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About the Journal

The pace of change in the community mental health field is staggering. Twenty years ago we thought sheltered workshops were great. Today sheltered workshops have fallen into disfavour. Ten years ago we believed that day treatment programs were “it”. We’ve changed our minds about those too. It makes us wonder what will be the state-of-the-art ten years from now.

A similar transformation or evolution has happened in supportive housing. Twenty years ago, the Homes for Special Care system was the prominent form of supportive housing. Ten years ago, group homes which offered life skills training were heralded as the best choice for people disabled by mental illness. Today, permanent, normal housing with access to flexible supports is considered the ideal. All of these changes have several things in common. Reflected in these changes is the recognition that reduction of psychiatric symptoms alone is not enough; we also need to look at the whole person and how he/she functions in their home, work, school and social life. In addition to teaching people skills in relation to these settings we also need to increase environmental supports and resources. Just as the wheelchair-bound person needs ramps to enter a building, so too does the psychiatrically disabled person need modifications to their environment to support independent functioning. A very important factor in this evolution is the growing appreciation of providing choices and recognizing people’s preferences. How many more changes would we see if we gave the consumers the power to purchase the kind of treatment and support services they wanted.

The move away from a solitary focus on symptomatology to looking at one’s level of functioning in the world, brings with it the basic assumption or belief in hope. It has to because we do not have the ability to predict who will do well and who won’t. It also sets the stage for an approach that builds on strengths and abilities rather than emphasizing symptoms or illness.

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Contents

Peer Support as a Direct Benefit of Focus Group Research: Findings from a Secondary Analysis

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ABSTRACT

Peer support among individuals living with mental illness can occur in formal or informal settings and result in the exchange of knowledge and acceptance. The purpose of this study is to explore peer support dynamics that spontaneously emerged within focus groups with psychiatric survivors. Thirty-four psychiatric survivors participated in focus groups as part of a mixed method research project examining poverty and mental health. A secondary supplementary analysis of the focus group data was conducted to examine instances of peer support that emerged among participants. Participants engaged in peer support in a number of ways, including the exchange of practical information, evaluation of information and services, provision of empathy and affirmation, and development of friendships. Participants noted the value of gaining information from and supporting one another. The results demonstrate that psychiatric survivors can experience personal benefits through participation in research, including the development of informal peer support relationships.

Keywords: focus group; peer support; mental health; psychiatric survivors; research

INTRODUCTION

Peer support is characterized as a mutual exchange of emotional, social, and instrumental support among psychiatric survivors or individuals living with mental illness. Peer support has further been described as “a system of giving and receiving help founded on principles of respect, shared responsibility, and mutual agreement of what is helpful” (Mead, Hilton & Curtis, 2001, p. 135). There are a number of psychosocial processes involved in peer support, including the provision of social support, the exchange of experiential knowledge, the involvement of an understanding role model, and the enhancement of interpersonal competence through the helping of others (Solomon, 2004). Faulkner and Basset (2012) found that psychiatric survivors can benefit from peer support relationships by developing a shared identity, feeling less need to hide their mental health problems, increasing confidence, and being able to put "difficult life experiences to good use" by helping others (p. 43).

There are various levels of peer support relationships ranging from informal to formal peer support. The Mental Health Commission of Canada (MHCC, 2013) describes informal peer support as occurring when "acquaintances notice the similarity of their lived experience with mental health challenges and therefore listen to and support each other" (p. 17). Informal peer support relationships tend to be mutually beneficial with both individuals striving to find a path toward wellbeing. Formal peer support involves "program[s] where peer support workers make a connection with patients based on similarity of lived experience, and offer the opportunity for a supportive, empowering relationship" and can take place within hospitals, community organizations, workplace-based programs, and consumer-run peer support services (MHCC, 2013, p. 17). Formal peer support is often combined with professional support in mental health settings. Pallaveshi, Balachandra, Subramanian and Rudnick (2013) conducted a study comparing peer-led and professional-led group interventions for individuals with mental illness and addiction issues and found that participants were more comfortable with peer-led interventions but acquired more skills from professional-led interventions, suggesting that a combination of services may be most beneficial. Models of mental health services, such as the Transitional Discharge Model (TDM), include formal peer support as a key component and have been effective in outcomes such as reduced length of hospital stay (Forchuk, Martin, Chan & Jensen, 2005).

In the context of research, data collection via focus group methodology offers the possibility for the spontaneous development of informal peer support. The implementation of focus groups is strategic in that researchers plan for an open, non-threatening conversational space to facilitate the exchange of participants' perceptions concerning the topic of inquiry and can be a very effective way of exploring or elaborating on issues important to participants (Ivanoff & Hultberg, 2006). Focus groups have been found to have a number of benefits, such as encouraging the participation of individuals who are reluctant to be interviewed one-on-one or who may feel they have little information to contribute and providing researchers with opportunities to understand the way people view their reality (Ivanoff & Hultberg, 2006; Owen, 2001). In a study examining housing issues for psychiatric survivors, Forchuk, Nelson and Hall (2006) explained that the use of focus groups allowed the "actual voices of psychiatric survivors" to be expressed and, consequently, provided more depth and texture to understand their experiences (p. 49). To this end, Koppelman and Bourjolly (2001) outlined the importance of strategic methodological focus group planning for women living with serious mental illness. The women's engagement in open and comfortable discourse about their shared realities was empowering. Other authors have also found that focus group participants enjoyed their discussions together and found the sessions cathartic (Barbour, 2007; Krueger, 1994).

