Author: Gent, Tiejo van
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Chapter 7

General discussion

Introduction

The main aim of this thesis is to expand the knowledge of mental health problems with deaf and severely hard of hearing children and adolescents in the following domains:

- The prevalence of mental health problems in this population and a comparison with the prevalence in the general population
- Specific intra- and inter-personal aspects of pathogenesis
- Characteristics of the clinically hearing impaired population with severe mental health problems.

The increase of knowledge in these domains may contribute to improvements in prevention, early recognition, assessment- and treatment strategies of mental health problems. It may also lead to a more specific focus for future service provision, and to formulate points of departure for future research.

In The Netherlands, there are approximately 3,000 deaf and severely hard of hearing children and young people, based on a prevalence rate of 0.74/1000 (De Graaf, Knippers & Bijl, 1997) in a population of about four million children and young people aged from 0-20 years (CBS Statline 2010). The rate of mental health problems in deaf and severely hard of hearing children and young people is increased compared to the rate in the general population combined with a reported underuse of services (see chapter 3). In a representative sample of severely to profoundly hearing impaired adolescents of average intelligence, 49% fulfilled the criteria for psychiatric caseness as defined by Goodman and co-workers (Goodman, Yude, Richards & Taylor, 1996) and 46% has a DSM-IV disorder. This is in line with findings of increased rates of problems and disorder in other studies (Hindley & Van Gent, 2002). We calculated post hoc that half of the disorders fulfilled the caseness-criteria for a disorder with significant or severe social impairment (23% of the sample), while the other half fulfilled criteria for a disorder without significant social impairment (23%). Novel in this field of study is the use of a diagnostic interview with all the participating adolescents instead of screened positive participants only, and the use of consensus expert ratings of both caseness and DSM-IV disorder, bringing together information from parents, teachers, the adolescents, mental health professionals and available medical files. The findings in this prevalence study highlight the importance of the used multi-informant approach as a reliable and well-founded estimate of caseness and disorder, compared to the single ratings of caseness and problems. This strategy also highlights strengths and weaknesses of different informants, as for instance adolescents appeared to be better informants on emotional problems than parents and even far more better than teachers, while teachers were especially important for reporting behavioural problems (with parents second best). Comparable trends have been found in studies in general (see Fombonne, 2002) and in hearing impaired populations (Hindley, Hill, McGuigan & Kitson, 1994). These findings suggest that the multi-informant assessment approach which was used in this study, is a suitable method to investigate emotional and behavioural mental health problems in deaf and hard of hearing populations in the near future. In addition this approach may add to knowledge on specific contributions and shared variance of diverse informants to the measurement of psychopathology as well as on how to combine data from varying informants and from different settings (Fombonne, 2002). Marschark and Spencer (2010) urge the necessity of continuation of research in this field.

Studying deafness related variables

An overview of developmental and mental health issues (see Chapter 2) reveals the heterogeneity of the population of deaf and hard of hearing children and young people. This heterogeneity may be expressed by several deafness-related variables. Functional descriptions of audiologically defined groups of hearing impaired people may strongly differ in their capacity to hear sounds or voices and to profit from hearing devices. For example unaided severely hearing impaired people will usually hear some words when shouted into the better ear, and they will benefit from strong hearing aids, whereas unaided profoundly impaired people are unable to hear a shouted voice at all and may profit less from hearing aids (World Health Organization, 2011). Several other factors of divergent nature may contribute to heterogeneity. Most children born deaf or becoming deaf during infancy develop a spatial –visual orientation towards the world, while children becoming deaf later in life may develop a more aural-oral orientation. The preference of severely and profoundly hearing impaired children to use primarily signed language, spoken language or both will depend upon a variety of factors. Examples thereof include the linguistic-socio-cultural background of their parents, their own language abilities and the language abilities of the children themselves irrespective of modality, the degree and age of onset of deafness, the functional hearing residuals, and the experience with either signed or spoken language. In addition, the quality of parental involvement is an important factor determining linguistic, communicative, cognitive and socio-emotional development of a deaf or severely hard of hearing child. This involvement may include the capacity to adapt to the deafness of the child, their social-emotional relationship with the child and their linguistic adaptation to its needs. Broadly speaking, there will always be diversities in communication preferences and group identities within the population of deaf and hard of hearing people, and there will always be more than one method of communication to be appropriate for all. (Marschark & Spencer, 2011). Still other examples of factors contributing to heterogeneity are the cause of the hearing impairment; these may be more or less strongly related to the presence of additional physical and intellectual impairments with a great impact on mental well-being, and the use of advanced hearing aids and cochlear implants which enhance the accessibility to sounds and spoken language in many but not all deaf and severely hard of hearing children and adolescents.

