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Integrated Study Master Thesis

Models and Possibilities of Suicide Prevention in Israel

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1. Summary

Suicide is a topic of great relevance. According to the World Health Organization, every year, 703,000 individuals die by suicide. Hence, most countries have a national suicide prevention program as well as local organizations working in the prevention of suicide. One of such countries is Israel. Therefore, this literature review on suicide prevention in Israel focuses on the model of suicide prevention and possibilities for improvement. A comprehensive evaluation of the current model – the National Suicide Prevention Program - of suicide prevention was undertaken. The findings were compared to recommendations made by the World Health Organization (WHO). Additionally, several local suicide prevention efforts were evaluated. Here a particular emphasis was placed on the Suicide Prevention Program of the Israeli Defense Forces.

To assess for possible improvements, the current achievements and challenges were evaluated. Therefore, a variety of research on achievements and publications on suicide prevention by Israeli authors were analyzed. Hereby, several possibilities for improvement have been found, especially when focusing on the risk groups, for example, the LGBTQ community, the elderly, and those bereaved.

The aim of this literature review was to evaluate the achievements of the established suicide prevention programs and identify opportunities for improvement in Israel.

Especially the recommended model proposed by the World Health Organization has been greatly implemented into the Israeli suicide prevention strategy. However, several aspects for improvement have been identified, such as improvements in the implementation of media guidelines, improved screening for at-risk individuals, and the establishment of programs for risk groups. Further restrictions and enhancements in current measures, such as the gatekeeper trainings and the restriction of weapons, are also needed. Recommendations for online prevention as well as for prevention in times of crisis were made.

2. Keywords

Suicide, prevention, Israel, achievements, possibilities, model

3. Abbreviations

ASQ - Ask Suicide-Screening Questions, BFI-10 -Big Five Inventory, BSS - Back Scale for Suicide Ideation, CSS- Columbia Suicide Screen, C-SSR Columbia Suicide Screen Rating Scale, Fig. – Figure; GAD-7 - Generalized Anxiety Disorder 7 Scale, GDP- Gross domestic product, HMO-Health Maintenance Organization, LGBTQ- Lesbian, Gay, Bisexual, Transgender and Queer, NGO-non-governmental organization, PHQ-9-Patient Health Questionnaire-9, PSWQ - Penn State Worry

Questionnaire, QPR- Question-Persuade and Refer model, RSS - Ruminative Response Scales, SBQ-R -Suicidal Behavior's Questionnaire-Revised, SHBQ – Self-Harm Behavior Questionnaire, SWLS - Satisfaction With Life Scale, WHO-World Health Organization

4. Introduction

According to the World Health Organization, "Suicide is the act of deliberately killing oneself." (1) Every year, 703,000 individuals die by suicide. It is the fourth most common cause of death worldwide among 15- to 29-year-olds. (1,2)

Suicide is preventable with evidence-based methods as those published by the World Health Organization. Many countries, therefore, have established suicide prevention programs on a national level. (3)

This literature review will focus on suicide prevention in Israel. Suicide is the second most common cause of death in middle-aged females while being the third most common cause of death in middle-aged males in Israel in 2019. Annually, suicides account for about 450 deaths in Israel. Suicide rates in 2019 were 5.3 per 100,000 capita. (4–6)

To prevent suicide after a primary pilot study, the Israeli government established a National Suicide Prevention Program in December 2013. The Suicide Prevention Program consists of ten basic preventative measures. Furthermore, the government has published recommendations and guidelines. (7,8)

The prevention program is organized by the Ministry of Health, and many other ministries and partner organizations participate in its implementation. Besides the government, many local organizations work in the field of suicide prevention. The Israeli Defense Forces have established their own Suicide Prevention Program in 2006.(9)

The aim of this literature review is to evaluate the achievements of the established suicide prevention programs and identify opportunities for improvement in Israel.

5. Methods

To obtain an overview of Israel's suicide prevention and the current achievements in suicide prevention, a comprehensive systematic literature review was conducted. For this purpose, Google Scholar, PubMed, as well as official governmental sources were utilized as databases.

The World Bank database was used to extract data on suicide rates. Key terms were "suicide rate," "Israel," "Austria," "Canada," "Lithuania," "male," "female" as well as "world." Suicide rates were

listed per 100,000 capita. Data from 2012 one year before the implementation to the newest available data from 2019 was analyzed and compared further, creating a table as well as graphs.

Official suicide prevention programs published by the governments were selected and analyzed. Only the most current guidelines were extracted. Key search terms utilized were “suicide prevention program,”” Israel,” “Austria,” “Canada” and “Lithuania.” The inclusion criterion was officially published documents by the government.

Governmental and non-governmental organization homepages, as well as other websites, were used. Key search terms were “suicide help,”” Israel,” “Austria,” “Canada, ““Lithuania,” “ERAN,” and “SAHAR.” Included were: (1) official governmental information, (2) websites listing locally active organizations in suicide prevention in the country and their functions, and (3) organizations official homepages.

As Israel’s army has its own suicide prevention program, information was searched via PubMed. Specifically, key search terms were “military,” “suicide prevention” and “Israel.” Included were sources providing a detailed description of the Israeli Defense Forces Suicide Prevention Program.

Using Google Scholar, PubMed, as well as resources of the Israeli government, articles on the current achievements in suicide prevention in Israel were researched and analyzed. Key terms used to conduct the search were “suicide,” “prevention,” “achievements” and “Israel.” Only articles published between 2013 and 2025 were included to ensure the relevance of the sources. Other inclusion criteria were: (1) articles focusing on strategies mentioned in the National Suicide Prevention Program or focusing on local prevention projects; (2) articles focusing on outlines of achievements of said interventions. On the other hand, exclusion criteria were (1) articles focusing on suicide bombings and (2) articles focusing on incarcerated women. These articles did not align with the focus of this systematic literature review. Data was collected from articles meeting the inclusion criteria, and their quality was assessed. High-quality articles meeting the inclusion criteria were prioritized.

Google Translate was used to overcome language barriers (Hebrew, Lithuanian).

6. Goal, Task, and Hypothesis

The goal of this systematic literature review on “models and possibilities of suicide prevention in Israel” is to obtain a deeper understanding of Israel’s suicide prevention strategy and further gain insight into its effect at a population level.

Therefore, the National Suicide Prevention Strategy, the local suicide prevention projects, the Israeli Defense Forces Suicide Prevention Program, as well as articles on the suicide prevention program

achievements, were reviewed. Furthermore, important research work on suicide by Israeli authors was reviewed. For a better insight into the prevalence of suicide in Israel, the suicide mortality rates were studied and compared to the world and other countries (Austria, Lithuania, and Canada). All in all, the findings were compared and analyzed.

The research question was: based on the newest Israeli research, the World Health Organization's recommendations, and what has been achieved so far in suicide prevention - are there additional measures that could be taken to ensure better suicide prevention in Israel? And what has been achieved so far?

Thus, the hypothesis was that: based on the newest Israeli research, the World Health Organization's recommendations, and what has been achieved so far in suicide prevention, there will be no additional measures that could be taken to ensure better suicide prevention in Israel. There have been significant achievements following the implementation of the suicide prevention program in Israel.

7. Results

7.1. World Health Organization Recommendations

In 2021, the World Health Organization published recommendations on suicide prevention. The World Health Organization (WHO) subdivides these recommendations into two different pillars. Pillar A contains a list of basic requirements that need to be met to implement a suicide prevention program. Therefore, the World Health Organization suggests carrying out an analysis of the current situation, analyzing different aspects such as suicide rates and the means by which suicide is committed. It is recommended to repeat this analysis on a periodic basis. For a broad effect of the suicide prevention program, multisectoral collaboration is needed and thereby a crucial aspect of the World Health Organization's Pillar A. Furthermore, awareness through advocacy needs to be raised. The WHO recommends campaigning in schools, at workplaces as well as collaborating with the media for this purpose. Another important aspect for the World Health Organization is training civilians and those coming into contact with individuals in need of suicide prevention, such as healthcare workers. For this purpose, they recommend gatekeeper trainings. The World Health Organization lists two further crucial basic aspects for the implementation of a proper suicide prevention program, which are sufficient funding and active surveillance of the program after the implementation.

After establishing the basic requirements for the implementation of a suicide prevention program, the World Health Organization goes on to establish more specific measures that are proven to prevent suicides in their pillar B. One of the recommendations in pillar B is to limit access to lethal

means such as weapons, chemical means but also jumping sites. Hence, the World Health Organization advocates to restrict access to weapons, such as firearms, by law. Furthermore, they go on to recommend implementing laws banning certain lethal pesticides that could be used for the purpose of suicide. Regarding the health care sector, the WHO recommends to implement better prescription practices. For the storage of at-home medication, they advise the public to maintain lower quantities, e.g., by reducing the packaging size. The organization advises to close jumping sites to the public, for example, by putting up fences or barriers. In addition, it is recommended to limit ligature points, especially in state facilities such as correctional facilities. Another measure endorsed by the World Health Organization is to exchange lethal means in homes, for instance, gas for heating and cooking for less lethal variants. As there are many lethal means by which suicide can be committed and access to these means differs by individual, the World Health Organization mentions that lethal means prevention, especially at home, may be an individualized task.

Further recommendations in pillar B focus especially on the media and reporting on suicide in a responsible manner. Therefore, the World Health Organization recommends to establish guidelines for the media on the dos and do nots of reporting on suicide. Additionally, they advocate for the positive effect of reporting on prevention and on campaigns for suicide prevention published by the media. It is also recommended to screen the content published and to train reporters by giving them seminars on suicide and suicide prevention. They explicitly express that these recommendations are applicable for national as well as local media.

Another recommendation made by the World Health Organization is training individuals, with a special focus on adolescents, in certain life skills. These involve social skills, emotional skills, as well as mental health and recognition skills. It is advised to establish programs in accordance with schools. As adolescents are a risk group for suicide and suicide attempts, gatekeeper trainings for teachers and staff at schools are recommended. Appropriate protocols should thus be implemented at these facilities. To promote mental health, certain risk events should be averted, which is why trainings on anti-bullying at schools and the provision of information on out-of-school support options are advised by the WHO. For students at risk of suicide and suicide attempts, support groups should be established. Better education on social media and safe internet use should be provided to the students. As parents are an essential part of suicide prevention in adolescents, the World Health Organization recommends to further expand the parents' knowledge on suicide and suicide risk factors.

To avoid suicides and suicide attempts, the WHO recommends a system of early prevention as well as a cascade of assessment and management, including good follow-up of the patients in their pillar B. For early prevention, early recognition of at-risk individuals as well as individuals post-suicide

attempt is an integral aspect. Therefore, it is advised to train health care staff, such as physicians, emergency service personnel, and nurses, in the vital aspects of suicide prevention. Furthermore, social workers and non-medical staff like police forces, teachers, and those working with at-risk groups, e.g., adolescents or addicts, should be trained in the early identification of at-risk individuals. Identified individuals should be assessed by a mental health specialist and should receive appropriate treatment also involving individual therapy as well as self-help groups. It is additionally advised to set up a 24-hour crisis care for individuals in distress and in need. (3)

7.2. The Israeli National Suicide Prevention Program

From 2009 to 2012, a comprehensive pilot study was conducted in two Israeli districts. (10) In 2013, after the initial pilot study, the Israeli government signed off on the National Suicide Prevention Program, hosting a variety of important measures to reduce suicides and suicide attempts. This Suicide Prevention Program can be subdivided into ten important aspects, which are described below. (8)

One of the crucial aspects of the Suicide Prevention Program is the continuous collection of epidemiological data, which is essential for planning further interventions and should provide a source of information for the participating parties and the public.

Hotlines for better access to help for those in distress are a preventative measure endorsed in the Suicide Prevention Program and therefore should be established. As a variety of hotlines are provided by non-governmental organizations such as ERAN and SAHAR, sufficient state funding for these organizations is an integral part of suicide prevention. (8) The Israeli government itself has since established its own hotline, the 105-child protection hotline. (11,12) This hotline will be evaluated further later on in this section.

