge of various aspects to do with mental health. When responding, we are interested in your degree of knowledge. Therefore when choosing your response, consider that:

Very unlikely = I am certain that it is NOT likely
Unlikely = I think it is unlikely but am not certain
Likely = I think it is likely but am not certain
Very Likely = I am certain that it IS very likely

1

If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have Social Phobia

Very unlikely Unlikely Likely Very Likely

2

If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have Generalised Anxiety Disorder

Very unlikely Unlikely Likely Very Likely

3

If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have Major Depressive Disorder

Very unlikely Unlikely Likely Very Likely

4

To what extent do you think it is likely that Personality Disorders are a category of mental illness

Very unlikely Unlikely Likely Very Likely

5

To what extent do you think it is likely that Dysthymia is a disorder

Very unlikely Unlikely Likely Very Likely

6

To what extent do you think it is likely that the diagnosis of Agoraphobia includes anxiety about situations where escape may be difficult or embarrassing

Very unlikely Unlikely Likely Very Likely

7

To what extent do you think it is likely that the diagnosis of Bipolar Disorder includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood

Very unlikely Unlikely Likely Very Likely

8

To what extent do you think it is likely that the diagnosis of Drug Dependence includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)

Very unlikely Unlikely Likely Very Likely

9

To what extent do you think it is likely that in general women are MORE likely to experience a mental illness of any kind compared to men

Very unlikely Unlikely Likely Very Likely

10

To what extent do you think it is likely that in general men are MORE likely to experience an anxiety disorder compared to women

Very unlikely Unlikely Likely Very Likely

When choosing your response, consider that:

- Very Unhelpful = I am certain that it is NOT helpful
- Unhelpful = I think it is unhelpful but am not certain
- Helpful = I think it is helpful but am not certain
- Very Helpful = I am certain that it IS very helpful

11

To what extent do you think it would be helpful for someone to improve their quality of sleep if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed)

Very unhelpful Unhelpful Helpful Very helpful

12

To what extent do you think it would be helpful for someone to avoid all activities or situations that made them feel anxious if they were having difficulties managing their emotions

Very unhelpful Unhelpful Helpful Very helpful

When choosing your response, consider that:

- Very unlikely = I am certain that it is NOT likely
- Unlikely = I think it is unlikely but am not certain
- Likely = I think it is likely but am not certain
- Very Likely = I am certain that it IS very likely

13

To what extent do you think it is likely that Cognitive Behaviour Therapy (CBT) is a therapy based on challenging negative thoughts and increasing helpful behaviours

Very unlikely Unlikely Likely Very Likely

14

Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to break confidentiality:

If you are at immediate risk of harm to yourself or others

Very unlikely Unlikely Likely Very Likely

Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

if your problem is not life-threatening and they want to assist others to better support you

	Very unlikely	Unlikely	Likely	Very Likely	
Please indicate to what extent you agree with the following statements:					
	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
16. I am confident that I know where to seek information about mental illness					
17. I am confident using the computer or telephone to seek information about mental illness					
18. I am confident attending face to face appointments to seek information about mental illness (e.g., seeing the GP)					
19. I am confident I have access to resources (e.g., GP, internet, friends) that I can use to seek information about mental illness					

Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
20. People with a mental illness could snap out of it if they wanted					
21. A mental illness is a sign of personal weakness					
22. A mental illness is not a real medical illness					
23. People with a mental illness are dangerous					
24. It is best to avoid people with a mental illness so that you don't develop this problem					
25. If I had a mental illness I would not tell anyone					
26. Seeing a mental health professional means you are not strong enough to manage your own difficulties					

27. If I had a mental illness, I would not seek help from a mental health professional					
28. I believe treatment for a mental illness, provided by a mental health professional, would not be effective					

Please indicate to what extent you agree with the following statements:

	Definitely unwilling	Probably unwilling	Neither unwilling or willing	Probably willing	Definitely willing
29. How willing would you be to move next door to someone with a mental illness?					
30. How willing would you be to spend an evening socialising with someone with a mental illness?					
31. How willing would you be to make friends with someone with a mental illness?					

	Definitely unwilling	Probably unwilling	Neither unwilling or willing	Probably willing	Definitely willing
32. How willing would you be to have someone with a mental illness start working closely with you on a job?					
33. How willing would you be to have someone with a mental illness marry into your family?					
34. How willing would you be to vote for a politician if you knew they had suffered a mental illness?					
35. How willing would you be to employ someone if you knew they had a mental illness?					