The heterogeneous characteristics of the population of deaf and severely hard of hearing children and adolescents and their families complicate the clinical picture and differential diagnoses of mental health problems considerably. The findings on correlates in the study described in chapter 3 support the view that it is not deafness alone which contributes to mental health problems but rather deafness in conjunction with additional factors as communication problems, physical health problems, adverse living conditions and probably others.

The prevalence of mental health problems and its correlates, including deafness-related, intra- and interpersonal variables, was investigated in a sample of 70 deaf en hard of hearing adolescents of normal intelligence. The prevalence of any psychiatric diagnosis (46%) and any emotional disorder (27%) among adolescents in our study were more than 3.5 times and 3 times respectively greater than the prevalence of these in a general population sample of adolescents in the United States (Costello, Mustillo, Erkanli, Keeler & Costello, 2003). The prevalence of behavioural disorder (11%) was about equal to that found in the same community sample of adolescents (Costello et al., 2003). The presence of behavioural disorders in this deaf adolescent sample appeared to be positively associated with high self-perceived social acceptance and peer rejection as reported by parents or teachers, and negatively with IQ and the opportunity of daily interaction with meaningful hearing others (parents, teachers, peers) (see Chapter 4). Peer rejection appeared to moderate the association of self-perceived social acceptance and behavioural disorder. Examining ego development in the same sample (see Chapter 5), it was shown that, compared to students in mainstream schooling, most special school students exhibited lower, i.e. pre-conformist ego levels, indicating a younger mental age and an increased risk of behavioural disorder rather than of simple emotional disorder.

Fellinger and co-workers suggest that the presence of behavioural disorder in our special sample (Chapter 3) could be explained by limited sign language proficiency in many deaf students attending a special school as a result of essentially restricted educational attention to teaching sign language in those schools (Fellinger, Holzinger, Beitel, Laucht & Goldberg, 2009a). Consequently, these students would suffer from substantial communicative deprivation which is associated with self-reported mental health difficulties and peer problems (Fellinger et al., 2009a). Limited language proficiency in the dominant mode of communication at school (i.e. in signed or spoken language) and communicative deprivation is certainly one of the risk factors related to mental health problems. However, we suggest that intrapersonal characteristics, deafness related and environmental factors interact with each other to influence the occurrence of psychopathology. Significant intrapersonal factors in this respect may be: ego development and self-perceived self-worth and competence (this thesis); emotion regulation skills, such as awareness, expression and communication of emotions, coping, empathy, and theory of mind, studied by Rieffe and co-workers (e.g., Rieffe, 2010; Kouwenberg, Rieffe & Theunissen, 2011); as well as cognitive abilities and language proficiency. Deafness related factors with an impact on mental health may be those related to aetiology, additional physical comorbidity, and degree of hearing loss and its interpersonal consequences (this thesis). Factors primarily related to interaction with the environment include quality of communication, acceptance, popularity, peer rejection and others, which may vary across social settings, such as the educational setting, as studied by Knoors and co-workers (e.g., Wauters & Knoors, 2007; Wolters, Knoors, Cillesen & Verhoeven, 2011).