Another aspect of suicide prevention in Israel's Suicide Prevention Program is the gatekeeper training. This training is designed to equip individuals with knowledge and tools for early identification and localization, as well as the referral to treatment of those at risk of suicide. Additionally, the program is thought to raise awareness of suicide in the community. Gatekeepers should be individuals in contact with those at risk, hence, the National Suicide Prevention Program suggests, for example, training teachers, educational staff, and those in contact with adolescents, as well as those in contact with the LGBTQ community. (8) The gatekeeper's primary function is to start an initial contact and to refer those in need to treatment. In Israel, the gatekeeper trainings are organized in accordance with the Question-Persuade and Refer (QPR) model. This training model provides a comprehensive education on different aspects of suicide, including triggers and risk

factors. It further provides the participants with tools and concepts for risk assessment and includes a simulation of the learned intervention techniques. (13)

Due to the great importance of therapeutic intervention for those at risk, the Suicide Prevention Program has dedicated two aspects to it – training professionals and therapeutic sequencing. The program suggests establishing educational psychologists specializing in assessing individuals at risk and performing therapy on an emotional level to promote the well-being of children and adolescents. Therefore, it was recommended to train psychologists specializing in suicide prevention, who are to be placed throughout the health care system. On the other hand, social workers should be employed in governmental hospitals on psychiatric wards for better patient support. There should also be social workers available that are multilingual, especially for the Ethiopian citizens.

Creating a therapeutic sequence is another major aspect of the Suicide Prevention Program and includes identifying, diagnosing, and treating individuals at risk. Therefore, better referral to treatment is needed. The Suicide Prevention Program thus calls for a good organization between the participating bodies to prevent treatment dropout.

Suicides in close proximity can be a risk factor for suicide and suicide attempts.(14) Hence, another main aspect of the Suicide Prevention Program is facilitating effective assistance for bereaved relatives. Therapeutic assistance should be provided to these individuals. Stations and support centers with staff trained in bereavement and grief are to provide said assistance.

A further aspect of the National Suicide Prevention Program is education of adolescents – a risk group for suicide. Therefore, the “choosing life” program should be started throughout the Israeli schools. The program focuses on the topics of suicide as well as distress and crisis situations and should be established in the middle and upper schools. This program is thought to facilitate dialogue with the students as well as provide help and coping strategies for those in distress and educate on protective factors and prevention strategies. The program should be held by an education staff member, for example, a teacher, in cooperation with a mental health specialist.(3,8) Furthermore, the program has a preventative aspect, teaching the students gatekeeping strategies. (13)

In the light of modern-day media use, an additional main prevention strategy in the National Suicide Prevention Program is online prevention. (8) A crucial medium for online prevention is the 105 hotline – a multi-ministry hotline for children and adolescents. The police force operating the hotline provides around-the-clock help and risk assessment for children. The hotline does not only focus on the prevention of suicide but also focuses on violence and cyberviolence against children and adolescents. The calls are subdivided by topic and referred to the appropriate partner (Ministry

of Public Security, Ministry of Education, Ministry of Social Affairs, Ministry of Health, or Ministry of Justice) for better specialized care. In case of need for further aid and treatment, the children can be referred to treatment facilities or community outpatient treatment centers. If there is an immediate risk to a child, an emergency procedure can be started, and police units can be sent to the location of the child. Furthermore, the parents or caretakers of the child/adolescent can be contacted if deemed necessary. (11,12)

Another main aspect of suicide prevention in Israel is the reduction of access to weapons and other suicidal means. The program focuses on limiting access to certain means of suicide but also on the elimination of certain hazards. One of the means that might be used for suicide is prescription and over-the-counter drugs. This is why the government recommends limiting the packaging size of certain drugs, such as acetaminophen.

The last part of the National Suicide Prevention Program focuses on the organization of the Suicide Prevention Program, which is specified in more detail in the next section. (8)

Even though media are an important aspect of suicide prevention, mandatory guidelines were not included in the Suicide Prevention Program. Nevertheless, the government has published media guidelines containing recommendations in 2021. These guidelines entail a list of recommendations on what and how to publish - that can be divided into negative and positive reporting aspects.

It advises to refrain from negative reporting, such as very dramatic and sensational reporting, detailed reporting, one-dimensional reporting, as well as glorification. It is furthermore recommended not to print stories about suicides on the front page and not to use detailed pictures of the scene. Another important aspect of the guidelines is the advice not to use myths about suicide in reporting. (7)

On the other hand, positive reporting aspects are named in a publication made by the Israeli government in 2023. Reporting on suicide should therefore entail information on support facilities, name risk factors to raise awareness, and include interviews with a mental health specialist. Additionally, it is advised to use appropriate language in reporting on suicide and suicide attempts.

The publication does also entail a list of main warning signs and names special things to keep in mind when writing, for example, that support might save lives. (15)

7.3. Israel - Government Recommendations

Besides their Suicide Prevention Program, the Israeli government has published suicide prevention recommendations subdivided into primary, secondary, and tertiary prevention. These

recommendations have been published as an informational source for the public and health care professionals.

Primary prevention focuses on the prevention in the community and includes all members of the community – also those for whom secondary and tertiary prevention is applicable.

Recommendations further entail gatekeeper trainings corresponding to the National Suicide Prevention Program. This is a training intended to train individuals in the early identification, localization of those at risk of suicide, and referral to treatment using the Question-Persuade and Refer (QPR) model. (13)

Furthermore, the primary prevention recommendations focus on schools and students, namely the "choosing life" program, a program established by the government in the National Suicide Prevention Program discussed earlier.

While the National Suicide Prevention Program focuses primarily on reducing access to drugs as a lethal means, the published recommendations go into more detail on the prevention of access to other lethal means. One of these lethal means, according to the Israeli government, is firearms. This includes new laws on the ability to possess a weapon, for example, by more detailed background checks and protocols for safe storage. Access to weapons for underaged individuals should also be screened. As the Israeli Defense Forces have greater access to weapons than the general population, access restrictions are regulated by the Suicide Prevention Program of the Israeli Defense Forces, which is described in more detail later. Jumping sites like bridges and high buildings should be mapped and "hot spots" identified. Said "hot spots" should then be secured by setting up barriers like fences and walls, and by setting up surveillance cameras. Furthermore, signs signing to seek help should be put up at "hot spots." Another mean of suicide are chemicals, especially household chemicals. Therefore, the Israeli government also recommends warning labels for chemicals as well as restricting access to these chemicals, especially at home. A further measure recommended for suicide prevention is licensing safer alternatives to these household chemicals. On the other hand, the recommendations also focus on drug access and recommend limiting package sizing. In more detail, the government additionally recommends storing drugs in a manner that restricts access for unauthorized household members for suicide prevention purposes. Physicians should thus also be trained to assess the suicide risk of their patients before handing out prescription drugs. (16–18)

As a further primary suicide prevention measure, the government published available hotlines. These include non-governmental hotlines like the SAHAR and ERAN hotlines with trained personnel that can be contacted in case of distress but also the governmental 105 hotline that will be discussed in more detail later on. (19)

Early detection of at-risk individuals is furthermore recommended by the Israeli government as a primary prevention strategy. Therefore, self-reporting questionnaires should be available and filled in at schools, at the general practitioner's office, as well as at institutions working with at-risk individuals, such as the elderly. Recommended questionnaires are Ask Suicide-Screening Questions (ASQ), the Columbia Suicide Screen (CSS), and the P4 Screener. Additionally, social media screening is recommended to find at-risk individuals. (18)

The secondary suicide prevention recommendations focus on reducing suicides and suicide attempts among individuals at risk, like those with a mental health condition such as depression.

To reduce the burden of mental health conditions, different types of psychotherapy are recommended to individuals with a mental health condition. These therapies are cognitive behavioral therapy focusing on thinking patterns, behavioral therapy, interpersonal psychotherapy, psychodynamic treatment, acceptance and commitment-based therapy, integrative psychotherapy, as well as group therapy. (20)

The tertiary prevention recommendations focus on individuals who have already committed a suicide attempt and on individuals residing in communities with very high suicide rates.

This type of prevention also focuses on recommendations for psychotherapeutic approaches such as dialectical behavioral therapy, mentalization, group therapy, cognitive behavioral therapy, and family therapy. Unlike the secondary prevention, the tertiary prevention recommendations also include short-term interventions in the emergency room for better outcomes of the initial treatment. Emergency rooms are recommended to provide the individuals treated there short-term with coping skills for times of suicidal thoughts. (21)

7.4. Organization of the Israeli National Suicide Prevention Program

Suicide prevention involves various levels of care and a diverse population of at-risk individuals. Therefore, suicide prevention is a team effort in need of an appropriate organizational structure. As can be seen in Fig. 1, the organizational structure of the National Suicide Prevention Program is very complex. The main leader of the Suicide Prevention Program in Israel is the Ministry of Health. They work in cooperation with several partners. These partners can be divided into three subcategories: ministries, executive authorities such as the police and local authorities, and others like non-governmental organizations and research programs.

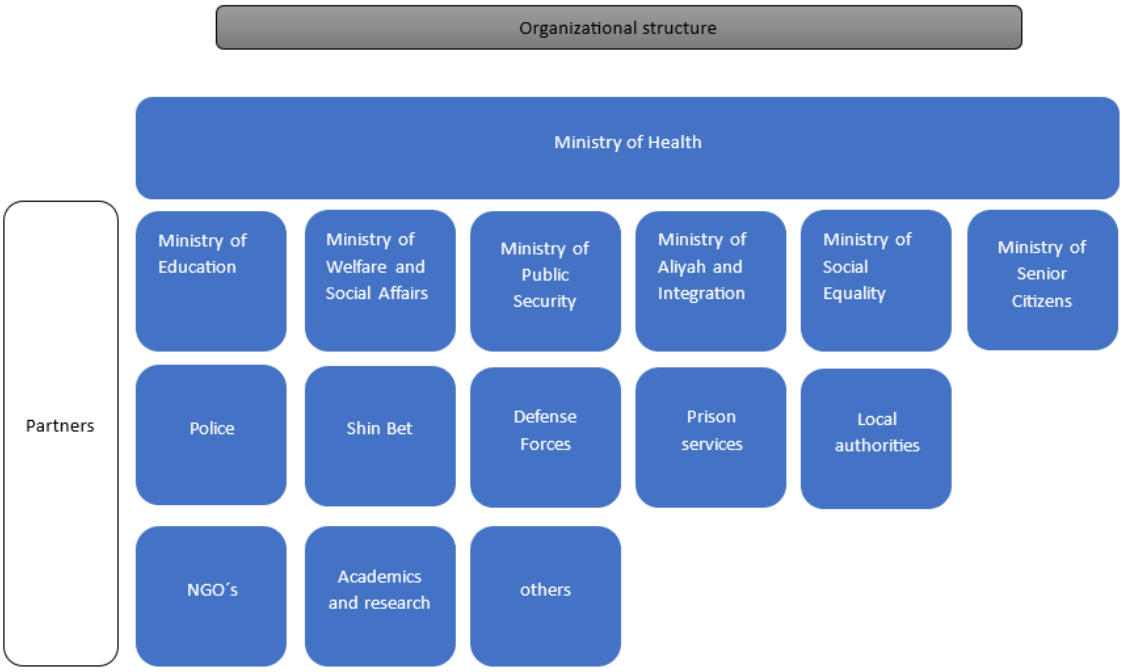

Fig.1 Organization of the Israeli suicide prevention program

As can be seen in Fig. 2, the Ministry of Health and the other partners participate in various work groups with distinct goals. Said designated work groups are the Suicide Prevention Unit, the Broadened Interministerial Steering Committee, the National Suicide Prevention Committee, as well as the National Council for the Prevention of Suicide.

The Suicide Prevention Unit is an internal unit at the Ministry of Health that works on the development and implementation of the Suicide Prevention Program. They are furthermore responsible for maintaining an effective interministerial cooperation.