Scoring

Total score is produced by summing all items (see reverse scored items below). Questions with a 4-point scale are rated 1- very unlikely/unhelpful, 4 – very likely/helpful and for 5-point scale 1 – strongly disagree/definitely unwilling, 5 – strongly agree/definitely willing

Reverse scored items: 10, 12, 15, 20-28

Maximum score – 160

Minimum score - 35

source: (O'Connor & Casey, 2015)

C. Pre-Questionnaire Participants

Pre- evaluation form (Participants- TTT)

Thank you for taking part in this survey. This is the Pre-Survey, which we will kindly ask you to fill out before the MEGA training has started. Please take a moment to complete this brief survey to help us improve upon future trainings. Be assured that all answers you provide will be kept in the strictest confidentiality.

These questions have to do with how prepared you feel to train others on the topic children and adolescents mental health disorders:

Right now:	Not at all	Slightly	Moderately	Very
1. How <u>confident</u> are you that you have the information needed to train others on children and adolescents mental health disorders?				
2. How <u>comfortable</u> would you be in training others about children and adolescents mental health disorders?				

BACKGROUND QUESTIONNAIRE (MEGA)

These last questions will just help us understand who attended this training. Please, fill the questions by writing the answer or ticking X on the right answer.

2. Age _____ Years
3. Gender _____
4. Highest completed level of Education
 1. Certificate
 2. Diploma
 3. Degree (BA; MA, PHD)
 4. Other
5. Profession _____
6. Working experience
 1. 1 to 5 years
 2. 6 to 10 years
 3. 11 to 15 years
 4. 16 years or more
7. Have you had any previous courses or training child mental health?

And now, just so that we can match surveys without identifying individuals, would you please create a unique ID made up of the following information: (Gleiche Angaben beim nächsten Fragebogen)

- The first letter of your mother's first name ___
 The number of children you have ___
 The first letter of your father's first name ___
 The number of siblings you have ___

Thank you for your feedback!

source: own evaluation form based on: (Sullivan, 2014); MEGA project unpublished Background questionnaire

D. Post-Questionnaire Participants

Post-evaluation form (Participants-TTT)

Thank you for attending this training event. Please take a moment to complete this brief survey to help us improve upon future trainings. Your responses on this survey are anonymous.

These questions have to do with how prepared you feel to train others on this topic

<i>Right now:</i>	<i>Not at all</i>	<i>Slightly</i>	<i>Moderately</i>	<i>Very</i>
1. How <u>confident</u> are you that you have the information needed to train others on children and adolescents mental health disorders?				
2. How <u>comfortable</u> would you be in training others about children and adolescents mental health disorders?				

Comments: _____

What obstacles, if any, will make it difficult for you to train others on this topic?

What would you suggest to improve this training?

Bitte bewerten Sie die Inputs aus den letzten beiden Treffen zu effektiver Kommunikation und dem Thema Depression

Please rate the following:	Poor	Average	Excellent	Additional comments
Content- too much, too little or just right?				
Quality of content and information- was it relevant and organized?				
Quality of slides and handouts- were they easy to read and helpful in learning?				
Quality of trainer- were they enaging, enthusiastic and informed?				
Quality of activities/role plays and clarity of instructions?				
Number of opportunities for active participation- too many, too few or just right?				
Overall quality of the course?				

Comments _____

Application Evaluation:

Is the app interesting to use? Does it use any strategies to increase engagement by presenting its content in an interesting way?

- 1 Not interesting at all
- 2 Moderately interesting; would engage user for some time
- 3 Very interesting, would engage user in repeat use

Target group: Is the app content (visual information, language, design) appropriate for the user (Nurse)?

- 1 Completely inappropriate/unclear/confusing
- 2 Acceptable but not targeted. May be inappropriate/unclear/confusing
- 3 Perfectly targeted, no issues found

Ease of use: How easy is it to learn how to use the app; how clear are the menu labels/icons and instructions?

- 1 No/limited instructions; menu labels/icons are confusing; complicated
- 2 Useable after some time/effort
- 3 Able to use app immediately; intuitive; simple

Visual appeal: How good does the app look?

- 1 No visual appeal, unpleasant to look at, poorly designed, clashing/mismatched colours
- 2 Some visual appeal – average, neither pleasant, nor unpleasant
- 3 As above + very attractive, memorable, stands out; use of colour enhances app features/menus

Quality of information: Is app content correct, well written, and relevant to the goal/topic of the app?