Focus groups may promote peer support because they are intended to "capitalize on the interaction within a group" through the use of open-ended questions and encouragement from the facilitator for participants to speak to one another about similar issues (Asbury, 1995, p. 414). However, there seems to be little evidence addressing the nature of these interactions or providing illustrations of peer support within current literature (Kitzinger, 1994; Webb & Kevern, 2001). Only one article that specifically focused on interactions between psychiatric survivors within focus groups could be located. Owen (2001) used focus group methodology to explore the perspectives of women with serious mental illness. Her findings indicated that interaction did not occur between participants but rather ideas were directed to the facilitator with participants demonstrating reluctance to discuss ideas amongst themselves. Additional research examining interactions and peer support within psychiatric survivor focus groups is necessary to expand knowledge on this important, but not often discussed, aspect of focus group research.

Purpose

The purpose of the current study is to describe peer support dynamics in focus groups with psychiatric survivors addressing poverty and mental health. While observation of participant interactions and peer support dynamics was not the primary purpose of the research project, numerous instances of peer support emerged, leading to a secondary analysis of peer support within a research setting.

Method

Design

The current study constitutes a secondary supplementary analysis of focus group data. A supplementary analysis has been described as a type of secondary analysis in which researchers conduct "a more in-depth investigation of an emergent issue or aspect of the data, which was not considered or full addressed in the primary study" (Heaton, 2004, p. 38). While the primary purpose of the focus groups was to explore the relationship between poverty and mental health from psychiatric survivors' perspectives, peer support dynamics emerged throughout the focus groups. Following the primary analysis, the authors returned to the data to conduct a supplementary analysis on peer support dynamics.

The current study is part of a two-year, mixed method research project exploring the relationship between poverty and mental health (Forchuk et al., 2010-2012). Quantitative interviews were held with psychiatric survivors on the topics of health, income, quality of life, and social support. Subsequent focus group sessions were held with a subset of the quantitative sample. Questions included "What are some of the challenges and obstacles specific to your financial situation?" and "What are some of the resources that have helped you?" Ethics approval was obtained from the Research Ethics Board at Western University, London, Canada.

The current supplementary analysis derived from the focus group data with psychiatric survivors. All focus group sessions were audio-recorded and transcribed verbatim by trained research staff. Two note takers were present during each focus group session to record field notes. The field notes included coding the participants to preserve anonymity, recording which coded participant was speaking in each interaction to assist in accurate transcribing, and noting any nonverbal communication that occurred during interactions (e.g. nodding, touching, handing out tissues). Two of the authors (Forchuk & Meier) were also present during some of the focus groups and were able to directly observe the verbal and nonverbal interactions between participants, enhancing the accuracy of interpretations that derived from the data analysis.

Sample

A total of 250 psychiatric survivors participated in the quantitative interviews. Participants were recruited through advertisements in local newspapers, posters in grocery stores, libraries, community and health care organizations, and with the assistance of health and social service providers. A research coordinator screened potential participants for eligibility. Inclusion criteria required individuals to be at least 18 years of age, have a self-reported psychiatric diagnosis for a minimum of one year, speak and comprehend English, and provide written informed consent. After providing informed consent, participants completed one-on-one quantitative interviews with a research assistant. Following the interview, participants were asked if they were interested in participating in a subsequent focus group and, if they agreed, provided their contact information.

During the quantitative interview participants indicated whether they believed their financial status had improved, stayed the same, or worsened in the previous year and focus group sessions were divided based on these results. The 'improving' category had fewer participants in it and therefore all interested participants in that category were invited to attend the appropriate focus group. Because the 'staying the same' and 'worsening' categories were larger than the capacity of the focus groups, a subset of interested participants in those categories were randomly selected and invited to attend the appropriate sessions. A total of 34 invited participants were available during the set focus group times and participated in the focus groups. One focus group session was held with participants who perceived their financial status as improving, two focus groups with participants who perceived their financial status as staying the same, and two focus groups with participants who perceived their financial status as worsening. Participants received a $20 honorarium for their participation in the focus group.

Data Analysis

The combined transcripts were analyzed using conventional content analysis. In general, content analysis is defined as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes and patterns" (Hsieh & Shannon, 2005, p. 1278). More specifically, a conventional content analysis is used when researchers immerse themselves in, and allow insights to emerge from, the data while avoiding preconceived categories (Hsieh & Shannon, 2005; Kondracki & Wellman, 2002).

Peer support dynamics were observed when conducting the primary analysis of focus group data. Following the primary analysis, the authors returned to the transcripts and highlighted instances of participant interactions with one another. The interactions were extracted from the transcripts and the authors made notes of their initial impressions of the data. Impressions were discussed in group (teleconference) meetings with all authors. Following discussions of initial impressions, the interactions were grouped together based on similarities in content and tone. The authors attempted to directly reflect participant words and sentiments when labeling the groupings and regularly discussed their labels to ensure that there was agreement in interpretation.