In contrast, with regard to emotional disorders no significant differences between signing and speaking deaf adolescents were found, nor between students attending a special school for the Deaf or a regular school. In our analyses of self-perceived competence in the peer salient social domains of physical appearance, social acceptance and athletic competence, we distinguished three self-concept clusters (see Chapter 5): A *low social competence cluster* of adolescents with a low level of competence on all domains, associated with a low level of Global Self-worth, a *mixed cluster* of adolescents with a low level of social competence, a mean level of athletic competence and a relatively high level of physical appearance, associated with a relatively normal level of Global Self-worth, and a *high social competence cluster* of adolescents who scored high on all three social competence scales, associated with a relatively high level of Global Self-worth.

Interestingly in a post hoc analysis of the rate of emotional disorder in the subgroups of adolescents from these three self-concept clusters, the highest rate of emotional disorder was found among the adolescents from the mixed social competence cluster, i.e. those with a normal Global Self-worth. Emotional disorders were present in 46.2% of the adolescents in the mixed cluster versus 36% in the adolescents in the low social competence cluster and 10% of the adolescents in the high social competence cluster[1].

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[1] Other differences between clusters: mean self-reported SCICA lonely scale scores mixed cluster 12.8 (sd 2.2), low and high cluster 7.9 (sd 5.3) t(66df)=2.73, p<0.01; mean self-reported SCICA anxious scale scores mixed cluster 9.3 (sd 5.0), low and high cluster 5.1 (4.7), t(66df)=2.88, p<0.005; self-reported SCICA aggression scale scores mixed cluster 2.5(sd 2.2), low and high cluster 4.6 (sd 4.5), t(37.9df)=2.42, p<0.05).

Inclusion in the mixed social competence cluster was associated with the highest mean ego level scores (in the conformist range), a hearing acculturation style and a hearing social context. Most students from this cluster attended normal education in larger hearing schools with no or very few other deaf classmates, and they thus had very few opportunities to socialise on a day to day basis with other deaf people. This may support the finding that a socially isolated position, being deaf amongst a large majority of hearing peers, is an important risk factor related to emotional mental health problems, as suggested in other studies (Farrugia & Austin, 1989; Van Gurp, 2001; Weisel & Kamara, 2005). Social isolation in general is regarded one of the interpersonal chronic risk factors that may predict emotional disorder (Hammen, 2005), and this may be independent from the level of self-esteem (e.g., Orth, Robins & Meier, 2009).

We would have expected that membership of the low self-concept cluster (i.e. among those with low self perceived social acceptance, low physical appearance and low Global Self-worth) was associated with the highest risk related to emotional disorder. Inclusion in this cluster was associated with low mean ego level scores and a history of neurological disorder. Harter (1999) suggests that the combination of feeling inadequate in most domains of self-functioning, the inability to discount the importance of these domains and to escape from apparently unfavourable circumstances might have put them at an increased risk of developing depressed affect and anger. In this study we found support for the hypothesis that the association between low Global Self-worth and emotional disorder is moderated by circumstances that contribute to repetitive thought on inescapable negative discrepancies in a hearing world, such as having limited spoken language skills, feeling negatively different towards hearing family members, or towards physically healthy people whilst having to cope with additional physical handicaps and its interpersonal consequences (see Chapter 4). The finding that the amount of contact with hearing people did not have a moderating effect suggests that even deaf adolescents with low Global Self-worth may be capable of protecting the Self from negative social comparisons and standards, or that not all comparisons are negative and inescapable. In fact, further research with larger samples of deaf and hard of hearing children and adolescents, with well defined chronic stressors, and moderating and mediating variables (e.g., Grant et al., 2003) is needed to confirm such findings in a relatively new field of research on intrapersonal and social dimensions in this population.