- N/A There is no information within the app
- 1 Irrelevant/inappropriate/incoherent/incorrect
- 2 Moderately relevant/appropriate/coherent/and appears correct
- 3 Highly relevant, appropriate, coherent, and correct

And again, just so that we can match surveys without identifying individuals, would you please create a unique ID made up of the following information.

- The first letter of your mother’s first name ___
- The number of children you have ___
- The first letter of your father’s first name ___
- The number of siblings you have ___

Thank you for your feedback!

source: own evaluation form based on: (Sullivan, 2014); (World Health Organization, 2017c, p.54); (Stoyanov, et al., 2015)

E. Post-Questionnaire Trainer

Post-evaluation form (Trainer- TTT)

Please rate the following:	Poor	Average	Excellent	Additional comments
Amount of content- too much, too little or just right?				
Quality of content and information- was it relevant, well-researched and organized?				
Quality of activities/ role plays- were they engaging and helpful in teaching?				
Number of opportunities for active participation- too many, too few or just right?				
Overall quality of this course?				

What was best about this training? When were the participants most engaged?

What would you suggest to improve this training?

Thank you for your feedback!

source: own evaluation form based on (World Health Organization, 2017c, p.55)

F. Results Background Participants

Characteristics		Count	Column N %
Sex	No Answer	0	0,0%
	Female	9	90,0%
	Male	1	10,0%
Education	No Answer	0	0,0%
	Certificate	0	0,0%
	Diploma	0	0,0%
	Degree (BA; MA; PHD)	0	0,0%
	Other	10	100,0%
Profession	No Answer	4	40,0%
	Student	5	50,0%
	Paramedic	1	10,0%
Working Experiences	No Answer	3	30,0%
	1 to 5 years	7	70,0%
	6 to 10 years	0	0,0%
	11 to 15 years	0	0,0%
	16 years or more	0	0,0%
Previous Courses in Child Mental Health	No Answer	0	0,0%
	Yes	0	0,0%
	No	10	100,0%

source: own table

G. Results Course Evaluation Participants

		Count	Column N %	Comments
<i>Amount of Content</i>	No Answer	0	0,0%	
	Poor	2	20,0%	(Poor) in regard of the app → merge both
	Average	8	80,0%	(Average) I have missed more background information and information about what happened after the application with the suspension (Average) Personally, I would have liked to know more, but because I have a very big personal interest in such projects (Average) other courses would have been interesting
	Excellent	0	0,0%	
<i>Quality of Content/Information</i>	No Answer	0	0,0%	
	Poor	2	20,0%	
	Average	6	60,0%	(Average) sometimes the structure was not clear
	Excellent	2	20,0%	
<i>Quality of Slides</i>	No Answer	0	0,0%	
	Poor	1	10,0%	
	Average	4	40,0%	(Average) Handouts partly too complicated, PPP as a good handout
	Excellent	5	50,0%	
<i>Quality of Trainer</i>	No Answer	0	0,0%	
	Poor	0	0,0%	
	Average	5	50,0%	(Average) The application seemed pretty unprepared, as we as knowledge about the structure of the app
	Excellent	5	50,0%	(Excellent) trainer tried to expand difficult content
<i>Quality of Activities</i>	No Answer	0	0,0%	
	Poor	0	0,0%	
	Average	8	80,0%	(Average) not only role-playing games or partner tasks, possible activity with whole group
	Excellent	2	20,0%	(Excellent) great for thinking in different roles
<i>Number of Active Participation</i>	No Answer	0	0,0%	
	Poor	0	0,0%	
	Average	7	70,0%	
	Excellent	3	30,0%	(Excellent) trainer were always open for opinions
<i>Overall Course</i>	No Answer	0	0,0%	
	Poor	1	10,0%	
	Average	9	90,0%	(Average) It would be easier if we had more time to understand it better.
	Excellent	0	0,0%	

source: own table

H. Results Application Evaluation Participants

		Count	Column N %
<i>Interesting to Use</i>	No Answer	0	0,0%
	Not interesting at all	4	40,0%
	Moderately interesting, would engage user for some time	6	60,0%
	Very interesting, would engage user in repeat use	0	0,0%
<i>Target group</i>	No Answer	0	0,0%
	Completely inappropriate/unclear/confusing	2	20,0%
	Acceptable but not targeted. May be inappropriate/unclear/confusing	8	80,0%
	Perfectly targeted, no issue found	0	0,0%
<i>Ease of Use</i>	No Answer	0	0,0%
	Not/limited instructions; menu labels/controls are confusing; complicated	4	40,0%
	Useable after some time/effort	5	50,0%
	Able to use app immediately, intuitive, simple	1	10,0%
<i>Visual Appeal</i>	No Answer	1	10,0%
	Not visually appealing, unpleasant to look at, poorly designed, clashing/mismatched colours	1	10,0%
	Some visually appealing - average, neither pleasant, nor unpleasant	8	80,0%
	Very attractive, memorable, stands out; use of colours enhances app features/menus	0	0,0%
<i>Quality of Information</i>	No Answer/ Not applicable	0	0,0%
	Irrelevant/inappropriate/incoherent/incorrect	0	0,0%
	Moderately relevant/appropriate/coherent/and appears correct	9	90,0%
	Highly relevant, appropriate, coherent, and correct	1	10,0%