Results

A total of 34 individuals, 17 males and 17 females, participated in the focus groups. Note takers estimated participant ages with ages ranging from mid-20s to mid-60s. The majority of participants were in the 30s or 40s age range. The peer support dynamics that emerged within the focus groups were similar regardless of financial status category (improving, staying the same, worsening) so all of the focus groups were analyzed together in the current study. When quotations presented in the findings involve interactions between multiple participants, participants are identified using "Participant 1," "Participant 2," etcetera to provide clarity to the reader. To preserve the anonymity of participants, "Participant 1" within one interaction is not necessarily the same individual as "Participant 1" in another interaction. Participants are re-numbered within each interaction so as not to identify any specific individual throughout the findings.

Information about Resources

During the focus group discussions a facilitator asked participants about the resources that have helped them financially. Instead of directing their responses to the facilitator, participants spoke to one another about the resources they accessed. By describing resources to one another, participants demonstrated expertise in their personal knowledge and eagerness to share their knowledge of resources with other participants. Information was shared about community services, health care services, financial assistance, employment support, education, and food.

Community services.

Participants accessed a number of community services to obtain peer support, tangible resources, and information. Throughout the focus group discussions information regarding community services were shared. For example, two participants discussed a drop-in centre for women,

Participant 1: "It's [a program] just for women … like any ages. You know a lot of young women go there too and their kids too."

Participant 2: "Don't you have to be homeless?"

Participant 1: "No … you don't have to be. And there's workers there that will talk to you."

When another participant described a different women's program, others joined the conversation and elaborated on the resource, demonstrating their awareness of the same service,

Participant 1: "[Agency] is a transition home for women that are post-psychiatric or homeless and they offer free lunches."

Participant 2: "You can do your laundry there, you can access the computers there."

Participant 3: "You can have a shower there."

Participants provided information to one another on resources that they found beneficial and suggestions for others to consider.

Health care services.

As all of the focus group participants had a psychiatric disorder, health care services were commonly accessed. Participants described some of the difficulties they faced when managing their mental illnesses and others informed them of useful health care services and resources. Examples include,

Participant 1: "[It's] one of the best books I ever got."

Participant 2: “Oh cool, what’s this?”

Participant 1: “It was [name]. If you have any form of depression, I’m telling you man get that book and do it.”

and

Participant 1: “There’s a place actually here at [hospital] called the [psychiatric care] team.”

Participant 2: “Oh yeah?”

Participant 1: “and … you can refer yourself, or you can go through the ER or you can get your family doctor … and it’s free … I have the phone number if you want it.”

Participant 2: “Okay.”

Participants were well informed of health care services and resources and were able to provide one another with specific details, including workbook titles and program phone numbers.

Financial assistance.

Many participants in the current study were unemployed and accessing or hoping to access finances from Ontario Works (OW, general welfare) or Ontario Disability Support Program (ODSP, provincial disability). When participants discussed the difficulties they faced or frustrations they had with the programs, others provided suggestions and information about their rights as clients. As stated by one participant,

“There’s things that welfare don’t even tell you that you’re eligible to have … like they’ll buy you a cell phone, they’ll pay for your cell phone, there’s a travel allowance.”

Other participants conversed about the expectation to report all sources of received income,

Participant 1: “They won’t deduct birthday gifts but they want you to claim it.”

Participant 2: “You have to claim it.”

Participant 3: “Legally they can’t deduct it but some of them will try.”

Employment support.

While a number of participants were unemployed and accessing financial assistance, many expressed interest in employment. Participants expressed a number of issues when trying to access jobs, including potential OW or ODSP deductions, lack of professional clothing, and gaps in resumes, among others. Despite these issues, participants shared information about employment services and supports they could access in their community. For example, "There's another facility I know of … will help people get back into the workplace with a full seminar on preparing yourself for a job, what you should do, the things you should know, the things you should prepare."

Education.

Furthering education in the hopes of obtaining future employment was another topic of discussion for participants. As they explained the barriers they faced in terms of education, others provided information on educational supports,

"I went on Ontario Works and they let me go (to school) for the whole day … and they support me … if I wasn't on there I would have to do it on my own and it would cost you. If you're on the system they don't charge you for that."

After describing this program, other participants inquired about the organization that ran it. Participants were well informed of various education services and enthusiastic about helping others discover them as well.

Food.

Access to healthy and affordable food was a central issue of discussion among participants. Participants shared information regarding where to access free food while upholding food bank policies, "Every month I write down what food bank I can go to." Further, the following example illustrates a participant's suggestion to secure adequate food on a limited budget,

Participant 1: "A lot of people I know will try to buy their food all at once for the month and that's really hard to do sometimes."

Participant 2: "That's why you need a gift card."

Participant 1: "Yes I thought of doing that."

Some expressed that purchasing healthy foods on a limited budget was possible if they "buy whatever fruits and vegetables are in season … they tend to be cheapest … like cabbage … cabbage has a lot of nutrition, it's very cheap."

Food preparation was also discussed. For example, a participant shared how to make yogurt,

Participant 1: "You can make your own yogurt … you take a quarter of a cup of yogurt and add water and dried milk powder which you can get from the food bank … you put it in a casserole dish. You put it in the oven and you turn the oven off and the heat from the oven makes the yogurt grow."

Participant 2: "Really?"

Participant 1: "Yeah and it tastes just like it."

Importance of Information

In addition to directly providing information on resources, participants evaluated the information they gave and received, and acknowledged that they had difficulties accessing the same information when speaking to service providers.

Evaluating information.

During the focus group discussions there were instances when participants described resources and concluded by evaluating the resource for the benefit of others. Some examples include,

Participant 1: “It’s run by consumers of the mental health services system.”