In Chapter 6 a clinical sample of referred deaf and hard of hearing children and adolescents, which may be regarded as representative for the population of deaf and severely hard of hearing children and adolescents with serious mental health problems in The Netherlands is described. No difference in the rate of emotional disorders was found between hearing impaired (HI) referrals and hearing controls when the HI children and adolescents with IQ's <71 were removed from the HI sample. No association with degree of HI or other deafness- or communication related variables was found. In contrast, more behavioural disorders were found in the HI children and adolescents when referrals with low IQ were left out.

Interestingly, a declining rate of behavioural disorder was observed over the 15 years of the study. Hypothetically a number of factors may have worked together to cause this trend. Firstly, any urgent cases with serious behavioural disorder may have been dealt with in the first few years of the new service, and over the years diagnoses may have become more differentiated, as suggested by Evans and Elliot (1987). Secondly, psychiatric consultation services and the development of expertise in orthopedagogical care, i.e. ambulatory and residential support for social and educational learning difficulties**,** may have had a positive effect on local treatment potential. Thirdly, increased recognition of special communicative needs and increased attention for the quality of communication with HI children and adolescents may have contributed to the decline in referrals for behavioural disorder (e.g., see Sinnkonen, 1994).

Limitations

One general limitation of all studies described in this thesis is the cross-sectional nature which does not allow for causal conclusions. In addition, correlational findings such as an association between communication mode and psychopathology should not be generalised as to reflect a general association between mental health problems and signing. Hypothetically, these associations may reflect the presence of still other, intermediating or moderating variables. For instance, the finding of a selective association between behavioural disorder and signing may reflect referral bias: students with behavioural problems are more likely to be admitted to the more protective environment of a special school where signing is usually the primary mode of communication between students.

Other general limitations of the three studies in the sample of adolescents (Chapters 3, 4 and 5) include small sample size, a 26% refusal rate, and a relatively high rate of oral communication. Taking into account the characteristics of the non-responders such as lower IQ and the presence of relatively more psychosocial stressors in their lives, and the lower prevalence of caseness and behavioural disorder among orally communicating participants, it seems unlikely that these studies overestimate the prevalence of disorder (Chapters 3), or problems in self-perception or low levels of ego development (Chapters 4 and 5) in this population. A second limitation of these studies is that there are neither Dutch multidimensional self-concept measures nor ego development measures specifically developed for using with deaf individuals (Chapters 4 and 5). However, the possible issue of limited understanding of written Dutch in the questionnaires we used (the Dutch version of Harter's Self-Perception Profile for Adolescents [SPPA; Harter, 1988; Treffers et al., 2002] and the Sentence Completion Test for Children and Youth [SCT-Y; Westenberg et al., 2000]) was addressed by pro-actively consulting and encouraging the adolescents to seek assistance in their preferred mode of communication. This took into account a possibly more example-bound and -dependent approach to problem definition and problem solving (see Marschark, 2007). In addition, research has demonstrated that the ego development questionnaire is fairly robust regarding modified administration procedures (Drewes & Westenberg, 2001).

One of the limitations of the clinical study (Chapter 6) is that the data found in the relatively large clinical population may not be generalised to whole populations as they only reflect problems and characteristics of a referred population with severe mental health problems. However, as the mental health service involved had a national function within a network of educational and other services to cover the mental health needs of all deaf and severely hard of hearing children and young people nationwide, these findings probably reflect problems and characteristics of the majority of HI children and adolescents with serious mental health problems, albeit within the Dutch mental health system. Another limitation with regard to the clinical study is that no data was obtained on children and young people with psychiatric problems who were referred to the specialist service but did not show up or those with serious but not recognised psychiatric problems. We do not know the nature and the severity of the problems of these non-users.