On the other hand, the Broadened Interministerial Steering Committee consists of members of the Ministry of Health as well as several other ministries. Particularly, the Committee focuses on creating suicide prevention plans and work processes.

The National Suicide Prevention Committee consists of members of the Ministry of Health and other ministries that work on developing policies, approving work plans, and controlling the process of the implementation of the Suicide Prevention Program.

Finally, the National Council for the Prevention of Suicide consists of members of the Ministry of Health, other ministries, as well as other partners involving mental health professionals, researchers, and academics. The council serves in an advisory manner. (8,22)

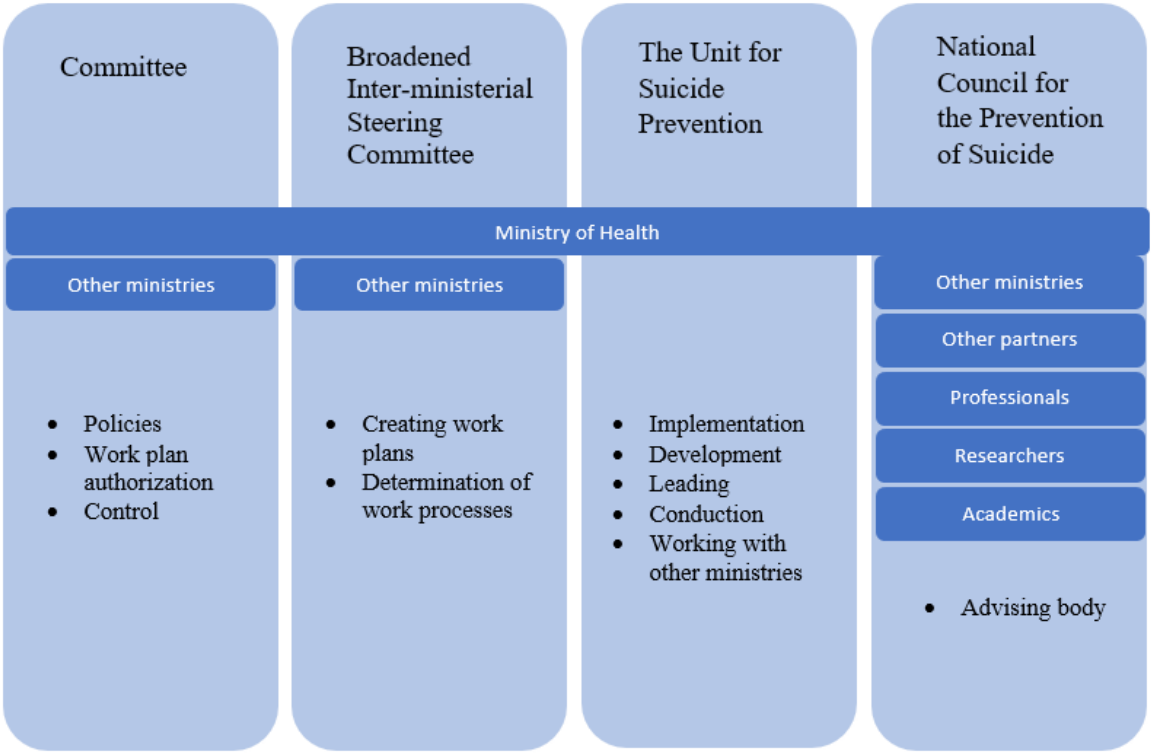

Fig. 2 Jurisdiction of the participating parties of the Israeli National Suicide Prevention Program

7.5. Israel - Local Suicide Prevention

Suicide prevention should strive to achieve the highest possible impact and level of prevention. Therefore, a variety of different local suicide prevention undertakings can be found in Israel. To reach a broad population, these focus on different aspects of life and/or risk factors.

In Israel, there are two major organizations focusing on suicide prevention. These are ERAN and SAHAR.

ERAN is an emotional first aid organization. Individuals in need have the possibility to contact the organization via their telephone hotline, which is available 24 hours, 7 days a week, or via an online chat line. Furthermore, the ERAN organization provides special telephone hotlines such as the Holocaust survivor hotline and an online forum. ERAN works with trained volunteers who are able to assess and refer clients to mental health specialists as needed. It is also possible to contact ERAN if one is looking to get information and/or assistance for others. (23,24)

SAHAR is a nonprofit organization that focuses solely on online chat assistance for individuals struggling with suicidal ideations. In addition, the chat lines can be contacted in case of acute distress and crisis situations. 250 trained volunteers provide crisis management around-the-clock, in Hebrew and Arabic. The volunteers are supervised by mental health specialists. In addition, SAHAR has an outreach program on social media. This program focuses on contacting individuals

who post about suicidal ideations online. Said individuals are thus offered to contact SAHAR via their chat line for further help. (25)

On SAHAR's homepage, individuals in need can also find online self-help resources and self-help group chats. It is also possible to contact SAHAR if one is looking to receive information and/or assistance for others. (23,26)

Additionally, there are religious organizations such as Lanefesh Tidreshaynu, which is an organization focusing on suicide prevention for ultra-orthodox citizens. The organization provides a free telephone hotline that is available 24 hours, 7 days a week, offering emotional support as well as mental first aid. Lanefesh Tidreshaynu is supported by the Ministry of Health and approved by religious authorities. Another religious organization is Bat Kol, which focuses on the orthodox lesbian community. The organization arranges meetings and various other activities aimed at building a social support system for its members. (27)

Several hospitals in Israel participate in local suicide prevention and can therefore be contacted with or without a referral from a practitioner by individuals in need. (28)

A variety of governmental authorities furthermore provide local suicide prevention services. One of these is the Ministry of Welfare. The ministry has an emergency call center, which can be contacted around-the-clock. Individuals seeking help as they are personally affected by suicidal ideation can contact the call center. Social workers and first responders, such as the local police, can be involved and sent to the callers' address as deemed necessary by the call center operator. Additionally, the emergency call center also provides information and help for people seeking help for friends or family members affected. The local welfare departments can also be reached via the telephone hotline 106. Specially trained social workers as well as welfare officers work continuously, taking calls from clients in acute crisis situations. There are moreover specially trained social workers available for adolescents as well as for the elderly population.

The Ministry of Aliyah and Integration offers mental health support to new immigrants in distress. Help is offered to every immigrant over the age of 18 in Russian, Amharic, French, Spanish, as well as English. The ministry offers specialized tools and support for handling the stressful transitions and may refer the person in need to mental health professionals for further treatment and prevention. (29)

Every death, whether suicidal or non-suicidal, leaves behind grieving loved ones. For this purpose, Israel has several resources dedicated to those bereaved. The Ministry of Welfare and Social Security operate several centers, such as the Rashvil Haahayim and the Ella center, offering support

to bereaved individuals. For better approachability, these centers are also equipped with telephone hotlines. Furthermore, the centers offer individual therapy, family therapy as well as group therapy. As grieve is an individual process, one can also receive spiritual help or participate in different group activities. If needed, the centers have a legal department for assistance with legal matters. (30)

Being part of the LGBTQ (Lesbian, Gay, Bisexual, Transsexual/Transgender, Queer) community is associated with an increased risk of suicide. (31) In Israel, several organizations work locally in this field of suicide prevention. The organization "The Aguda," for example, has an LGBTQ task force, psychological counseling and if required legal counseling. Furthermore, those in need can find help and support via their telephone hotline and a WhatsApp chat line. Additionally, the organization offers emotional therapy as well as psychological counseling at an affordable price. They further provide help to family and friends of a member of the LGBTQ community. Assistance is offered via their telephone hotline, where workers are able to provide information on life as an LGBTQ member as well as gender and sexual identity issues.

Other organizations are the Israel Gay Youth, providing education on LGBTQ community problems, and Ma´avarim, a hotline focusing on personal empowerment and support as well as promotion of personal growth for members of the LGBTQ community. The non-governmental organization Havruta, on the other hand, pays special attention to acceptance of the LGBTQ community in the religious setting. Consequently, they focus on the integration and advocating for equal rights for members of the community. A special emphasis is placed on the support of LGBTQ men and their families.

The municipality of Tel Aviv has an LGBTQ community center, which also works to prevent suicide by organizing activities and events to generate a sense of community and belonging. Moreover, the center hosts initiatives to promote the acceptance of the LGBTQ community. Personal assistance as well as counseling is possible for members of the LGBTQ community struggling with mental health conditions, who therefore might be at risk for suicide. Furthermore, social workers work at the center, and the center works with support centers and treatment clinics as needed.

The Proud House- Beer Sheva and the South is an organization promoting inclusion and fighting LGBTQ-phobia. Support is also provided to the members of the community as needed. (32,33)

A diverse population has immigrated to Israel, one of the main groups being Ethiopians. Due to religious reasons there is an immigrated Ethiopian minority called "Beta Israel". Immigration is linked to change – in the environment, in language, in culture, etc.- which are risk factors for

suicide and make immigrants a vulnerable group for suicide prevention. (34,35) To address these special circumstances as well as to overcome the language and cultural barrier, several organizations in Israel focus on providing support to Ethiopian immigrants. The Ministry of Aliyah and Integration has thus joined forces with the non-governmental-organization ERAN and built an organization called New Olim. New Olim is a culturally and linguistically adapted hotline focused on suicide prevention for Ethiopian immigrants.(36)

Another organization specializing in suicide prevention among Ethiopian immigrants is Tene Briut, which is a non-governmental organization providing a telephone hotline offering translation services for everyday needs. Furthermore, the organization provides support in obtaining medical services. Milam is also a family counseling center operated by ENOSH – the Israeli mental health association. The center offers support and mental health counseling. Additionally, they provide information and guidance to the individual in need as well as to family members of an immigrant with a mental health condition. ENOSH moreover stands for the rights and well-being of psychologically disabled individuals.

Providing psychiatric rehabilitation services, the Eychut BaShikum Association works with mentally challenged immigrants in need of assistance. A particular emphasis is placed on the inclusion of immigrants with mental health conditions. The organization additionally offers support to family members of said individuals.

There are many more organizations providing aid to immigrants struggling with their mental health and suicide. One of these is the Yahel centers, which are counseling and guidance centers that also provide special help to family members of suicidal Ethiopian immigrants. Another organization is Yadid Nefesh, a mental health rehabilitation service providing sheltered housing to Ethiopian immigrants. They work with Ethiopian counselors and staff to ensure optimal suicide prevention. Last but not least, Wuste Tzega is a psychotherapy center diagnosing, counseling, and treating Ethiopian citizens in need of help.(37)

Besides Ethiopians, several other foreign nationals have immigrated to Israel, some of the immigrants being statusless individuals. Hence, the Ministry of Health has founded a psychological education service in cooperation with the Meuhdat HMO. Together, these two have founded a psychological education service. The service focuses especially on children and is provided via the schools the child visits. In the aspect of suicide prevention, they perform a risk assessment of the child, talk to, and give guiding advice to parents, as well as provide short-term or long-term care as needed.

One further organization focusing on foreign nationals is the Mesila. Mesila identifies families and children at risk and provides support and guiding care to these families through group or individual assistance. Furthermore, the organization has tutors for the children and workers specializing in the guidance of parents as needed.

Unitaf is an organization specializing in children under the age of 6 and on statusless individuals. To help with everyday life, they have a daycare center, an afternoon care center, as well as a nanny service. Parents are supported by a social support system as well as by pedagogic training as far as they are interested in this offer.

There are several more organizations focusing on foreign nationals and statusless individuals, such as Assaf, Terem, the Gesher Clinic, the Ruther Clinic, and many more. The Assaf organization focuses on psychological and legal support, while Terem provides medical services to refugees and individuals that identify as statusless. On the other hand, the Gesher Clinic and the Ruther Clinic provide psychological as well as psychiatric treatment to foreign nationals and statusless individuals in need.(38)

A variety of different life situations may be a risk factor for suicide, which is why different organizations are specialized in providing help in these situations. One of these organizations is NATAL, a non-governmental organization with a trauma and resilience center providing psychological services to individuals after trauma coping with terrorism, catastrophes, and war. The center provides a hotline and a chat line. As needed, patients can be referred to further professional psychological services. Family members of individuals in need of assistance after trauma may also contact the center.