Participant 2: “It’s not right for everybody. You have to find your own place in the outside world. But it’s a good place.”,

“They have free art supplies to a limited extent … to get out some of those demons inside and to help for things you can’t quite describe with words … it’s really good at getting some of those difficult things out.”

and

“Something that helped me when I first got started with this merry-go-round … every few years I go back to the same counseling agency … I’ll go there and talk with the same counselor and I usually learn something new and I feel better than I did before.”

Participants not only provided information about resources to one another but also gave insight into the quality of the services by stating whether they were good or bad, helpful or unhelpful.

In addition to evaluating a number of resources, a few participants specifically stated which resources they valued above others and which resources they would recommend to others. One participant explained the importance of overcoming addiction,

“When I got clean, I realized that that’s a resource, getting clean. Opens up a whole world for me … I’m a member of society today. I’m capable of making better decisions … if I had one thing to tell everybody that would be it.”

Another participant gained insight through a specific personality course he took in the community,

“It’s a two week course … finds out where you’re going and possible directions you might want to go. And it’s like whoa! Opening up the curtains wide where it was all dark for me … I recommend it for everyone here in the room.”

It is clear that participants had opinions about which resources they valued and provided important information to one another by stating which resources were helpful and which they valued most.

Lack of information about services from providers.

At times, participants expressed their surprise that others were unaware of various pieces of information prior to entering the focus group session. While describing a peer support agency, one participant stated: "Everybody doesn't know about [agency]. It's weird. I don't understand." There were numerous instances of participants stating that they did not know or had never heard of resources. More specifically, participants expressed frustration that no one had previously told them about resources, despite being engaged as clients in the health care and/or social services sectors. One example involved two participants discussing a peer support agency,

Participant 1: "I've run across peer support in a lot of different ways, I mean I work at [agency]."

Participant 2: "What is [agency]?"

Participant 1: "It's about what you're talking about."

Participant 2: "How come ain't no one said this to me before? Cause I'm really frigged up and need someone."

A number of participants specifically stated that service providers do not provide necessary information and subsequently the primary way they receive information is by speaking to other clients. Examples include,

"Well if you don't know it's there how you gonna get it, if they don't tell you it's there? Most of the information that I've found is from other people that are on the system."

and

Participant 1: "It's not publicized … all the different people here, how many people knew about all of the different things that were available to different individuals? It's not publicized right."

Participant 2: "You find out about programs that people have gone through."

Support while Exchanging Information

Information exchange and evaluation were two primary ways in which participants demonstrated peer support. A third way in which peer support emerged was through the provision of empathy, affirmation and the building of friendships.

Affirmation during information exchange.

Participants were observed as showing empathy and affirming one another during the focus groups. During one exchange, a participant explained her financial and relationship struggles while two other participants took turns patting her back, holding her hand and handing her tissues when she cried. In another situation a male participant discussed losing custody of his son with two others expressing compassion for him, Participant 1: “As soon as I signed over my parental rights I became person non grata, they don’t tell me what they’re doing with him, where he is, nothing like that.”

Participant 2: “I’m sorry to hear that.”

Participant 1: “Oh thank you.”

Participant 3: “I’m sorry you had to go through that.”

Participants also encouraged one another throughout the discussions. Examples include,

Participant 1: “I’m isolating myself … I’m making money but I’m not out there.”

Participant 2: “At least you’re trying to do it.”

Participant 1: “Yeah.”

Participant 2: “That’s the first step.”

and

Participant 1: “For us that are on low income I wouldn’t want to live in their shoes because it takes a survivor, and a strength and strong person to be where we are and to go where we’re going.”

Participant 2: “Exactly, I agree with you.”

Participants 3 and 4: (nods)

Participant 1: “Not anybody could walk in our shoes but strong people do.”

Empathy and affirmation were observed in a number of ways, including touch (e.g. patting back, hug), the provision of information, and verbal encouragement or expressions of understanding. Participants also affirmed the facilitator in the usefulness and benefits they received from the focus groups,

Participant 1: “Right now we’re kind of relating to each other like what we have in common is we’re having a hard time so we feel a little bit of a connection over that or we’ve had similar experience there.”

Participant 2: “It’s a good thing to bring people together.”

Building future connections.

As a final indicator of peer support, some participants made an effort to develop relationships to carry through after the focus groups ended. One particularly pertinent example occurred between three women,

Participant 1: “Would you guys be interested in coming together in a group and then maybe doing like an outing?”

Participant 2: “Yeah.”

Participant 1: “‘Cause you guys seem like really interesting people.”

Participant 3: “… Could you give me your number? That would be awesome.”

Other participants expressed more general support by stating that they would be available to others if they were going through difficult situations,

Participant 1: “What about all the lost souls that don’t know where to go because they’ve had so many doors shut in their face?”

Participant 2: “Well honey, you can always come to my house.”

Participant 1: “Your door’s always open?”

Participant 2: “Sure.”

These exchanges indicate that participants valued the connections they built during the focus groups and saw the other participants as potential friends and peers to exchange assistance and companionship with in the future.

Discussion

The findings from the current study demonstrated that informal peer support occurred spontaneously within a research setting. Participants attended a focus group session for the purpose of discussing poverty and mental health but also engaged in peer support through the practical exchange of information and through expressions of support and understanding. Not only did participants share valuable information with the research team, they demonstrated the importance of sharing their experiential knowledge with one another. As a number of participants stated, they tend to discover new information based on the knowledge of others who are in similar situations.