A final limitation concerns the representativeness of the two samples. Both samples included few children and adolescents with a cochlear implant, and thus may be regarded to represent only populations from the time period when CI was uncommon. As about 90% of deaf pre-schoolers in The Netherlands now have implants, much larger groups of older children and adolescents may soon benefit from the effects of cochlear implants on hearing, speech perception and spoken language skills, academic achievement, as well as in other areas of functioning. There is now a growing body of research examining the effects of CI on mental health functioning. Findings and conclusions from reports comparing CI recipients with non CI-users on different aspects of functioning vary substantially. Without purporting to be exhaustive, some examples may be given: a higher level of psychosocial adjustment in CI-users was found by some (e.g., Bat-Shava, Martin & Kosciw, 2005), but not by others (e.g., Dammeyer, 2009). Likewise, a positive impact of CI on self-concept (Martin, Bat-Shava, Lalwani & Waltzman, 2010) and Theory of Mind (Remmel & Peters, 2011) were suggested in some studies, whilst other studies did not observe differences between CI users and non-users, neither with regard to self-concept (Leigh, Maxwell-McCaw, Bat-Shava & Christiansen, 2008) nor with regard to Theory of Mind (e.g., Wellman, Fang & Peterson, 2011). Moreover, to date no differences in executive function (Figueras, Edwards & Langdon, 2008; Hintermair, 2011) or the prevalence of mental health disorder between CI users and non-users were found (Theunissen, Rieffe, Kouwenberg, Soede, Briaire & Frijns, 2011; Fellinger, Holzinger, Sattel, Laucht & Goldberg, 2009b). Comparisons between samples of CI users and either hearing or non-using hearing impaired comparison groups may be complicated by the fact that failure to control for specific characteristics of CI users may lead to over- or underestimation of the effectiveness of cochlear implantation (Stacey, Fortnum, Barton & Summerfield, 2006). Overestimation may result from a generally later onset of hearing impairment in children with implants, which usually co-occurs with better pre-implant speech production and language; the overrepresentation of girls with generally better early communication skills than boys; the prevalence of significantly fewer disabilities in children with implants (including central nervous system abnormalities, other physical disorders, cognitive problems, and psychosocial disabilities); and an overrepresentation of a more affluent family background in most children with implants. Underestimation of the effectiveness of CI use may arise from a greater severity of pre-implant hearing loss or a younger age of implanted children (Fortnum, Marshall & Summerfield, 2002; Stacey et al., 2006).

Nevertheless, data on non-implanted children and adolescents in the industrialised world will be of value as findings in a base-line population from a time period before CI which "changed the face of deafness" as described by Marschark (2007). Furthermore, technically advanced hearing equipment such as CI will be only available for very few people in less well-developed countries, and unavailable for the majority of the world's population (Leigh, Newall & Newall, 2010; Marschark & Spencer, 2010).

Clinical relevance

The findings from the prevalence study and its correlates in a representative sample of adolescents (Chapters 3-5) as well as from the clinical study underline the need for specialist mental health services where the mental health needs of deaf and severely hard of hearing children and young people and their families can be adequately met. They stress that specific expertise must be bundled to deal with the needs of a small and heterogeneous minority population, as mental health service provision for this population concerns highly specialised care in a low incidence area, which can be insufficiently covered within regular mental health care.

In this thesis a number of factors have been identified which support literature on known risk factors related to psychopathology in deaf and hard of hearing children and adolescents (central nervous system involvement, other physical disorders, cognitive impairment, restricted language abilities, parental distress, serious distress such as through bullying or maltreatment; see Chapter 2). Intrapersonal factors related to self-functioning and their interaction with possible chronic stressors were found to be associated with disorders. Knowledge of these factors could guide schools and related services who deliver care for their target population to detect and prevent risk factors, to screen for psychological problems in children and young people, and to develop programmes for screening, early recognition, assessment and even (short-term) treatment facilities. These programmes should be organised partly within their own service organisation, and partly in conjunction with mental health services as good partners and consultants in mental health care. With regard to pathogenesis a number of chronic stressors was found to moderate the association between facets of self-concept and emotional and behavioural disorder. This might indicate that exploring different facets of self-concept and the experience of chronic distress during assessments might more specifically guide our focus towards special targets for treatment. For instance low self-esteem may be a risk factor related to emotional disorder especially in adolescents who experience chronic distress due to specific deafness- or physical-illness related characteristics. High self-perceived social acceptance may be a risk factor related to behavioural disorder especially in adolescents who are considered by teachers or parents to be rejected by peers. In addition subgroups of adolescents with specific self-concept profiles were found to differ from each other in a number of circumstances, as well as in the level of ego development. This indicates among other things that educational and orthopedagogical interventions at school and in residential settings may have a greater chance of succeeding when they take into account the level of the ego development of individual children.