Victims of rape are accompanied by the Association of Rape Crisis Center, which has nine aid centers in Israel. In addition to providing emotional support to the victims, the center works on raising awareness and thereby also combating sexual violence. Victims can reach the center 24 hours, 7 days a week, via their hotline, a chat line, or their WhatsApp chat line.

Letsidchem, a psychological support center, was created especially for suicide prevention in men. The psychological support center is a center for treatment and rehabilitation by support and counseling - focusing on male victims of violence, especially physical, sexual, and emotional violence. Lawyers and social workers work with men who were victims of abuse and fathers navigating a divorce.

Special family support is provided by a variety of organizations, many of which have already been mentioned. These are, for example, Milam, the Eycherut BaShikum association, Yadid Nefesh,

ERAN, and SAHAR. Furthermore, other organizations that have not been mentioned yet participate in local family-focused suicide prevention, such as the Ezer Mizion Association, which offers support and counseling for patients and their families. The association also focuses on the elderly and those in crisis. Another organization working with families in need is Hayruta, which specializes in family support for individuals of the LGBTQ community. Likewise, focusing on the families of the members of the LGBTQ community is the organization TEHILA, offering support and education. They furthermore provide a hotline for parents after the outing of their child conducted by volunteers who have experienced the outing of their child.

As a language barrier may be a barrier to seeking help, there are two organizations focusing solely on the Arabic-speaking community. These are Omanut Hashikum, a vocational rehabilitation center also providing legal advice, and Tiferet Bait Ham, a family counseling center.

7.6. Israeli Defense Forces Suicide Prevention Program

Israel has a mandatory military service period for young men and women. The periods differ by gender. Men serve a 3-year period while women serve a 2-year period, during which a basic training is absolved. When entering the military, the recruits are faced with many new challenges and possibilities, such as emotional stress, crises, and forming a self-identity. Furthermore, those serving in the military obtain access to weapons. As the mandatory military service is a time of change and the population included mostly consists of adolescents and young adults, there is a high risk of suicides and suicide attempts. To prevent suicides, the Israeli Defense Forces have developed a Suicide Prevention Program, which was implemented in 2005 and redefined in 2006.

The Suicide Prevention Program of the Israeli military defense force consists of four main points: reducing access to weapons, change in procedures and commands, psychological education, and providing in-unit mental health officers. Moreover, it involves two axes: the timeline and the population axis.

To reduce accessibility of weapons, physical access during times when soldiers are off base is restricted. Therefore, the prevention program states that every soldier must place his weapon in a locked storage when not in use, for example, if off base. This does not only grant no access of the weapon to him but also to others.

Procedures and commands were adapted in the Israeli Defense Forces' Suicide Prevention Program. In addition, the prevention program emphasized the responsibility of soldiers for one another. Therefore, more responsibility for the soldiers and their lives is also placed on commanders.

Guidelines for mental health officers were established. These included guidelines on the referral to a mental health officer as well as guidelines on the interaction of a mental health officer with a soldier in distress. This entails information on how to interact with soldiers in distress. Guidelines on how to initially assess soldiers and on referring them to further specialized psychological help were introduced. In addition, the Suicide Prevention Program regulates the transfer of medical records and the establishment of a computer-based system for easy access to medical and psychological data from different bases as needed.

Another aspect of the Suicide Prevention Program is the psychological education, focusing on implementing responsibility that is mutual in nature. Commanders are educated on the reduction of stigmatization of mental health conditions as well as suicide. Additionally, they are taught how to educate their soldiers on taking responsibility for their own lives and the lives of their peers. For further destigmatization and for easier access to consultations, mental health officers are located on base. These are highly trained professionals that are able to identify and treat soldiers struggling with a mental health condition and thereby prevent suicide. In addition, the mental health officers work with commanders to identify said at-risk individuals and, as needed, refer them to a psychiatric hospital. The Israeli Defense Forces use a psychoeducation program called “there is a way” which focuses on training soldiers as well as commanders on the detection and identification of at-risk individuals. Besides at-risk individuals, the program also offers training on identifying soldiers in distress. The training also includes information and guidance on further interviewing and gathering information on said individual. Furthermore, the soldiers are educated on how to proceed further– to contact and inform the commander or the mental health officer. Mainly, the aim of the program is to establish a dialogue between the soldiers and commanders and to destigmatize.

For a more efficient suicide prevention work, the mental health officers were placed in the units. This helps them get familiar with the individual soldiers and commanders and therefore also have better access to the soldiers. Their presence within the unit further increases the awareness for mental health conditions as well as for the prevention of suicide, while concurrently reducing stigmatization.

In general, these main points were subcategorized into two axes, namely the timeline and the population axis. The timeline axis involves closer monitoring of soldiers during stressful phases of training like the first 6 months, the final 6 months, as well as before discharge from the mandatory service, as these periods are known to be critical time periods of suicide. These periods are especially critical periods during which soldiers go through a lot of change, such as changes in lifestyle and family relations, facilitating the need to adapt. Hence, internal guidelines on identifying soldiers at risk were introduced.

On the other hand, the population axis focuses more closely on monitoring certain groups of soldiers at risk of suicide. These are, for example, immigrants and other minorities. Therefore, these soldiers have more access to psychological help during stressful life periods such as those mentioned above. The program also emphasizes gatekeeper trainings for soldiers, who thereby acquire knowledge on the risk population. Individuals belonging to the at-risk population receive special psychoeducation. (9)

7.7. Suicide Rates and Models of Suicide Prevention

Suicide is a prevalent problem, not just in Israel. To analyze and put the data into perspective, different time frames and different countries data will be compared in this section. Countries chosen are Canada, Austria, and Lithuania. Canada was chosen due to a similar GDP per capita, and Austria due to a similar population size. Lithuania has a high suicide rate and until 2024 had the highest suicide rates in Europe, therefore, the suicide rates were also compared. (39–44) Table 1 shows the suicide mortality rate per 100,000 population from 2012 to 2019. It also records the implementation of the suicide prevention program in the country in color.

According to the International Association for Suicide Prevention, 703,000 individuals die by suicide worldwide each year, making it the fourth leading cause of death among the population of 15–29-year-olds. (45) The data from 2019 shows worldwide suicide rates of 9.2 per 100,000 population. (46) In Israel, every year, 500 individuals commit suicide while 6,000 attempt it.(47) The most recent suicide rates from 2019 show a rate of 5.3 per 100,000 population. (4)

As can be seen in Table 1, suicide in Israel initially declined after the implementation of the National Suicide Prevention Program in December of 2013 (marked in red). Even though there was an initial decline from 2013 with 5.2 per 100,000 to 4.5 per 100,000 in 2015, suicide rates increased between 2015 and 2019. Comparing the suicide rates before the implementation of Suicide Prevention Program in Israel in 2012 with the rates in 2019, one can see a decline of 0.8 per 100,000 from 6.1 to 5.3, respectively.

On the other hand, an overall decline in the suicide rate per 100,000 from 2012 to 2019 in the world from 10.2 per 100,000 to 9.2 per 100,000 capita can be recognized.

When taking a closer look at the suicide mortality rates in the countries listed in Table 1, one can also notice a decline in suicide rates after the implementation of the suicide prevention programs (marked in green). Suicide rates in Lithuania and Austria have steadily declined after the implementation of their suicide prevention programs in 2012 and 2016, respectively (49, 50).

On the other hand, suicide rates per 100,000 in Canada have initially increased after the implementation of their Suicide Prevention Program in 2012 however have also decreased overall. (50)

Table 1 Suicide mortality rates 2012-2019 in different countries including Israel (4, 47, 52–54)

	WORLD	ISRAEL	CANADA	LITHUANIA	AUSTRIA
2012	10.2	6.1	**11.9**	35	**16.3**
2013	10	**5.2**	12.1	40.5	16.2
2014	9.7	5.1	12.7	35.6	16.5
2015	9.5	4.5	13	34.9	16
2016	9.3	5.2	11.9	**32.8**	15.5
2017	9.2	5.1	13	29.7	15.4
2018	9.3	5.4	12	27.4	15.7
2019	9.2	5.3	11.8	26.1	14.6

Subdividing the suicide rates by gender, one can notice a difference. The suicide rate for males in Israel in 2019 was 8.4 per 100,000, while the suicide rate for females is 2.3 per 100,000 per capita. A similar picture can be seen in the compared countries. (55, 56)

As shown in Fig. 3, in 2019, Israel had the lowest suicide mortality per 100,000 when comparing it to the world, Canada, Lithuania, and Austria. Furthermore, Fig. 4 shows that the suicide mortality rate has been lower in Israel than in the compared countries over the years - from 2012 to 2019.

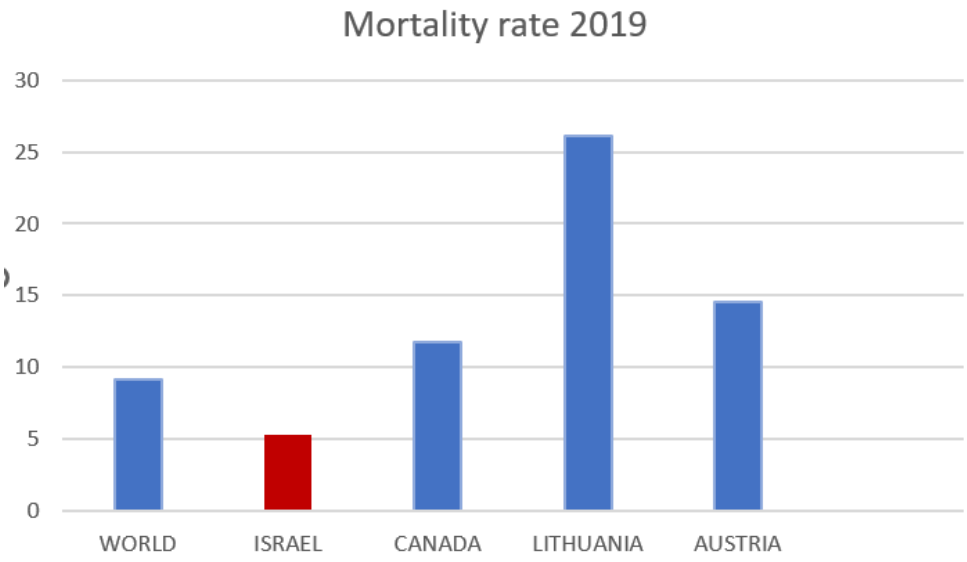

Fig.3 Suicide mortality rates 2019 in different countries including Israel

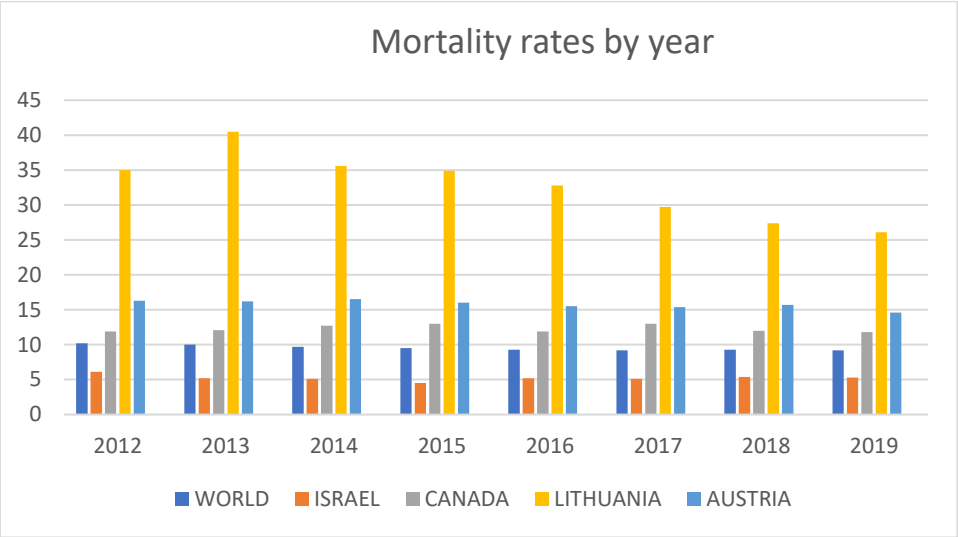

Fig.4 Suicide mortality rates 2012- 2019 in different countries including Israel

Every country has its own model of suicide prevention.