Implications

The information and support exchanged between participants indicates that psychiatric survivors benefited from their participation in the focus groups. As stated by one participant, “It’s a good thing to bring people together.” The potential interpersonal benefits of participating in focus group research are not often acknowledged within Research Ethics Boards (REBs). Within the Canadian Tri-Council Policy Statement (2010) discussing REB guidelines, the description of potential research benefits is described as such:

“Research involving humans may produce benefits that positively affect the welfare of society as a whole through the advancement of knowledge for future generations, for participants themselves or for other individuals. However, much research offers little or no direct benefit to participants. In most research, the primary benefits produced are for society and for the advancement of knowledge" (p. 22).

The findings from this study demonstrated that focus group research also promotes direct benefits for participants such as the provision of informal peer support. While the risks associated with such research must still be considered, it appears that focus group methodology may enhance the benefits of research participation beyond the traditional advancement of knowledge for society.

Limitations

As the current study is a secondary analysis, the focus group data was not collected for the purposes of investigating peer support dynamics. There are a number of potential limitations inherent to secondary analyses, including exaggerated researcher bias and insufficient secondary data (Thorne, 1998). Further, researchers must ensure the voices of participants are depicted accurately despite the supplementary nature of the analysis (Thorne, 1998). As two of the authors were directly involved in data collection, all authors discussed and validated each other's interpretations, and attention was paid to including participant quotes and sentiments directly and in context, the authors worked to rectify any potential secondary analysis issues that may have emerged.

Conclusion

The current study was a secondary analysis of focus group data exploring the issues of poverty and mental health for psychiatric survivors. Peer support dynamics occurred spontaneously during the focus group sessions through practical information exchange and expressions of support between participants. The findings from this study indicate that it is possible for participants to experience personal benefits when participating in focus group research. While REBs tend to focus primarily on the societal benefits of research participation, these findings demonstrated that participation also personally benefits participants through the provision of informal peer support.

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Quality of life and need assessment changes in individuals with severe mental illness: A 5-year follow-up study.

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ABSTRACT

The present study is a 5-year follow-up study of patients with schizophrenia and mood disorders, who were patients on a day-clinic in Landspitali University Hospital, Reykjavik, Iceland for more than one year in 2008. In all, 47 patients fulfilled the criteria and were interviewed that year at a baseline. Their needs were independently rated by themselves and by their key-worker. The interview with the patients also included quality of life assessed by the Lancashire Quality of Life Profile (LQoLP) which includes the Rosenberg self-esteem scale.. Five years later, 30 of them also participated in this follow up study, but in the meantime the day-clinic had been closed tvo years before follow-up. Over the 5-year follow–up quality of life of the subjects had deteroriated (-0.28) although not statistically significant owing to the small sample size and they had more unmet needs (+0.4). At follow-up one third of the subjects reported that they had no reliable friend and quarter of them had no close friend. Quality of life correlated with few unmet needs to a minor extent and more strongly with the level of self-esteem.

Keywords: need assessment, quality of life, key workers, severely mentally ill and deinstutionalise.

INTRODUCTION

The Mental Health Services at Landspítali, the National University Hospital of Iceland have changed much since the 1960‘s. The introduction of new and improved antipsychotic drugs enabled severely and chronically mentally ill patients to be discharged from institutions. The purpose of these changes was to increase individual independence with patients who had been in psychiatric wards for a very long time and providing them assistance and opportunity for living outside the institution (Óttar Guðmundsson, 2007). Another fundamental shift has occurred within the Mental Health Services in Iceland in the past four decades for patients with severe mental illness. Traditionally viewed as passive recipients, these individuals are increasingly considered to have a legitimate voice in evaluating the effectiveness of the services they use (Hansson et al., 2001).

In recent decades, increased attention has been focused on the need to develop patient-centered outcome measures for individuals suffering from long-term illness (Slade, 1994). In this framework, met and unmet needs can be differentiated. A met need occurs when the patient has a problem that is ameliorated through the help given. An unmet need occurs when the patient has a serious problem wheather or not any help is given (Slade, 1994). There has also been increased interest in assessing the quality of life of patients suffering from long-term mental illness when planning for these patients (Lehman, 1983). The concept normally refers to the sense of well-being and satisfaction experienced by persons with regard to their live (World Health Organization, 1997). It is commonly understood that the quality of life for an individual is determined by personal traits, the environment and subjective evaluation in different areas (Pinikahana, Happell, Hope and Keks, 2002).

The assessment of quality of life in schizophrenia is a complex and difficult task, underpinned by a culturally bound and ill-defined construct. Despite this, common findings are beginning to emerge from the literature. First, it is very clear that people with schizophrenia suffer a significantly poorer standard of living than others in the community. This finding has been replicated again and again since the work of Lehman (1983). Second, it is becoming clear the people with schizophrenia can validly and reliably report their internal experiences and perceptions. The work of Voruganti et al. (1998), was instrumental in dispelling the notion that asking people diagnosed with schizophrenia about their quality of life was a fruitless exercise. Third, the (often gross) mismatch between patient perceptions of quality of life and key worker ratings is no longer viewed as proof that such perceptions are wrong. On the contrary, subjective assessment is now understood to be its own gold standard. Key worker-rated and patient-rated information, and objective and subjective assessments are different constructs. As such, they should not cluster but, instead, should provide complementary information about the patient in question (Warner et al., 1998). Finally, an understanding of factors that influence subjective quality of life in schizophrenia is also emerging. It appears that variables that reduce quality of life are of two types: a) those which affect perception; and (b) those which alter expectation. Influences such as pain and depression act as cognitive distorters and alter perceived reality. Expectations of life are often reduced in schizophrenia as patients accommodate to adverse circumstances (Sainford, Becker and Diamond, 1996).