In summary, we advise exploring multi-dimensional facets of self-concept, the level of ego development, the presence of chronic adverse living conditions which may be experienced as threatening and inescapable in view of being different in a hearing world as standard themes during mental assessment procedures. We also advise paying special attention to the improvement in mental health service provision for children and adolescents with additional disabilities among which serious cognitive impairment and a history of serious physical comorbidity.

Relevance for quality improvement of specialised mental health services

The main goal for mental health services for deaf and hard of hearing people should remain the improved accessibility and quality of services over time. This becomes particularly difficult as most hearing professionals are not experienced in communicating with deaf people, and trained deaf and hard of hearing professionals are scarce. As indicated by the results of the studies presented in this thesis, mental health professionals need to gain expertise in the following domains at least: medical and audiological aspects of hearing impairments, the influence of hearing impairment on development, socio-cultural aspects, and complex presentations of problems in differential diagnosis and treatment. Moreover, they have to gain sufficient skills to communicate with deaf and hard of hearing people, and to interpret signed or otherwise non-verbal expressions of emotional and other mental health problems, either in sign language, sign supported spoken language, spoken language, a combination thereof, or still other modalities. They should also know when and how to integrate the use of professional interpreters within assessment and treatment approaches. Regularly, interpreters in more than one modality have to be brought in, for instance when interpreting in sign language and interpreting in another foreign spoken language are both needed at the same time, or when relay interpreting is warranted to interpret information into another form of the same language. Finally, professionals have to know how to adapt an environment to make it accessible for deaf and hard of hearing people in order to guarantee good communication between the professional and the child and his or her family. All these prerequisites are required to conduct proper assessments and treatments with deaf and hard of hearing children and adolescents and their families, in order to meet their mental health needs more effectively.

Future research

It is essential to continue studying deaf and hard of hearing populations with identified mental health problems in order to highlight the unchanged high level of mental health needs in a population which is still underserved.

First of all, scientifically sound, i.e. reliable and valid, diagnostic instruments adapted for using with deaf and hard of hearing people are needed in order to deal with a possibly limited understanding of written or complex language by a number of HI people with linguistic and cultural differences. The availability of more instruments that could be administered in the preferred mode of communication of the participant would be an important advance in this domain. Facets of self-concept, level of ego development, the possible presence of distress related to deafness-aetiology, physical comorbidity, or interaction with peers, the possibility of sexual abuse, and the presence or absence of satisfaction with communication with varying meaningful others, such as parents, teachers and peers, are all factors to be taken into account during assessment procedures, as they may have a significant impact on mental health.

Secondly, longitudinal studies are needed on the prevalence and pathogenesis of mental health problems and disorder and the correlates thereof in the population of deaf and severely hard of hearing children and adolescents, which include subpopulations with CI, cognitive impairments and physical disorder. With regard to prevention and early recognition we found an association between specific intrapersonal factors, i.e. facets of self-concept, and psychopathology, as well as moderating effects of specific deafness related characteristics. It is tempting to speculate that both low global self-worth and high self-perceived social acceptance are independent risk factors related to psychopathology. Moreover, it is tempting to speculate that the deafness related moderators may be viewed as independent chronic stressors and risk factors related to psychopathology, in addition to the already known risk factors described by Hindley and Van Gent (2002). Longitudinal studies are needed to examine the validity of these causal inferences. Replication of our findings in longitudinal research is important as the results may stimulate schools and educational care organisations to pay greater attention to these intrapersonal and deafness related factors which may indicate increased risk. This longitudinal research may assess the policy of integrating deaf and hard of hearing students into regular education, with follow-up research on the intra- and interpersonal consequences of types of placements of severely hearing impaired children and young people in the regular school system. Following a proposal by Stinson and Kluwin (2011), a useful approach to gaining more insight into the consequences of specific school placements on personal characteristics could be to give detailed accounts on intrapersonal, social, deafness- related, communicative and demographic characteristics of students and the effects of interventions aimed at improving the educational experience.