Israel's Suicide Prevention Program consists of ten main domains. The first is the collection and publication of epidemiological data. Further, Israel has hotlines and online prevention programs focused on help in times of crisis. A therapeutic order and treatment for those in need are an essential part of the Israeli Suicide Prevention Program and governmental recommendations. These basic aspects are also implemented in the suicide prevention programs of Canada, Austria, and Lithuania.

Gatekeeper trainings are a domain of the Israeli prevention program as well as that of Austria and Canada. Lithuania, however, does not have gatekeeper trainings but recommends other trainings in their prevention program.

Training of professionals as well as reducing access to lethal means are advised by the Israeli, the Austrian, as well as the Lithuanian (mainly alcohol) prevention program, however, not by the Canadian program. Moreover, special programs for schoolchildren are only recommended in Israel and Canada. Solely Israel advises the assistance of those bereaved.

On the other hand, the other countries focus more on raising awareness and research, and Canada and Austria have focused on implementing media guidelines in their suicide prevention program – which in Israel have been published as a recommendation. Canada has further specified detailed measures to raise awareness and reduce stigmatization. (8, 49–51, 57)

7.8. Suicide prevention current status

Between May and October 2019, the Israeli State Comptroller's Office carried out an official examination of the current status of the national suicide prevention in Israel. It was found that

suicide rates had declined by 13% between 2012 and 2017. However, suicide remains the second leading cause of death in adolescents.

Looking at the Israeli Defense Forces Suicide Prevention Program, the State Comptroller's Office found that suicide within the Israeli Defense Forces had decreased by 75% between 2006 and 2018. These results are thought to be due to the establishment of the suicide prevention program in the defense forces.

Focusing on the National Suicide Prevention Program, the examination showed that 71 out of 255 local authorities had established and therefore were involved in the program in 2019. The examination further inspected different elements of the implementation of Suicide Prevention Program, such as budgeting, interdisciplinary cooperation, implementation of different regulations, and aspects of the implementation within different ministries.

For the suicide prevention, a budget is needed, which was regulated by the Ministry of Health according to the suicide prevention plan. When examined, it was found that the budget for suicide prevention was cut by 54% and redistributed to other projects.

Many parties, especially ministries, are involved in the suicide prevention, such as the Ministry of Health, the Ministry of Social Affairs, the Ministry of Education, and the Ministry of Aliyah and Integration. Therefore, the cooperation between the ministries was an essential part of the analysis by the State Comptroller's Office. However, ministries were found not to be collaborating in preventing suicide. Furthermore, the Ministry of Health has made important decisions on suicide prevention without consulting other partner ministries, and no strategies for interministerial processes had been established or planned in 2019. Overall, first actions were taken two years after the initial decision on the implementation of the National Suicide Prevention Program.

On the other hand, different teams and committees have been founded. The Suicide Prevention Committee (as previously shown in Fig. 2) meets bimonthly, discusses, and records their interaction in the form of protocols. Furthermore, the Committee has made important recommendations. The National Suicide Prevention Committee continuously works on ensuring new knowledge and on finding new prevention strategies. Between 2016 and 2019, the Ministry of Health has implemented 18 out of 67 recommendations made by the Committee. These recommendations involved reducing the packaging size of medication, establishing a march for suicide prevention to attract attention and reduce stigma in the community, identifying telephone numbers (so-called caller IDs) in case the emergency centers are called, as well as several recommendations concerning the media guidelines.

The analysis by the Israeli State Comptroller's Office further focused on the implementation of regulations after the establishment of the National Suicide Prevention Program. According to the National Suicide Prevention Program, access to lethal means should be reduced – including weapons. Therefore, the regulations on licensing of weapons were analyzed and found to be insufficient. While a weapons license is only issued after handing in a certificate from the primary healthcare provider stating mental as well as physical health, questioning on suicidal ideations is not included. However, physicians, psychologists, and psychiatrists are mandated to report patients with suicidal ideation and a licensed weapon. The regulations were found not to be sufficient in preventing suicide, and further specifications are therefore needed. On the other hand, the National Suicide Prevention Program specifies the collection and publication of suicide data. In the report from 2019, it was found that data on suicide is published every second year. The data published is subdivided by age, date in years, gender, specific group in the population (e.g., elderly, adolescent, immigrants, etc.), marital status, method, geographics, etc. However, the State Comptroller's Office found that according to different studies, suicide rates are underestimated on death certificates by 30%. This may be due to stigma, for insurance purposes, per the wish of the families, or due to a lack of information on the case by authorities. For this reason, the Suicide Prevention Committee has recommended to work on a plan to improve reporting of suicides by improving the knowledge of police officers, the interdisciplinary work between forensics and the police, as well as establishing online death certificates. According to the National Suicide Prevention Program, for better treatment, a therapeutic sequence should have been established. However, the sequence has not been established until 2019 due to problems in the interministerial work, for example, between the Ministry of Education that finds a student at risk for suicide and the Ministry of Health that does not have psychological help available. Another aspect of the Suicide Prevention Program was to establish a research unit, which also has not been implemented until 2019.

Local prevention programs, however, have been found to be of great value by the State Comptroller's Office. Especially ERAN and SAHAR were found to be very important in the prevention of suicide and helping individuals in need – with ERAN receiving about 550 calls per day specific to suicidal ideation.

The analysis further focuses on individual ministries. Focusing on the Ministry of Education, the Shafi unit initiated suicide prevention in schools and on school grounds. Therefore, brochures were created and distributed to the students, professional workshops were held for those working with adolescents, as well as a better cooperation with non-governmental organizations working in suicide prevention was established. A letter on suicide in children and adolescents was distributed in 2004. In 2019, the Shafi unit was working on a renewed version to redistribute, which is in accordance

with the prevention strategies named in the National Suicide Prevention Program. On the other hand, no other units of the Ministry of Education have created suicide prevention strategies. Data on suicide attempts in students have been collected, but in 2016, the inspection of completed suicides and suicide attempts in students by the Ministry of Education has been stopped. Gatekeeper trainings for students and educational staff had been started. By 2019, only about 12,500 individuals were trained, with only about 7% of teachers and 0.3% of students trained. Between 2014 and 2018, 84 authorities had participated in gatekeeper trainings. No gatekeeper training for parents had been established by 2019, and no further training possibilities to refresh knowledge had been established. In Israeli schools, educational advisors are employed who have a basic training in suicide prevention. The training of educational advisors, who work in guiding teachers in stressful situations and in crises, started in 2014. By 2019, 5,500 advisors were employed. As educational advisors are trained by local authorities, the extent of their training is unknown to the government. Furthermore, the Ministry of Education has started a pilot study of the "choosing life" program. This pilot study identified 83 students from 945 participating students at risk for suicide. The report from the State Comptroller's Office stated that it was planned that by the year 2021, 228 classes would participate in the program.

Another ministry that was inspected by the State Comptroller's Office is the Ministry of Social Affairs. The ministry has named a head of the Department of Loss and Grief who participates in interministerial meetings. Furthermore, this coordinator was responsible for the implementation of a Suicide Prevention Program for those in need of assistance after the death of a loved one who died by suicide, in a traffic accident, etc. However, this program was discontinued in 2020 due to insufficient budgeting. In January 2020, the Ministry of Social Affairs reported to be working on a platform to interconnect different local organizations working in suicide prevention. No suicide prevention strategies for other risk groups, such as the LGBTQ community as well as elderly individuals, were ever established. Furthermore, data on suicide in those bereaved was not collected by the ministry. The Ministry of Social Affairs had not established gatekeeper trainings by 2019. However, local authorities were trained in suicide prevention. From 2014 to 2018, about 22% of authorities had received trainings (in 1,337 of 6,200).

Analyzing the Ministry of Aliyah and Integration, it was found that no suicide prevention services were offered, no gatekeeper trainings had been implemented, and no data on suicides and suicide attempts among immigrants had been collected. The ministry's staff was trained by local psychological professionals once in 2013, but no further training to refresh the knowledge had been carried out.

All in all, it was concluded that the ministries do not give priority to suicide prevention internally. Most elements of the Suicide Prevention Program have not been implemented, and there are major problems with interministerial communication and budgeting. A comprehensive overview of the results of the examination of the State Comptroller's Office can be seen in Table 2 below. (57)

Table 2 Israeli National Suicide Prevention Program - overview examination of the State Comptroller's Office (8,57)

Prevention program	**Implemented**	**Not implemented**
1.Epidemiology and data collection	- Data is collected and published every 2 years	- Not every ministry collects specific data
2. Hotlines	No data	
3. Gatekeeper trainings	- The Ministry of Education has implemented gatekeeper trainings (7% of teachers and 0.3% of students)	- No gatekeeper trainings in the Ministry of Social Affairs and Ministry of Aliyah and Integration (only other trainings) - Not enough training in ministries (no refresh trainings, small number of staff trained)
4. Training for professionals	No data	
5. "Therapeutic Sequence"		- No therapeutic sequence has been established due to interministerial problems
6. Assist affected relatives		- The program created by the Ministry of Social Affairs was stopped in 2020

Table 2 Israeli National Suicide Prevention Program - overview examination of the State Comptroller's Office (8,57) (*continued*)

7. "Choosing life" program	- A pilot study with 945 students was carried out	
8. Online prevention	No data	
9. Reduce access to weapons	- Regulations on licensing of weapons are in place	- No questioning on suicidal ideation is required to acquire a license
10. Organization	- Suicide Prevention Committee works well	- Other bodies, especially interministerial do not work well

7.9. Israel - Achievements in Suicide Prevention

Several articles have analyzed the achievements the National Suicide Prevention Program had on the Israeli population.

One study published by the Israeli government focused on analyzing death by suicide from 2011 to 2018, in which 12 different Israeli cities and one district were included. 8,603 potential suicides were analyzed, identifying 763 cases as suicide.

It was found that the rate of suicides among men was higher than among women, with men making up 78.2% of the reported suicides. The main age group was from 25 to 64 years of age. Further, 56.8% of suicides occurred among individuals that were not born in Israel. The main methods by which suicides were committed were hanging, strangulation, as well as jumping from heights. 26.1% of individuals had a known psychiatric condition, while 6.2% had a history of drug or alcohol abuse.

While looking at the reported suicide cases, the study found underreporting by the Central Bureau of Statistics and the forensics department. This is due to a lack of information and deaths being reported by the cause of death rather than the type of death by the forensics departments. The Central Bureau of Statistics, on the other hand, reports about 80% of suicides correctly. This is due to them merging different sources of information.

Furthermore, the Central Bureau of Statistics publishes data on suicide on an international level. Unfortunately, there is a delay in the transmission of information to the Central Bureau of Statistics, leading to the published information not being up to date.

Overall, a decrease in suicides was identified in the years before and after the implementation of the Suicide Prevention Program from 2012 to 2015. On the other hand, a slight increase in suicides was found between 2016 and 2018.

All in all, the study concludes that the information published is not comprehensive as well as not up to date.