A handful of studies have been performed that compare the evaluation of the key worker and the patient. The results show mismatch between the two evaluations (Middelboe, Mackeprang, Thalsgaard and Christiansen, 1998). Furthermore, they demonstrate that key worker and patient give similar estimates for the number of needs but that patients find more needs unmet than the key worker (Slade, Phelan, Thornicroft and Parkman, 1996).

Psychiatric doctors have studied the health of Icelandic patients suffering from schizophrenia. Their results show that these patients are underdiagnosed and undertreated when it comes to diabetes II, hypertension and dyslipidemia. Obesity was also found to be more frequent among schizophrenic patients than the general public (Ólafur Sveinsson et al., 2012).

Páll Biering, Guðbjörg Daníelsdóttir and Arndís Ósk Jónsdóttir (2005) studied the attitude and experience of recipients of The Mental Health Services in Iceland towards quality of the services they had received. The majority was pleased with received service during their stay at the psychiatric hospital. However, a large group of subjects was unsatisfied with follow up and information channeling after being discharged.

The subjects of the present study attended a day-clinic of the Mental Health Services in Iceland for many years. The clinic specialized in follow-up for discharged patients from prychiatric intensive care wards. What differeniated the day-clinic from other wards in the Mental Health Services is that it was located outside of the two major hospitals, being co-located with two hundred apartments for the disabled in three interconnected buildings. The day-clinic was responsible for psychosocial rehabilitation of patients with severe and chronic mental illness. The majority of the patients resided independently in the same building (Guðrún Blöndal and Kristín Ólafsdóttir, 2007). At the baseline of the study, medium age of participants was 54 years and they had suffered from the illness for 23 years on average. Although Browne et al. (1996) have reported poorer quality of life in older people with schizophrenia, most observers report little effect of age on quality of life (Corrigan and Buican, 1995). Knight (2009) investigated the long term effect on quality of life between two age groups of long-term mentally ill individuals; “younger“ and “older“ in North England and found out that satisfaction with quality of life was more 14 years later with the old ones but less with the young ones.

A study performed in the Nordic countries (n = 408) used Lancashire Quality of Life Profile (LQoLP) to assess the quality of life experienced, while need assessment with Camberwell Assessment of Need (CAN) assessed the factual circumstances in the individual´s everyday life. That study showed LQoLP total quality of life was on the average 4.49 on a scale from 1 to 7 and unmet needs were on the average 2.6. The study showed that only two objective living conditions were associated with subjective global well-being a) to have a close friend and b) to have larger number of friends and relatives available in the social network. Of subjective factors, satisfaction with health and self-esteem explained the largest part of the variance (Hansson et al., 1999).

The present study used the same measuring devices as the Nordic one; LQoLP and CAN. At baseline of this study, LQoLP quality of life was on the average 4.77 and unmet needs 2.1 (Svavarsdóttir, Júlíusdóttir and Lindquist, 2014). Another Icelandic study with out-patients from the Mental Health Services (n = 90) showed that unmet needs were on the average 2.4 (Eiríksdóttir, 2009).

When re-evaluating policy and operation of Icelandic Mental Health Services, decisions were made to adapt policies from other countries with regards to serving patients and institutionalized mental care wards were closed. The mentally disabled should live in the community and receive services from the Mental Health Services when needed (Sveinbjarnardóttir and Thorlacius, 2014). The day-clinic, mentioned before, was closed in 2011 and subsequently, follow up for discharged patients was only performed at outpatients clinics or in the community and in hospital mental health teams.

De-institutionalization has led to prosperity for most patients even though many of them had been abandoned, homeless and without care, according to psychiatrists Eisenberg and Laurence (2010). Discharged patients with chronic mental illness (n =302) from Sundby Hospital in Sweden were tracked over a 14 year period. Homelessness, criminality, abuse, suicide and somatic illness increased markedly among them When de-instituionalization was shown to produce new problems, interest in new ways to support discharged patients was raised (Belfrage, 1994).

A study from Finland showed that patients with a chronic disease always had some unmet needs even though they were in different areas over time. The study also showed that the community mental health care system was able to actively treat patients with schizophrenia during the first few years, but when the illness lasted longer, the care system became uneffective (Salokangas, 1994).

In the 1990, the Swedish government started investigation on the care and social support of patients suffering from long-term mental illness. The investigation showed that outpatients displayed more personal integrity, while receiving less support. But they had a lower quality of life and less social structure than in-patients (Foldemo and Bogren, 2002). The goverment´s investigation resulted in a psychiatric reform in 1994 containing directives for better support for outpatients. The psychiatric reform also focused on the comparison between caregivers and gave economic support to new care systems (Belfrage, 1994).

So far, the effects of patients being discharged from mental care wards as a result of policy making in Iceland or restructuring have not been studied. The aim of the present study was to assess the manner in which the psychiatric reform in Iceland influenced patients suffering from long-term mental illness after they were discharged from the clinic in terms of need satisfaction and quality of life. A further aim was to see whether there were differences between how the key worker and the patients reported the patient´s needs. The effects of objective and subjective factors on quality of life were also studied.