source: own table

I. Course Evaluation Trainer

		Count	Column N %	Comments
Amount of content	No Answer	0	0,0%	(Average) A tte too much (Average) the rea zat on that t was too much materia (too many d sorders to cover n 6h) came after the frst sess on
	Poor	0	0,0%	
	Average	2	100,0%	
	Exce ent	0	0,0%	
Qua ty of content	No Answer	0	0,0%	(Average) we are m ss ng v deos of how to do an assessment and cu tura y va dated person stor es
	Poor	0	0,0%	
	Average	1	50,0%	
	Exce ent	1	50,0%	
Qua ty of act v tes	No Answer	0	0,0%	(Average) yes, but there needs to be a mode (Average+Exce ent) Heterogeneous mot vat on of part c pants
	Poor	0	0,0%	
	Average	1,5	75,0%	
	Exce ent	0,5	25,0%	
Act ve part c pat on	No Answer	0	0,0%	(Poor) there shou d be a ot more opportun tes for act ve nvo vement
	Poor	1	50,0%	
	Average	0,5	25,0%	
	Exce ent	0,5	25,0%	
Qua ty of course	No Answer	0	0,0%	(Average) we d d the best cons der ng the c rcumstances
	Poor	0	0,0%	
	Average	1,5	75,0%	
	Exce ent	0,5	25,0%	

source: own table

J. Focus Group Transcribed Sentences

1. „Ich finde es extrem schwer alle Fragen, [...] zu berücksichtigen, weil man ganz schnell in ein Gespräch verfällt,
2. und mit dem Anderen einfach so redet ohne, dass man jetzt gezielt diese Fragen hat, klar vergisst man dann vielleicht irgendwie so ein Thema,
3. ich weiß jetzt nicht ob es sinnvoller ist sich eher mit dem Anderen zu unterhalten oder ob es wirklich so ein Frage-Antwort Spiel wird, indem ich jede Frage abhake, mir dann auch ganz sicher bin ich habe jedes Thema,
4. da ist jeder unterschiedlich, und muss für sich abwägen was man besser kann.“
5. „Mir fiel das Gespräch leichter,
6. weil ich dann nicht das Gefühl hatte einfach alles abzurattern und
7. vielleicht denkt der Gegenüber ey die hat ja keine Ahnung, die hat nur so ein Blatt vor sich und fragt das ab.“
8. „Man konnte gut im Gespräch die Fragen einbauen: [...] Wie geht es dir heute? [...] Auf Hobbies zu sprechen kommen.“
9. „wenn wir da wieder auf die Depressionsskala gehen würden [...] da könnte auch was anderes dahinter liegen ob es jetzt eine andere körperliche Erkrankung ist oder es sind auch familiäre Probleme, die nicht unbedingt für eine Depression sprechen,
10. also ich finde es dann schon voreilig anhand dieser zwei Fragen festzumachen, dass das auf eine Depression hindeuten könnte,
11. weil wenn man es dann ins Gesicht gesprochen bekommt, erlebt man anders, was ist jetzt los, ich wollte nur einen Anstoß und werde direkt als depressiv diagnostiziert.“
12. „Trotzdem ist es irgendwie so subjektiv, also es ist nicht so das speziell nach Symptomen gefragt wird oder auch offen.“
13. „Wir haben eigentlich gelernt offene Fragen zu stellen, damit der Patient von sich aus erzählen kann.“
14. „Wir haben demnächst Prüfungsphase und ich empfinde mein Leben als stressiger, ich bin vielleicht bisschen belasteter und würde dementsprechend auch schon sagen: ja ich fühle mich mehr gestresst und mehr niedergeschlagener als sonst. Aber deshalb habe ich ja nicht gleich eine Depression.“
15. „Wenn man es jetzt mit Ja beantwortet: Wie ist der weitere Verlauf? Werden Sie weiter verwiesen an einen richtigen Facharzt, der dann auch eine wirkliche Diagnose stellt?“
16. „Wir haben da dann auch an Medikamentenmissbrauch gedacht: Man kann auch einfach Ja sagen, dann kriege ich Antidepressiva und verticke sie auf dem Schwarzmarkt, und gehe zu mehreren Stellen und ziehe das ab.“
17. „Unsere Idee war es zwei Personen hinzusetzen, und eine die wirklich, vielleicht muss sie die Kompetenz einer Pflegekraft noch nicht haben, weil sie einfach diesen Fragebogen hat, und die Pflegekraft mit dem Patient [...] so ein Gespräch normal führt über den Alltag [...] ,dass der Patient sich eher auf das Gespräch konzentriert und die Person daneben kreuze macht, oder etwas umkreist, wie die Person es einschätzt, worüber der Patient erzählt.
18. Weil ich glaube, dass dann ein besser Gesprächsfluss entsteht und es vielleicht auch das Vertrauen eher weckt,
19. als wenn da jemand sitzt und immer Fragen stellt und einfach nur mit dem Zettel beschäftigt ist um Kreuze zu machen.“
20. „Ich fand die geschlossenen Fragen anstrengend [...]