To overcome these obstacles, the researchers recommend better interdisciplinary work to determine the cause of death as well as reporting of suicide by several institutes for a broader source of information.(58)

A comprehensive overview of death by suicide was published in November 2021 by the Israeli government. The published data showed a higher rate of suicides among men than among women. In 2019, 333 men and 95 women committed suicide, making it a total of 428 suicides. Furthermore, higher rates of suicide among immigrants, non-married individuals, and especially among those aged 75 years and older, were found. On the other hand, a downward trend in suicide mortality among young individuals (under the age of 15 as well as among 18-24-year-olds) was noticed. (59)

Israel's government has published a statement on the use of the Columbia Suicide Severity Rating Scale (C-SSRS) and the achievements made by using this questionnaire. The newsletter states that the questionnaire empowered the engagement about suicide and unified the system of analyzing individuals at risk via an evidence-based system. It has furthermore increased the detection rate of individuals at risk. Even though the screening tool is not universally used yet, Israel sees the opportunity to use the Columbia Suicide Severity Rating Scale as a screening tool in schools, governmental facilities, as well as in the military, and thereby hopes to act as a role model to other countries. (60)

A study from 2021 focused on the efficiency of suicide prevention in Ethiopian citizens and the achievements made. Therefore, the study compared suicide rates among Ethiopian immigrants with those of former Soviet Union immigrants, as well as Israel-born Jews in the years from 1990 to 2017. In general, suicide rates are higher among immigrants but are especially high in Ethiopian immigrants. Consequently, it was found that suicide rates among Ethiopian immigrants are higher than among the compared groups. The study further analyzed the causes of the high suicide rates among Ethiopian citizens and concluded that three major factors affect the suicide rates: cultural

differences and maladjustment, not making use of mental health services, as well as low social support. Educational differences are an additional risk factor for suicide, and the increase in Ethiopians receiving education has shown decreasing rates of suicide. All in all, it was found that suicide among Ethiopian immigrants declined between 1992 and 2017. On a governmental level, this is due to better integration, improved adaptation, and understanding of the Ethiopian culture, as well as better financial support for immigrants. On a local suicide prevention level, this decline is due to good support by non-governmental organizations. However, no sudden decrease in suicide rates in immigrants from the National Suicide Prevention Program can be seen. Concluding, the study suggests to integrate a specialized suicide prevention among immigrants, especially Ethiopians, into the National Suicide Prevention Program and to screen this population using the Columbia Suicide Severity Rating Scale (C-SSRS). (61)

Another study concentrated on the achievements made in the Israeli Defense Forces. It shows that the suicide rates have declined since the implementation of the Suicide Prevention Program in the Israeli Defense Forces in 2006. Therefore, a retrospective analysis of cohorts was carried out, comparing data from before the implementation (1992-2006) and after the implementation (2006-2012). Only active mandatory service soldiers were included. While from 1992 to 2006, 334 suicides were reported, from 2006 to 2012, only 89 suicides were reported. Overall, the suicide rate decreased by 57% from before the implementation to after the implementation in 2006, and the hazard ratio decreased from 0.48 to 0.43, respectively. According to the study, a significant decrease in suicide rates could only be seen after the implementation of the Suicide Prevention Program in 2006. Before the implementation, a decline was noticed, but it was not statistically significant. The highest decrease in suicide rates was noticed between 2009 and 2012. Furthermore, the male-to-female ratio dropped from 5.1:1 in 2005 to 4.7:1 in 2010. The ratio is now comparable with the ratio in the general population of Israel. All in all, the study shows the effectiveness of decreasing the suicide rates in the Israeli Defense Forces. (62)

A different study also focuses on the effect of the Suicide Prevention Program in the Israeli Defense Forces. This study further adds to the previous knowledge showing that by the implementation of the Suicide Prevention Program, the suicide rates among the general Israeli population aged 18-21 years declined. (9)

The global Covid-19 pandemic has increased the risk for suicide attempts and therefore the need for intervention. (63) Therefore, a study focused on the SAHAR online chat line and the change in frequentation, comparing the years 2020 (during the pandemic) and 2019 (before the pandemic). The chats increased by 48% in 2020 compared to 2019, and the suicide-related chats increased by 35%, respectively. Furthermore, there was an increase in women contacting the chat line by 10%

and an increase in individuals over the age of 50 from 0.6% in 2019 to 6% in 2020. The intervention by police and emergency services following a chat increased in 2020. All in all, the research concludes that in times of crisis, the general population, especially women and those aged over 50, makes use of support offers such as the SAHAR chat line. (64)

SAHAR operates an outreach program on social media platforms. Volunteers offer help by engaging with posts with suicide intent and linking their chat line. The study analyzed users' response to the support offer by SAHAR on the chat forum "stips" (a question-and-answer forum). Therefore, a study was conducted between 2015 and 2020 focusing on the effect of the outreach program. 69.8% of the 116 responses analyzed reacted in a positive way, claiming the outreach was helpful to them. This means the user was thinking about reaching out to the chat line, asked follow-up questions about the chat line, or described a feeling of being supported and being understood. Some users further disclosed more information about themselves and their situation. On the other hand, 16.4% reported difficulties in contacting the chat line due to personal or even emotional barriers, such as fear of disclosure to authorities or due to the unavailability of the chat line. Only 10% had a negative reaction to the interaction, and 14.6% reported that there was no imminent danger. The study concludes that there was an overall positive response to the outreach program, and the program was a good source of information about prevention for individuals. Many users have a feeling of trust and being connected and find the program to be overall helpful. To reach a broader audience, the researchers recommend more transparency on SAHAR's guidelines on reporting to the local authorities. (25)

Media guidelines were published by the Israeli government to prevent the so-called "copycat effect". Focusing on the adherence to the media guidelines on reporting, a study was carried out comparing reporting in 2012, 2016/2017, and 2018/2019, focusing on the 4 dimensions of the Israeli media guidelines: the prominence, the complexity, the sensational, and the prevention dimension. The study selected two major Israeli newspapers, Yedioth Ahronoi and Israel Hayom, for their analysis. Further, the number of articles selected was in accordance with suicides in each year. The overall adherence to the guidelines between 2012 and 2019 was 49.35%. Breaking it down into the four domains, the prominence domain has the highest adherence with 75.9%, followed by the complexity domain with 67.3% and the sensational domain with 56.17%. The least adherence was found to be in the prevention domain, with only 11.9% adherence. About 40% of articles featured the suicide reporting as a headliner, but improvement was seen over time. Celebrity suicide reporting had a decline in adherence to the guidelines over time. No significant decline in reporting of suicides on the front page was found. In 2012, 72.4% of articles reported a single cause for suicide, 47.6% in 2016/17, and 58.8% in 2018/19- showing a decline. Furthermore, factors such

as reporting on the social situation, detailed information on the suicide victim, as well as linking suicide to a single life event, decreased significantly. Another aspect of reporting on suicide that declined was reporting on the location and the method used for suicide, but the decrease was minor, and 72.5% of reports still mentioned the locational details in 2018/2019. While in 2012, about 54% of reports showed inappropriate pictures, in 2018/2019, only around 7% of articles showed such pictures. While in 2012, 33% of articles glorified suicide, an initial decrease in 2016/2017 could be seen. On the other hand, a slight increase to 2018/2019 with about 9% was recognized. Similar effects can be seen for the use of myths. Focusing on the prevention domain, the guidelines recommend mentioning risk factors and providing sources of support. While reporting on risk factors changed from 24% in 2012 to 21.5% in 2018/2019, the reporting on preventive options such as support hotlines increased from 0% in 2012 to 2.1% in 2018/2019, even though it declined from 8.7% in 2016/2017. All in all, the study concludes that in 2012 there was mostly no adherence to the Israeli media guidelines, but compliance improved in 2016/2017 and was even better in 2018/2019. Furthermore, the compliance with the sensational dimension improved the most, with the least improvement in the method and location aspects of the dimension. On the other hand, the prevention dimension has the lowest adherence, and there was no significant effect on this dimension after the implementation of the media guidelines. The overall changes seen correlate with the suicide rates in Israel, and therefore higher rates of compliance may decrease suicide rates. (65)

7.10. Publications on Suicide Prevention by Israeli Authors

Israeli researchers are continuously working on new findings in the field of suicide prevention. They further conduct studies on the characteristics and psychological aspects behind individuals committing suicide.

Media reporting is seen as a critical aspect of suicide prevention. Hence, guidelines for reporting on suicides and suicide attempts have been published by the Israeli government in 2021. With regards to media guidelines, Israeli researchers have tested the effect certain media reporting has on suicide rates, especially in the months following said reporting. They report that only a small variation in suicide rates has been found after the publication of extensive reporting on suicide attempts and suicide. The study included reports about suicide on television, from newspapers, as well as webpages that had been widely broadcasted (at least three times in four weeks) between 2008 and 2012 in Israel. They excluded suicide attempts and certain types of suicide, like suicide bombings. Overall, thirteen articles have been analyzed. The researchers investigated the development of suicides in the time frame of four weeks before and after the published articles to gather information on the connection between published suicides in the media and potentially following suicides. The

Google clicks on these articles were analyzed and compared with the suicide mortality. It was found that 2,119 individuals died by suicide during the observed period from 2008 to 2012, only 13 of whom were exposed to the included articles. It was identified that there had been no increase in suicide rates following the publication of each article. Thus, the researchers concluded that extensive media reporting in Israel does not lead to an effect of copying and therefore to higher suicide rates following the publication. Nonetheless, they recommend consistent media guidelines and reinforcement. (66)

The effect of prolonged times of public distress on suicide rates, focusing on the Covid-19 pandemic in Israel, has been subject of investigation. Therefore, a study reviewed suicide attempt rates in different time periods from January to December 2020 (during the Covid-19 pandemic) and compared the results to the suicide attempt rates with the rates from the previous three years. A special focus was laid on the time periods between lockdowns from March to April 2020 and from September to October 2020. Data from the Meuhedet HMO register was used for the purpose of the research. All in all, the researchers found no overall increase in suicide attempt rates in 2020 in comparison to the rates from 2017 to 2019, especially in a month-by-month comparison. There was a decrease in the suicide attempt rate comparing the overall suicide attempt rates from 2020 to 2019. No significant difference was found in suicide attempt rates when comparing each month in 2020. On one hand, there was no significant increase when comparing lockdown periods to time periods without lockdowns. On the other hand, a significant increase in suicide attempts was found after lockdowns. It was noticed that 2 months after the initial lockdown, the suicide attempt rates increased, while the rate increased after 1 month following the second lockdown. The researchers thus concluded that suicide attempts vary in times of prolonged crisis and that distress accumulates, leading to a shorter period before suicide attempt rates increase after forthcoming lockdowns. Furthermore, the researchers explain the overall decrease in suicide rates in Israel in 2020 by a mutual feeling of belonging (as everyone is struggling with the same problem - the pandemic) and/or due to a decrease in accessibility of lethal means. (67)

Further Israeli researchers focused on the Israeli military and the predictability of future suicide behavior from past suicide attempts. Therefore, the researchers examined soldiers with a recent suicide attempt leading to a 24-hour psychological hold. The participating soldiers were subdivided into two groups– group 1 with a history of a suicide attempt prior to entering the military and group 2 with their initial suicide attempt during their military service. Hence, the study conducted between March 2014 and February 2016 assessed said soldiers via the Suicidal Behavior's Questionnaire-Revised (SBQ-R), the Columbia Suicide Severity Rating Scale (C-SSRS), the Self-Harm Behavior Questionnaire (SHBQ), and the Back Scale for Suicide Ideation (BSS). Further demographic

information and records on a soldier's mental health condition were also obtained. 65 soldiers aged 18 to 28 years were identified and analyzed. It was identified that 70.8% had attempted suicide within the first year of service and 50.8% in the first 6 months of compulsory military service. Furthermore, after their suicide attempt, 44.6% were released from the military service. The other soldiers were observed and treated. In both groups, a high rate of mental health conditions was found post suicide attempt – for example, 61.5% of all participants were diagnosed with depression and anxiety. These and prior suicide attempts were often not known to the military authorities before the most recent attempt, as soldiers did not disclose them. The study shows that half of the soldiers did not disclose previous suicide attempts to the authorities. Another finding was that before enlisting, more females than males had their first suicide attempt, with 56% to 44%, respectively. When comparing assignment units, it was found that only 4% of soldiers with a suicide attempt prior to their military service (group 1) were assigned to the combat unit, while 25% with the first suicide attempt during the military service (group 2) were assigned to the combat unit. On the other hand, the research shows that there is a higher risk of suicide attempts among non-combat soldiers. Further, the median age of the initial suicide attempt was compared and found to be 15 in group 1 and 17 in group 2. Also, suicidal ideation was analyzed using the Back Scale for Suicide Ideation (BSS), showing 80% current ideation in group 1 and 60% in group 2. The study found current suicidal ideation to be the main predictor of future suicidal behavior. No difference in the severity of the suicide attempt was found between the two groups. When looking at autopsy reports, the researchers concluded that half of suicide attempts were impulsive and without previous signs of suicidal behavior. Furthermore, it was identified that the most lethal suicides are committed among those with a recent suicide ideation over the age of 18 years and with a single suicide attempt. All in all, the researchers concluded that the highest risk for a suicide attempt in the Israeli Defense Forces and therefore the main priority of suicide prevention are males, those with a current suicide ideation and showing impulsive behavior, as well as individuals that have a psychiatric diagnosis. (68)

The traits of the soldiers in the Israeli Defense Forces, who attempted or completed suicide were investigated. A study carried out a literature review on characteristics of the "suicidal soldier". While analyzing the research, it was found that the main risk group for suicide is young males (60% of completed suicides). Therefore, the researchers analyzed a study that observed suicides in individuals aged 18-51 from 1974 to 2001. It was, however, kept in mind that more females than males enlist and that males enlist for a longer period of time. Several investigated studies showed differences in gender as well – while males committed suicide due to aggression and self-regulation problems, females committed suicide due to loss of self-esteem and a missing feeling of belonging.