Method

Design

The design was a 5-year follow-up study. The study group consisted of patients who had spent more than one year at the psychiatric day-clinic in Hátúni 10 at Landspítali University Hospital of Iceland in 2008, who were between 31 to 78 years, and fulfilled ICD 10 criteria for schizophrenia and mood disorders (Svavarsdóttir et al., 2014). They were all interwieved at the baseline between November 2008 and February 2009. In all 47 patients participated. The interviews were structured and performed by two interviewers and included the following scales: The Lancashire Quality of Life Profile (LQoLP) and Camberwell Assessment of Need (CAN). Within 2 weeks after the baseline interview, a key worker from the day-clinic was interviewed by the same researcher using a structured interview (CAN) to assess the patient´s needs.

The follow-up interview was performed between September 2013 and January 2014, by the same interviewers as performed the interviews at the baseline and using the same scales. At the follow-up 30 patients participated.

Instruments

Quality of life was assessed with LQoLP (Oliver et al. 1996). The LQoLP is a structured self-report interview to be administered by trained interviewers. It assesses objective quality of life and subjective life satisfaction in nine life domains: a) work; b) leisure; c) religion; d) finances; e) living situation; f) safety; g) family relations; h) social relations and i) health. General life satisfaction is a single question asked twice, at the beginning and end of the interview, and the two ratings averaged. LQoLP also includes a) a patient global assessment of quality of life (Cantril´s ladder) and b) an interviewer assessment of the individuals global quality of life, c) an affect balance scale, d) a self-esteem scale (Rosenberg scale) and e) a happiness scale. Objective quality of life and personal characteristics are assessed by categorical or continuous measures depending on the content of the item. Subjective quality of life ratings are made on a seven-point Likert-type scale. The LQoLP has been used in a number of international studies, and has been translated into several languages, including most of the Nordic languages. The LQoLP has shown satisfactory reliability and validity (Oliver et al., 1997; Hansson, Svenson and Björkman, 1998; Van Nieuwenhuizen, Schene, Boevink and Wolf, 1998). Assessment of needs was investigated both among patients and key-workers responsible for the treatment of the patient, using the CAN interview (Phelan et al., 1995; Hansson, Björkman and Svenson, 1995). In the present study the Icelandic translation of the research version 3.0 was used. The CAN scale consists of clinical and social needs divided into 22 areas: a) accomodation, b) food, c) looking after the home, d) self-care, e) day-time activities, f) physical health, g) psychotic symptoms, h) information about condition and treatment, I) psychological distress, j) safety to self, k) safety to others, l) alcohol, m) drugs, n) company, o) intimate rela tionship, p) sexual expression, q) child care, r) basic education, s) telephone, t) transport, u)money and v) social benefits. In each of the 22 areas are four sections: a) the severity of need (no problem = 0, moderate problem = 1, serious problem = 2), b) the current help received from friends or relatives (none = 0, low = 1, moderate = 2, high = 3), c) support from social services and out-patient clinics has the same ratings as the previous item, d) the adequacy of help received and satisfaction with the help (no = 0, yes = 1). Participants

In total, 59 patients from the psychiatric day-clinic in Hátún 10 at the Landspítali University Hospital of Iceland, were approached at baseline and the final sample included 47 patients.

The mean age of the study-group at the baseline was 54 years. The number of women who participated was 19 and 28 men participated. The mean duration of their phychiatric illness had been 23 years. When they were interviewed at the baseline all the patients lived in their own apartments and most of them (n = 37) lived in the same building as the clinic had residence. The key worker who was interviewed at the baseline had worked with the psychiatric patients for forty years.

At the baseline the whole study-group attended the day-clinic but three years later the clinic was closed. Two years after the clinic was closed the same study-group was approached. Of the 47 patients from baseline, 17 of them did not participate in the follow-up study for various reasons. Some had deceased (n = 6) few had so severe psychopathological status that they were not able to participate in the assessment (n = 3), one could not be contacted and some refused to be interviewed at follow-up (n = 7). The final sample consisted of 30 informants The National Bioethics Committee (13-051-S1) in Iceland and the Data Protection Authority in Iceland (2013030388VEL/--) approved the study and all patients gave informed consent to participate.

Statistical analysis

The statistical analysis program Statistical Package for the Social Sciences (SPSS) 20.0 was used in this study to analyse the data. Multiple stepwise regression was used to investigate associations between objective life conditions, clinical characteristics and subjective factors which was the dependent variable. The objective life conditions in the analysis included the following variables: a) age, b) sex, c) frequency of family contact, d) close friendship, e) reliable alliance with friend, f) contact with a doctor past year for physical illness or mental illness, g) psychiatric hospital admission past year. The clinical characteristics were the number of identified unmet needs according to CAN. The subjective factors used in the analysis were satisfaction with life in the areas of a) health, b) work, c) leisure, d) safety, e) social relations, f) finances, g) religion, h) family situation and i) living situation along with the average of two questions about general well-being.

Results

Objective living conditions, social and clinical characteristics

Of the baseline sample, 10 patients could not be interviewed. Of the remaining 37 available patients, assessment were conducted on 30 subjects (81%). Mean age at first admission on a psychiatric ward was 29 years but half of the patients were admitted before the age of 23. The ages of the 47 patients in the

2008 study ranged from 16 – 56 years at first admission. Mean duration of illness, measured as first admission to hospital, was 23 years and one third of the patients had been hospitalised during the past year.