21. und ich fand diese einleitenden Sätze [...] wie beim Aufklärungsgespräch mit meinen Eltern, [...] Das hat mich persönlich verschlossen.“
22. „Und würde da mir eine fremde Person gegenüber sitzen würde ich wahrscheinlich verschlossener antworten als in dem Setting jetzt hier.“
23. „Fragen offen gestellt: Der Befragte ja nicht unbedingt mit Nein antwortet, oder Begründung dafür liefert“
24. „Und da wäre je eher für mich wichtiger die Frage nach den Ressourcen: wie das ausgeglichen werden kann, weil man kann sich ja gestresst fühlen oder müde oder depressiv aber genügend Ressourcen zum Ausgleich haben.“
25. „Ich finde durch dieses Abhaken, ist es schon im Auge des Betrachters was er jetzt bei dem Patienten als Stress sieht und was nicht, [...] da besteht halt einfach eine Gefahr, eigentlich sollen es ja Experten machen“
26. „Wir haben für den gesamten Bogen 8 min gebraucht, also schon ziemlich lange eigentlich.“
27. „Erstmal kommt man ja wahrscheinlich mit einer anderen Ursache, mit einer körperlichen Ursache wahrscheinlich.“
28. „Wir waren uns nicht sicher: fängt man jetzt den Bogen an? Oder nutzt man jetzt die App? Wann nutzt man jetzt die App?“
29. „Durch dieses Abfragen, [...] hatte die Nurse viel mehr Gesprächsanteil als der Patient, das fanden wir fragwürdig.“
30. „Drogenproblemabfrage [...] aus der elterlichen Perspektive gestellt, dann würde man natürlich nicht mit Ja oder nein antworten.“
31. „Vorlesecharakter von diesen Fragen, dass man zu sehr abliest.“
32. „Man wird mit paar Vermutungen überrannt und das macht finde ich mehr Angst eine Vermutung zu haben als eine richtige Diagnose.“
33. „Auch die Vermutung aus beispielsweise Prüfungsangst, aber nur weil jetzt gerade Prüfungsphase ist, ist es nicht wirklich eine Angststörung.“
34. „Ich fand es ganz schlimm bei Trauma und PTBS: als wenn irgendjemand, es ist ja ein Screening, wenn mich dann jemand fragen würde hast du schon mal ein Trauma erlebt, da würde ich dann ja nicht im ersten Gespräch und gerade als Jugendlichen sagen: ja das ist schon mal passiert. Das finde ich realitätsfern.“
35. „Zu den Einleitungen [...] es ist ja immer auf die Mehrzahl von Menschen bezogen: so könnte der Gegenüber einerseits das Gefühl haben gut ich bin nicht alleine mit der Situation
36. aber andererseits habe ich die Befürchtung, dass er dann das Gefühl hat es geht nicht mehr um ihn. Und er ist ja der Mittelpunkt dieses Gesprächs, bzw. des Screenings. Da finde ich es ungünstig von der Allgemeinheit anzufangen, sondern würde ich mich mehr auf ihn spezialisieren und wenn es dann halt durch dieses Gespräch ist wo dann mehr Informationen erhoben werden als eigentlich erwünscht.“
37. „Wenn die Leute gar kein Vorwissen haben und gleich auch mit Trauma und so solche Fragen stellen,
38. also ich glaube die Jugendlichen in Südafrika und Sambia leben auch nicht unbedingt in so einer behüteten Welt wie wir hier und haben da auch einfach ganz andere Erfahrungen gemacht und das ist viel schlimmer und wenn man mich dann jemand so direkt beim ersten Treffen so ansprechen würde, den ich nie gesehen hat und ich vielleicht weiß gut er fragt mich jetzt aber hat auch nicht so das Hintergrundwissen was er jetzt damit anfangen soll. Weiß nicht ob ich mich da geöffnet hätte oder dann da gesessen hätte: „ne mir geht es gut, ich bekomme das schon alleine hin.“