Females also had a higher rate of depressive and anxious mental health conditions but also a higher rate of self-disclosure. While males usually had one attempt, females had several suicide attempts before the fatal suicide attempt. Furthermore, articles on psychological screenings were analyzed. It was found that – between 1990 and 1998 – after psychological screening before enlistment, about 9% of soldiers were identified with a mental health condition. This group of soldiers, however, made up about 13% of the completed suicides. Further studies analyzed by the researchers showed that 53% of individuals who had committed suicide were suffering from depression. Stressors for suicide were identified in the literature. An article published in 1993 identified romantic difficulties like rejection, financial difficulties, and family difficulties as main stressors, making up 63% of stressors. On the other hand, military service was a stressor to only 28% of individuals serving in the Israeli Defense Forces. While analyzing a study focusing on the stressors, it was found that in soldiers the main cause of suicide was a self-esteem loss, while in non-combat soldiers it was primarily family difficulties and mental health conditions. However, the psychological screening determines whether the individual will be assigned to the combat or non-combat unit, with individuals with psychological conditions being assigned to the non-combat units. It was furthermore determined that suicide attempts were higher in the non-combat unit while committed suicides were higher in the combat unit. On the other hand, while analyzing literature about the time relationship for suicide attempts, the research found that the most critical time was the basic training period – a period of change. The literature shows that 38% of suicides occurred in the first months of training. A study from 1974 to 1994 found that 56% of suicides in the Israeli Defense Forces were committed in the first year and 10% prior to release from the military service. Additionally, other studies showed that in most of the soldiers, no change in their military function was found in the 3 weeks prior to the suicide execution. In contrast to the civilian population, a study concluded that there was no difference in the contact rate prior to suicide between the suicide population and the control population. On the other hand, a study from the 1980s found that, in contrast to the general population, suicides were committed by soldiers with higher intellectual scores. Those with a higher intellectual score had an increased probability of completing suicide, while those with lower intellectual scores had a higher risk of attempting suicide. When identified as having difficulties adapting – such as soldiers with a low level of education, low frustration tolerance, problems with forming and maintaining interpersonal relationships, low problem-solving abilities, problems with authority figures and responsibility, as well as soldiers with criminal records, behavioral and emotional problems – the soldiers are referred to the mental health officers. A study from 1990 to 1998 showed very good results in treating this population, while another study from 2000 to 2003 that was also analyzed showed that 80% of soldiers that committed suicide did not contact a mental health officer. Furthermore, the literature shows that soldiers with suicide attempts

and completions come from families with a higher socio-economic background. All in all, it was found that soldiers committing suicide or suicide attempts are mostly males aged 19 to 20, who have high intellectual capabilities, come from families with a high socio-economic standing, and have no prior medical history. Additionally, the soldiers are usually highly motivated and are assigned to the combat unit. Suicides were attempted mostly in the first year of military service as well as in December and on Sundays – the first day of the week in Israel. (69)

Israeli researchers have developed a textual detection tool for suicide prevention on social media. Therefore, the researchers used input from 1002 Facebook users from US citizens with at least 10 posts, analyzing 83,292 Facebook posts. The participants were psychologically screened for psychiatric disorders, psychosocial risk factors for depression, as well as personality traits such as being an extrovert and suicide risk. These assessments were performed using the Columbia Suicide Severity Rating Scale (C-SSRS), the Patient Health Questionnaire-9 (PHQ-9), the Ruminative Response Scales (RSS), the Penn State Worry Questionnaire (PSWQ), the Generalized Anxiety Disorder 7 Scale (GAD-7), the Satisfaction With Life Scale (SWLS), as well as the Big Five Inventory (BFI-10). Facebook posts from the previous 12 months had been included in the development of the detection tool. 15% of the data was held back during the development and was later used for testing of the artificial intelligence tool. In comparison to the already existing detection tools, the new detection tool has a higher predictability and accuracy in analyzing everyday posts not necessarily only linked to words associated with suicide, such as “die” or “suicide”. (70)

8. Discussion

8.1. Suicide Rates and Models of Suicide Prevention

As shown, the suicide rates in Israel have declined from 6.1 in 2012 to 5.3 in 2019, partially due to the National Suicide Prevention Program implemented in December 2013. Simultaneously, one can also see a decline in the suicide rates in the world, moreover in comparable countries Austria and Canada as well as in Lithuania. Higher suicide rates per 100,000 can be seen in Israeli men, with 8.4 in comparison to 2.3 in Israeli females. Furthermore, higher suicide rates among men were also found in studies published by the Israeli government. Therefore, the Suicide Prevention Program should be more specified for the prevention of males., as in Lithuania. (4,8,46,51–53,55,56,58,59)

When comparing the suicide prevention programs of Israel with those of Lithuania, Austria, and Canada, one can notice that the programs of Israel, Austria, and Canada are similar in structure. The programs focus on preventing suicide in those at risk by creating a therapeutic sequence, as well as providing support to those in crisis via hotlines or crisis centers. At the same time, the programs

also focus on prevention in the general population by raising awareness, gatekeeper trainings, and via media guidelines (integrated into the suicide prevention program in Austria and Canada, recommendations made by Israel). Nevertheless, the Suicide Prevention Program of Canada lays a special focus on raising awareness and preventing suicide on a population-based spectrum.

On the other hand, the model used by Lithuania focuses more on the early identification and treatment of the population at risk of suicide, such as men, the elderly, and those using alcohol frequently, and less on a general population level.

While the Israeli National Suicide Prevention Program contains general recommendations for the prevention of suicide, such as the "choosing life" program and gatekeeper trainings, it also contains recommendations that are specific to the population at risk, such as creating a therapeutic order and reducing access to weapons. Additionally, the program provides tools such as hotlines and assistance to those bereaved to prevent suicide in those in times of crisis. Overall, the Israeli National Suicide Prevention Program is focused on a broad spectrum of the population. Furthermore, a specific structure and the collection of data is regulated by the program.

While Austria's Suicide Prevention Program shows the most overlap with the Israeli National Suicide Prevention Program, followed by the Canadian program, the Lithuanian program shows the least overlap.

All in all, the models used to prevent suicide are similar between Israel, Austria, and Canada, while the Lithuanian program is more focused on preventing suicide in at-risk individuals and treating those at-risk. When looking at the suicide rates and models of the suicide prevention programs, one can see that countries with a similar model to that of Israel also have decreased suicide rates in the years after the implementation of their suicide prevention program. (3,8,48–50)

8.2. The Israeli National Suicide Prevention Program

The Suicide Prevention Program is structured into ten important aspects that have been partially implemented. Epidemiological data is collected and published every two years. On the other hand, not all ministries collect specific data on suicide rates and attempts, such as the Ministry of Aliyah and Integration and the Ministry of Social Affairs. The studies further show that the data published is not up to date, and suicide is widely underreported, especially on a local basis, due to a lack of transmission of information and interdisciplinary work. Hotlines, especially those provided by non-governmental organizations such as SAHAR and ERAN, are utilized by the public and show a positive effect, especially in times of crisis. Gatekeeper trainings have not been carried out by most ministries. Only the Ministry of Education has implemented gatekeeper trainings, but only about 7% of teachers and 0.3% (945) of students were trained. Nevertheless, the other ministries have

carried out non-gatekeeper trainings in suicide awareness and suicide prevention in their local authorities. Another goal of the Suicide Prevention Program was to build a therapeutic sequence. Current studies show that about 26% of those committing suicides had priorly been diagnosed with a psychiatric condition. Unfortunately, due to interministerial problems in working, it was not possible to establish said sequence. A program to assist relatives and others bereaved after suicide was initially established but was discontinued by 2020 due to budgeting issues. The “choosing life” program for suicide prevention in students was started as a pilot study with 945 participants – showing an effect in identifying at-risk students. Online prevention has been implemented by local organizations such as the SAHAR, and new research has found new tools in the detection of at-risk individuals on social media. Access to weapons has been reduced, especially in the Israeli Defense Forces, due to the military Suicide Prevention Program. In the public sector, access to lethal means has also been decreased, for example, by reducing the packaging size of medication. Access to weapons is granted after a review by the primary health care physician, but no questions on suicidal ideation are asked before receiving a license to carry a weapon, making this procedure insufficient. The organization of the National Suicide Prevention Program is shown to have some difficulties, especially in interministerial communication and working. On the other hand, the Suicide Prevention Committee carries out its work on a regular basis, documents it, and makes recommendations. (8,24–26,57–59,70)

All in all, the hotlines and online prevention tools are implemented and frequented. Epidemiological data is collected and published. On the other hand, the ministries should individually be collecting data. Access to lethal means is reduced, but further measures in licensing of weapons specific to suicidal ideation should be implemented. Need for improvement is seen in the implementation of gatekeeper trainings as well as in the establishment of a therapeutic sequence. A renewal of the program assisting those bereaved should be reestablished. Fundamental changes in communication between organizations may lead to improvements in suicide prevention and to an improved comprehensive prevention. (8,25,57,64)

8.3. World Health Organization Recommendations

When comparing the National Suicide Prevention Program of Israel with the World Health Organization’s recommendations, one can see that most of them are implemented into the suicide prevention plan. As recommended by the World Health Organization, in Israel a situational analysis, as well as surveillance, is carried out, and data on suicide is published every two years. Focusing on the structure, the World Health Organization advises multisectoral collaboration, which is also reflected in the Israeli Suicide Prevention Program. Furthermore, a financing plan has been developed by the Israeli government even though reevaluation and improvement are needed as the

budget was cut drastically in the past years. To raise awareness and advocate for suicide prevention is a main recommendation of the World Health Organization. This, however, is not a standalone regulation in the Israeli National Suicide Prevention Program but rather is supposed to be achieved by training gatekeepers and by programs such as “choosing life”. The World Health Organization further recommends gatekeeper trainings, which have also been anchored into the suicide prevention plan of Israel. Additionally, it is advised by the World Health Organization to limit access to lethal means. This is also an integral part of the Suicide Prevention Program in Israel. Early identification of at-risk individuals, followed by the assessment and treatment, as well as follow-up of said individuals, is important. Therefore, the World Health Organization recommends implementing a plan focused on said sequence into the national plan. Israel’s Suicide Prevention Program contains a clause focusing on establishing a therapeutic sequence for at-risk individuals. The World Health Organization advises life skill trainings, especially to adolescents, which are similar to the idea of the “choosing life” program that piloted in Israel, as indicated in the National Suicide Prevention Program. Finally, the World Health Organization advises to integrate guidelines on responsible reporting for the media into the National Suicide Prevention Programs. Israel has not integrated media guidelines into the prevention program but has published recommendations for the media. (3,7,8)

While most recommendations have been integrated into the Israeli Suicide Prevention Program, the examination of the National Suicide Prevention Program by the State Comptroller’s Office shows that there is a need for improvement in multisectoral collaborations, especially in collaboration between the involved ministries. Improvement in uniform gatekeeper training programs as well as improvement in budgeting are needed. Furthermore, the licensing process for the acquisition of a weapon as well as the establishment of a therapeutic sequence are needed. The “choosing life” program should be continued in schools, and media guidelines should be mandatory. Surveillance of compliance with the media guidelines is necessary. (57)

All in all, the recommendations made by the World Health Organization on what to integrate into a suicide prevention program have been followed by the Israeli government. On the other hand, when looking at the State Comptroller’s Office analysis, improvements in many areas are needed.