Thirdly, studies on interventions aimed at treating specific psychiatric disorders are highly essential. For instance we do not know whether specific treatment techniques, such as Cognitive Behavioural Therapy or Interpersonal Therapy, are as effective in deaf children and adolescents as in hearing peers. We suggest that pedagogical or therapeutic interventions have to be adapted to the ego level of the individual child or adolescent, which portrays its socio-cognitive maturity along lines of impulse control, complexity of self-reflection, interpersonal relations and conscious preoccupations, as described by Recklitis and Noam (2004).

Concluding remarks

We began this study project with the aim of contributing to improvements in prevention, early recognition, assessment- and treatment strategies of mental health problems, a more specific focus for future service provision, and future research. The findings in this thesis and the recommendations for (ortho-) pedagogical and therapeutic intervention strategies following on from these findings must be implemented both inventively and economically. Although the development of early newborn hearing screening and intervention programmes in The Netherlands has contributed to more effective family support and the promotion of developmental progress in hearing impaired children (e.g., Oudesluys-Murphy, Van Straaten, Ens-Dokkum & Kauffman-de Boer, 2000), the major challenge for mental health service provision is the current scarcity of well-equipped specialised mental health services and trained mental health professionals. Consequently, the current mental health services deliver only some of the basic services that are required to cover the mental health needs of this small population nationwide. For instance, at present there is a scarcity of specialised psychiatrists, skilled psychotherapists and parent counsellors, as well as well-equipped outpatient- and inpatient services and outreaching consultation facilities. Economic planning of services must start with the organisation of a balanced coordinated network to cover the field of mental health needs for deaf and hard of hearing people. These range from a highly specialised inpatient and outpatient service to more dispersed ambulatory services and outreaching consultation services which all work together with specialised educational and care organisations, audiology centres, other professional organisations in the field, and with local regular mental health services.

Collaboration between the combined special school and care organisations and specialist mental health services is essential for delivering co-ordinated services for special, complex and small populations near to where children and their parents live (e.g., see Salmon & Kirby, 2008). School based mental health services should preferably be integrated in the proposed nationwide network organisation with distinct locally accessible bases from where these and other services are delivered and co-ordinated on a regional and more local level. Integrated services may include family support and parent counselling, communication therapy, speech and language therapy, social skills training, pedagogic home counselling, short term interpersonal, cognitive behavioural, group or family therapy, health care provision based on general practitioner practices, psychiatric consultation and other ambulatory and outreaching mental health services, flexible crisis intervention services, etc. Group based training programmes at school may promote integrated social-emotional competence such as Promoting Alternative THinking Strategies (PATHS), developed by Greenberg and Kusché (1993), and anti-bullying programmes (e.g., Fellinger et al., 2009). A relatively small inpatient unit would be expected to be capable of dealing with the need for specialist inpatient assessment and treatment in The Netherlands.

At an organisational level it is important to give priority to the development of this collaborative chain of services which includes prevention, early recognition, assessment and stepped and matched care services, quick and smooth referrals, and effective treatment facilities. As it concerns a relatively small and complex population which requires highly specialised care, one nationwide organisation that integrates mental health care at all levels of complexity, and is capable of offering professional training and education, and research is recommended.

Preferred stakeholders in this organisation are the integrated specialist mental health services and the integrated school and care organisations, together with the responsible ministry, the health inspection, the insurance companies and certainly those interest organisations, who started a comparable initiative 27 years ago.

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