39. „Das ist glaube ich eine ganz andere Welt und ein ganz anderes Dasein wo wir uns jetzt von hier aus auch irgendwie nicht so hineinversetzen können.“
40. „Wenn man wirklich so ein Satz nur abliest, bei diesem Einleitungssatz, dass es ein erschreckendes Bild zeigt, also ich hätte das Gefühl, dass sich die Pflegekraft der ich gegenüber sitze sich nicht auskennt.“
41. „Wenn man diesen Satz hat, dass man ihn eigentlich auswendig lernt und versucht überzeugender rüber zu bekommen, weil ich glaube, dass das einfach mehr das das Vertrauen aufweckt oder so ein Gesprächsfluss wecken kann“
42. „Ich finde es etwas ungünstig, dass man so ruckartig zwischen den einzelnen Krankheitsbildern springt [...], das geht für mich zu schnell.“
43. „Wenn man den anderen alleine lässt[...] mit der Vermutung einer Diagnosestellung [...], das ist doch extrem verängstigend für die betroffene Person, wenn er eh schon in einer angeschlagenen psychischen Verfassung ist.“
44. „Ich finde auch dieses Vorlesen von dem standardisierter Satz, wenn man mit jemandem persönlich ins Gespräch geht, und jemand mir erstmal einen Satz vorliest, den er den anderen 100 Leuten auch schon vorgelesen hat, dann würde ich mich gar nicht öffnen.“
45. „Man geht nicht auf den Menschen ein, den man da befragt, es ist mega oberflächlich, Ja oder Nein, [...] ja okay, nächste Frage, das ist echt so mehr oder weniger so ein Abgeklapper, das ist halt dann auch irgendwie eher unpersönlich rüberkommt.“
46. „Das würde ja voraussetzen, dass die Person die fragt, den Fragebogen komplett auswendig kennt, um dann die Fragen komplett frei zu stellen, und dann auch eine Konversation zu führen, ich kann mir dann vorstellen, dass es dann noch viel länger dauert.“
47. „Kann eine große Hilfe sein, auch wenn es sehr reduziert ist, wenn es im Behandlungskontext integriert ist,
48. wenn klar ist der erste Schritt ist die körperliche Untersuchung und wir stellen fest da ist nichts, aber er hat die und die Symptome, die auch in der App dann aufgelistet sind, die Symptome kann man erkennen und das bringt er mit, und jetzt kann man in die Fragesituation gehen [...]
49. und da wirst du dann irgendwie strukturiert zu einem Ergebnis kommen,
50. am besten ohne unnötig Zeit zu verlieren.“
51. „Ich glaube, dass die Empathie eine große Rolle spielt und das Öffnen.“
52. „Wenn man an den Symptomen ansetzt könnte man vielfältiger darauf eingehen und es offener gestalten und nicht so direkt fragen, um dann auf Krankheit zu schließen.“
53. „Das ist auch das große Problem was ich in der mhGAP App finde, dass man erst von einer Krankheit ausgeht und dann guckt was mach ich davon, aber viel wichtiger ist zu sehen, was ist bei der Person gerade akut und was könnte es dann für eine Erkrankung sein.“
54. „Also wie das jetzt gerade aufgebaut ist fehlt mir auch dieser empathische Ansatz, weil es nur vom Vorlesen ist.“
55. „Aber wenn es davon ausgeht, dass man vorher die Empathie in den Fokus gerückt hat und es gesprächsbegleitend ist, dann macht es aber finde ich nur Sinn wenn man nicht von einer Krankheit zur Nächsten geleitet wird sondern quasi alle Fragen gelistet hat und im Gespräch gucken kann jetzt kommt das Gefühl der Angst hoch dann gehe ich in den Angstsektor also die Empathie anwenden, und guckt was kommt rüber, welches Gefühl, und in welche Richtung gehe ich eher mit den Fragen als erstes, und wie kann ich dann die anderen darauf aufbauen.“