8.4. Israel – Local Suicide Prevention

Israel has a broad spectrum of local organizations that are involved in suicide prevention. Different organizations are specialized in different population groups, such as religion, individuals bereaved by suicide, members of the LGBTQ community, Ethiopian immigrants, non-Ethiopian foreigners, the Arabic-speaking community, families, and many other aspects. Additionally, there are governmental organizations acting locally, such as the 106 hotline by the Ministry of Welfare, the

emergency center of the Ministry of Welfare, as well as support centers for immigrants by the Ministry of Aliyah and Integration. This shows that there is broad coverage and an individualized suicide prevention in the Israeli community by local organizations. The two greatest non-governmental organizations acting in suicide prevention are SAHAR and ERAN. The SAHAR has an online chat support, which has been proven to be of great value in suicide prevention, especially in times of crisis. As shown in a study analyzed above, the SAHAR chat line received 48% more chats in 2020 during the Covid-19 pandemic than in 2019. Furthermore, the SAHAR organization has an online outreach program, which in studies has shown a mostly positive response from contacted individuals at risk. (5,13,15–23,41,48)

All in all, one can see that local prevention by governmental and non-governmental organizations, especially the SAHAR organization, is of great value to the suicide prevention in Israel. The local organizations mostly fulfill the online and hotline prevention aspects of the National Suicide Prevention Program.

8.5. Israeli Defense Forces Suicide Prevention Program

The Israeli Defense Forces have their own Suicide Prevention Program that is specific to suicide prevention in the military. The program focuses on the reduction of accessibility of weapons, adaptation of procedures and commands to prevent suicide, psycho-education for soldiers, especially those at risk, and integration of in-unit mental health officers (MHOs). Furthermore, it is structured into a timeline subdivision focusing on the times soldiers are at risk and a population subdivision focusing on at-risk individuals requiring more mental health aid than others. The program has declined the suicide rate of soldiers by 75% between 2006 and 2018 and therefore also declined the suicide rate amongst the 18 to 21-years-old individuals in the Israeli population. In other studies, one can further see that the suicide rates declined by 57% between 2005 and 2010. Hence, one can conclude that the Israel Defense Forces Suicide Prevention Program has a great impact on suicide prevention in the general population. (9,62,68,69)

8.6. Israel – Government Recommendations

Besides the National Suicide Prevention Program, the Israeli government has published recommendations for the general public and specific populations on how to prevent suicides. These contain recommendations made in the National Suicide Prevention Program, such as gatekeeper trainings, the “choosing life” program, restricting access to lethal means, implementing crisis hotlines, as well as online suicide prevention and detection programs. Additionally, the published recommendations also advise raising awareness and early detection of those at risk, for example, in the primary physician’s office or in local authorities working with those bereaved and elderly. One of the achievements listed by the Israeli government is achievements in the unification of the

screening process by using the Columbia Suicide Severity Rating Scale (C-SSRS). It was determined to be easy to use and should be integrated at many more facilities throughout the country during the screening process recommended by the Israeli government. (13,16–19,60)

On the other hand, the government recommends different forms of psychotherapy as a secondary and tertiary prevention. Therefore, a good therapeutic sequence is needed, which has not yet been implemented due to interministerial indifferences. (20,21,57)

Furthermore, media guidelines have been published by the Israeli government. These media guidelines can be broken down into different aspects. The dimensions are prominence, prevention, sensational, and complexity. The prominence domain includes the advice not to print reports on suicide in the headlines and not to print it onto the front page. Further, the complexity domain recommends not reporting on a single cause of suicide, not connecting a single life event to the suicide, as well as the linkage between social status and mental health conditions to the suicide. The sensational dimension includes avoiding the publication of pictures, myths, glorifications, and details on location and method. On the other hand, the prevention domain recommends including the main warning signs and adding information on prevention and intervention when reporting on suicides and suicide attempts. This domain further recommends including an interview with a mental health specialist when reporting on suicide. In general, the adherence to the guidelines between 2012 and 2019 was about 50%, with adherence to the prominence domain of 75.9%, followed by the complexity domain with 67.3%, the sensational domain with 56.17%, and the prevention domain with 11.9%. Improved adherence was found after the establishment of the Israeli National Suicide Prevention Program, but with a slight decline in overall adherence in 2018/2019. Over the years, an increase in adherence to the media guidelines was seen, with the most improvement in the sensational component and the least in the prevention domain. As seen, the publication of the National Suicide Prevention Program improved adherence to media guidelines, which might be due to improved awareness. To reinforce adherence, reminders on suicide prevention could be sent to the publishing houses, restoring awareness and sensibility for suicide prevention in the media. In addition, the media guidelines should be integrated into the Suicide Prevention Program as a mandatory part and should be subject to continuous surveillance.(7,65)

Looking at a further achievement made, one can see that due to an improved integration process, suicide rates in Ethiopian immigrants have declined. However, the research also specifies that there is a need for improvement and integration of suicide prevention measures specific to Ethiopian immigrants and their challenges. (61)

8.7. Publications on Suicide Prevention by Israeli Authors

When taking a closer look at the publications by Israeli authors, one can draw conclusions on tools to integrate into suicide prevention.

Research shows that in times of crisis, stress accumulates and leads to a burnout phenomenon. While initially the suicide attempt rates decrease in times of crisis like Covid-19, the rates increase in the long term. Moreover, suicide rates increased after lockdown periods. Therefore, a higher need for suicide prevention may be needed in times of crisis, especially following the crisis. This could be achieved by, for example, broadcasting support hotlines and centers to the public during and after the time of crisis. (67)

Furthermore, authors have developed a textual detection tool that can be utilized on social media. The tool has shown good detection skills and is not limited to suicide-related words such as “die” or “kill”. However, the tool was tested on Facebook and with an American population. Therefore, the tool could be tested on an Israeli population and in Israeli chat forums and redefined accordingly. Thereafter, the textual detection tool could be an integral part of suicide prevention on social media as defined as a goal in the National Suicide Prevention Program. Moreover, this tool could be important in the work of the SAHAR outreach program.(70)

Research shows that there is no harm in extensive media reporting on suicide in Israel. Hence, integrating the media guidelines into the National Suicide Prevention Program and good surveillance of the media might not be the most urgent change that needs to be made in the Israeli program. (66)

Many studies have been carried out by Israeli authors on the Suicide Prevention Program in the Israeli Defense Forces. The studies mainly focus on traits of the soldiers attempting and committing suicide during their time in the military. It was found that the soldiers at the highest risk of a suicide attempt are male, those with a current suicidal ideation, those showing impulsive behavior, and those diagnosed with a psychiatric condition such as depression. Other studies showed that soldiers committing suicide or attempting suicide are mostly males aged 19 to 20, who have high intellectual capabilities, come from families with a high socio-economic standing, and have no prior medical history. Furthermore, the soldiers are usually highly motivated and are assigned to the combat unit. Suicides were attempted the most in the first year of military service as well as in December and on Sundays – the first day of the week in Israel. These findings can be integrated into the military Suicide Prevention Program, and, for example, additional screening for these soldiers by the mental health officers (MHOs) could be initiated or mandatory treatment for at-risk individuals in distress.(9,62,69)

8.9. Strengths and Weaknesses

The study gives a representative overview of where suicide prevention in Israel is now and what could be improved based on existing studies of Israeli authors. Furthermore, it provides a short overview on the incorporation of the model of suicide prevention published by the World Health Organization and a comparison to the suicide prevention models used in Austria, Lithuania, and Canada.

On the other hand, this research is based on data and articles that are currently published. Further analytical studies may be needed to analyze the current implementation and effect of single aspects of the Suicide Prevention Program. A study to adapt the need for improvement of the s Suicide Prevention Program to the current sociopolitical situation of Israel may need to be carried out.

To gain a deeper insight into the incorporation of other models of suicide prevention, further studies may be needed.

9. Conclusion

The aim of the literature review was to evaluate the achievements of the established suicide prevention programs and identify opportunities for improvement in Israel. All in all, one can conclude that the Israeli Suicide Prevention Program is satisfactory, but the execution is unsatisfactory, mainly due to difficulties in interministerial working.

The Israeli Suicide Prevention Program is built in accordance with the recommendations of the WHO. One can see that other suicide prevention programs are built similarly to that of Israel, do also have a decreasing in suicide rates. The suicide rates in Israel have declined from 6.1 in 2012 to 5.3 in 2019, partially due to the National Suicide Prevention Program implemented in December 2013.

Concluding on the hypothesis, the recommendations of the World Health Organization are greatly implemented into the Israeli National Suicide Prevention Program. The exception to this is the media guidelines. Achievements in suicide prevention have been made in unifying the screening process by using the C-SSRS and in online prevention, especially the use of the SAHAR online chat line and the outreach program. Furthermore, the suicide rates in Ethiopian immigrants have declined, and suicide rates in the Israeli Defense Forces have decreased drastically. The Israeli Defense Forces Suicide Prevention Program is of great value and has shown to be declining not only the suicide rates in the Israeli military but also in the general population.

On the contrary to the hypothesis, there are additional measures that could be taken to improve suicide prevention in Israel. Media guidelines should be implemented in a mandatory fashion, and

active surveillance should take place. In addition, reminders of the existing media guidelines should be distributed regularly to the publishing houses to ensure awareness and therefore improve adherence to the media guidelines.

To improve the work in online suicide prevention and to support the work of the SAHAR organization, the textual detection tool should be implemented after a testing phase in the Israeli population.

Gatekeeper trainings need to be implemented in a broader range, and the trainings unified. The "choosing life" program should be established in schools throughout the country. A renewal of the program assisting those briefed should be reestablished by the Ministry of Social Affairs. However, the ministry should also establish similar programs for other risk groups, such as the LGBTQ community. Regular screening processes in at-risk individuals should take place at the primary physician or in local authorities using the C-SSRS scale.

In addition, access to lethal means should be further reduced by changing the licensing process of weapons specific to suicidal ideation. On the other hand, a special suicide prevention program should be developed for times of crisis, such as the Covid-19 pandemic.

Furthermore, a suicide prevention program adapted to the needs of immigrants, especially Ethiopian immigrants, should be established. As men have higher suicide rates than women, a special focus should be laid on suicide prevention in males.

The Israeli Defense Forces should use the research to continuously improve their prevention program and could integrate the characteristics of the suicidal soldier to implement additional screening for at-risk soldiers by the mental health officers (MHOs) or even initiate mandatory treatment for at-risk individuals in distress.

An essential change to be taken is improvement in interministerial communication and structured work processes. This is especially important to create a therapeutic sequence. The suicide prevention budget should be restored. Suicide is still widely underreported. Therefore, improvement is needed.

All in all, the basic structure of the National Suicide Prevention Program is solid, and changes in the execution of the program could lead to significant changes and better adherence.

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