56. „Ich fand sie sehr kompliziert, [...] und wenn ich mir vorstelle ich soll das während eines Gesprächs noch nebenher eintippen, bin ich viel mehr mit dem Handy konzentriert um genau das zu finden was ich suche als, dass ich mein Gegenüber angucke.“
57. „Entweder muss ich die App blind nebenbei bedienen können, oder ich bin unglaublich, multitasking-fähig: kann da zuhören und hier noch was bedienen.“
58. „Dass die App für den Nutzer immer im Zusammenhang mit den ganzen Informationen steht, [...] dass man auch weiß wie, dass man nicht hilflos irgendwann am Ende mit der App dasteht so denkt ok wie kann ich es jetzt dahin transferieren, sondern dass immer aktiv damit gemacht wird.“
59. „Was mach ich in Notfallsituationen? Was ist da der Notfallplan? Wie kann ich gut und sicher handeln, dass ich mich dann nicht schuldig fühle nur weil ich es jetzt gerade rausgefunden habe.“
60. „Dass man vielleicht auch von sich selber redet, dass man diesen Hund, oder dieses Video mit dem Hund zeigen kann
61. und man dann sagt ich kenne das auch von mir kennen sie das auch? Ich glaube das bringt mehr Leute zum Reden“
62. „Es muss eine bestimmte Affinität für technische Sachen vorhanden sein, dass man die App nutzen kann aber auch versteht und durchschauen kann, wie sie aufgebaut ist, dass wäre noch sinnvoll, weil wenn man sie jetzt erklären müsste muss man auch begreifen können wie die Strukturen sind.“
63. „Das Produkt gut findet und vollkommen verstanden hat.“

K. Summarizing Content Analysis

NR.	Paraphrase	Generalisierung	Reduktion
1.	Berücksichtigung von allen Fragen ist extrem schwer	Positive Einstellung der Teilnehmer	K1 Kommunikationsfähigkeiten: -Gesprächsfluss -Vertrauen aufbauen -Empathie -Emotionale Unterstützung (basic emotional support) -Aktives Zuhören -Moment des Öffnens -Augenkontakt -verschiedene Fragetypen K2 Praktische Übungen/Rollenspiel -Rollenspiel mit verschiedenen Fragetypen -Fragen auswendig lernen -Gesprächsbegleitendes Fragen -offene Fragen -Patient steht im Mittelpunkt -überzeugende Krankenschwestern -integration in den Behandlungskontext -Ressourcenabfrage der Patienten K3 Prinzipien der Erwachsenenbildung -Relevanz des Projektes -Visualisierung - Umgang mit Ängsten -Aktive Einbindung App - Stärken der Teilnehmer beachten -Transferübung -Technik affiner Trainer -überzeugender Trainer K4 Rahmenbedingungen: -Klarer Ablaufplan - positive Einstellung der Teilnehmer -Sinnhaftigkeit App -Unterstützungsmöglichkeiten -Psychosoziale Hilfen
2.	ohne gezielte Fragen kann ein Thema vergessen werden	Sinnhaftigkeit Fragebogen	
3.	Unterhaltung vs. Frage-Antwort Spiel sinnvoller?	Rollenspiel mit verschiedenen Fragetypen	
4.	Abwägung der eigenen Stärken	Stärken der Teilnehmer beachten	
5.	Unterhaltung ohne striktes Frage-Antwort Spiel leichter	Einstellung der Teilnehmer	
6.	Gefühl von Fragen herunterlesen	Fragen auswendig lernen	
7.	Patient könnte denken, dass die Krankenschwester keine Ahnung hat	Überzeugende Krankenschwester	
8.	Einbau der Fragen ins Gespräch gut möglich	Gesprächsbegleitendes Fragen	
9.	Andere Ursachen der Symptome möglich	Detaillierte Symptom/ Ursachenvermittlung der Erkrankungen	
10.	Voreilige Vermutung	Wissen über Krankheitsbilder	
11.	Vermutung ausgesprochen trifft auf Widerspruch des Patienten	Transferübungen	
12.	Subjektives Abfragen	Wissen	
13.	Offene Fragen für Redefluss vom Patienten	Offene Fragen	
14.	Prüfungsphase als Ursache von Depressionssymptomen	Detaillierte Symptom/ Ursachenvermittlung der Erkrankungen	
15.	Verlauf nach einer JA Antwort unklar	Klare Ablaufplan	
16.	Angst vor Medikamentenmissbrauch	Ängste	

17.	Fragebogen übernimmt zweite Pflegekraft	Unterstützungsmöglichkeiten	K5 Wissen über psychische Erkrankungen -Symptome und Ursachen -Abgrenzung der Krankheiten
18.	Gesprächsfluss ist wichtig um Vertrauen zu wecken	Gesprächsfluss	
19.	Keine vertrauensvolle Wirkung mit Ankreuzen vom Fragebogen	Vertrauen aufbauen	
20.	Anstrengend geschlossene Fragen zu stellen	Offene Fragen	
21.	Patient verschließt sich bei Einleitungssätzen	Vertrauen aufbauen	
22.	Durch fremde Person verschließt sich der Patient noch mehr	Vertrauen aufbauen	
23.	Offene Fragen erhalten nicht JA/Nein Antwort	Rollenspiel mit verschiedenen Fragetypen	
24.	Ressourcenabfrage wäre wichtig	Ressourcenabfrage	
25.	Gefahr ohne Expertenwissen	Ängste	
26.	zeitintensiv	Relevanzvermittlung	
27.	Körperliche Ursachen als Erscheinungsgrund	Detaillierte Symptom/ Ursachenvermittlung der Erkrankungen	
28.	Einsatzzeitpunkt App unklar	Klarer Ablaufplan	
29.	Krankenschwester höheren Gesprächsanteil als Patient	Aktives Zuhören	
30.	Drogenproblemabfrage aus der elterlichen Perspektive	Empathie	
31.	App hat einen Vorlesecharakter	Rollenspiel mit verschiedenen Fragetypen	
32.	Vermutung macht mehr Angst als eine Diagnose	Psychosoziale Hilfen	
33.	Prüfungsphase ist keine Angststörung	Abgrenzung der Krankheitsbilder	
34.	Realitätsferne Traumafrage	Empathie	
35.	Einleitungssatz vermittelt Jugendlichen,	Emotionale Unterstützung	

	dass sie nicht alleine sind		
36.	Befürchtung, dass der Einleitungssatz den Jugendlichen vermittelt, dass sie nicht im Mittelpunkt stehen	Patient steht im Mittelpunkt	
37.	Für Krankenschwestern ist Vorwissen notwendig	Wissen	
38.	Andere Erfahrungen in Südafrika und Sambia	Empathie	
39.	Von hier in die Situation von Südafrika und Sambia hineinversetzen schwierig	Empathie	
40.	Erschreckend wirkt das reine Ablesen der Fragen	Ängste	
41.	Einleitungssätze überzeugender rüber bringen	Überzeugende Krankenschwestern	
42.	Ruckartiger Sprung zwischen Krankheiten	Gesprächsfluss	
43.	Vermutung ist verängstigend	Ängste	
44.	Verschluss Patient bei standardisierten Sätzen	Vertrauen aufbauen	
45.	Unpersönliches Abfragen	Patient im Fokus des Gesprächs	
46.	Auswendig gelernte Fragen im Gespräch mit einbringen ist zeitintensiv	Relevanz	
47.	Kann große Hilfe sein bei Integration in den Behandlungskontext	Integration in den Behandlungskontext	
48.	Körperliche Untersuchung zuerst	Klarer Ablaufplan	
49.	Strukturiert zum Ergebnis	Klarer Ablaufplan	
50.	Keine Zeit verschwenden	Rollenspiel	
51.	Empathie und Öffnen des Patienten spielen große Rolle	Moment des Öffnens	

52.	Offene, indirekte Fragen nutzen	Fragetypen
53.	Akutes Problem zuerst abfragen	Klarer Ablaufplan
54.	Empathie geht durch Vorlesen der Fragen verloren	Empathie
55.	Empathie/Gefühl der Krankenschwester sollte im Gespräch Richtung der Fragen angeben	Empathie
56.	Krankenschwester guckt zu viel aufs Handy anstatt auf den Patienten	Augenkontakt
57.	Multitasking Fähigkeit Voraussetzung Nutzung App	Rollenspiel Nutzung App
58.	App muss aktiv im Zusammenhang mit allen Kursinfos vermittelt werden	Aktive Einbindung APP
59.	Unklar Vorgang bei Notfallsituation	Transferübungen
60.	Video mit Black-Dog zeigen	Visualisierung
61.	Aus eigenen Erfahrungen erzählen als Krankenschwester	Vertrauen aufbauen
62.	Affiniät für Technik sollte beim Trainer vorhanden sein	Technik Affinität beim Trainer
63.	Trainer soll App gut finden und verstehen	Überzeugender Trainer