The changes in characteristics of the samples and objective conditions between baseline and follow-up are shown in Table 1. At baseline 92% lived alone but at follow-up 80% lived alone, 10% had moved to nursing homes and 2% were homeless. Patients visited their families less often at follow up, 7% fewer visited their family a every month at follow up and 8% visited their family more seldom than on a monthly basis. Only 13% were working at baseline and five years later 8% were working. .At follow up 12% fewer patients had a close friend and 27% fewer had a reliable friendship (someone to turn to if needed). Contact with doctors both for physical and mental illness was mostly the same at baseline and follow up, but fewer had been hospitalized the last year at follow up.

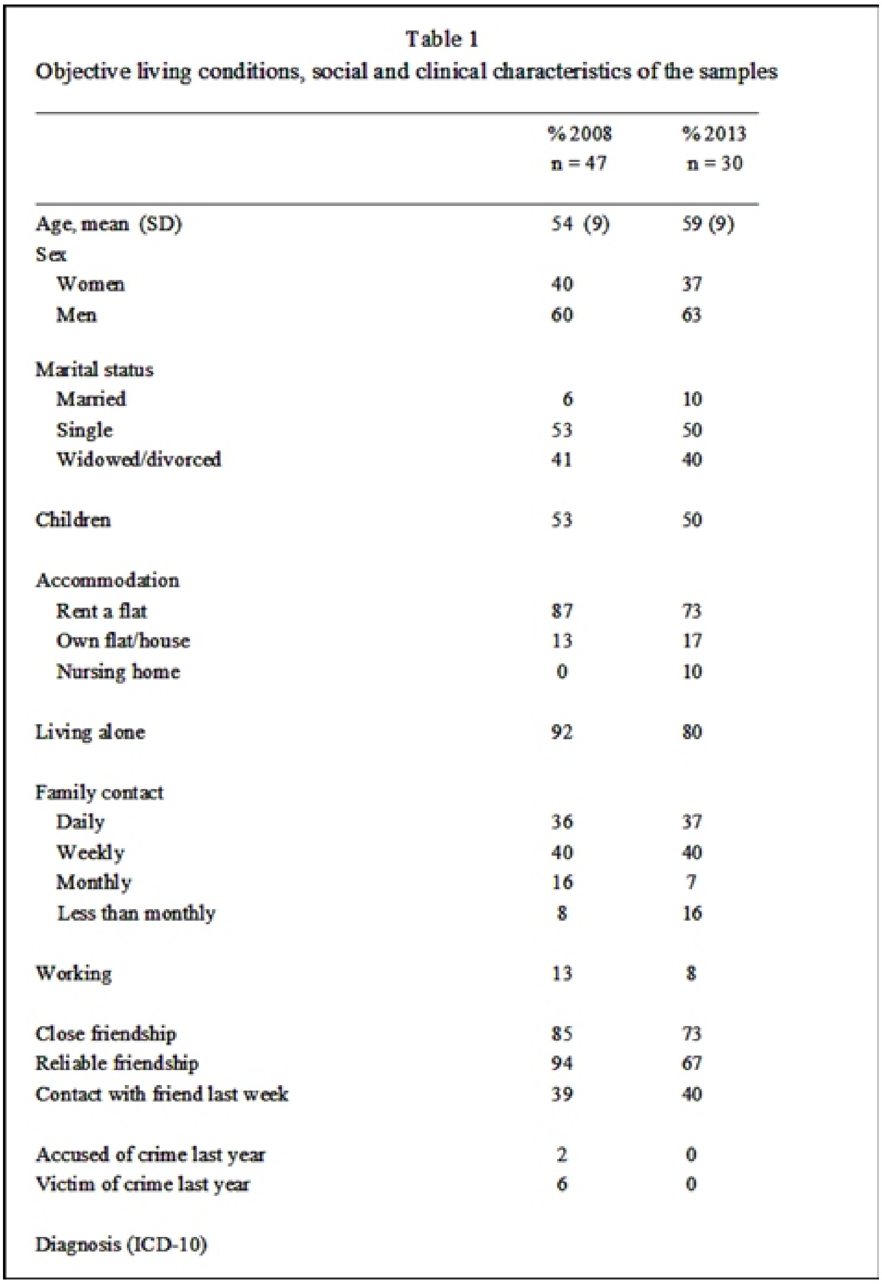

Table 1

Objective living conditions, social and clinical characteristics of the samples

	%2008 n = 47	%2013 n = 30
Age, mean (SD)	54 (9)	59 (9)
Sex		
Women	40	37
Men	60	63
Marital status		
Married	6	10
Single	53	50
Widowed/divorced	41	40
Children	53	50
Accommodation		
Rent a flat	87	73
Own flat/house	13	17
Nursing home	0	10
Living alone	92	80
Family contact		
Daily	36	37
Weekly	40	40
Monthly	16	7
Less than monthly	8	16
Working	13	8
Close friendship	85	73
Reliable friendship	94	67
Contact with friend last week	39	40
Accused of crime last year	2	0
Victim of crime last year	6	0
Diagnosis (ICD-10)		

Subjective quality of life

The results of the changes in satisfaction with subjective quality of life are snown in Table 2.

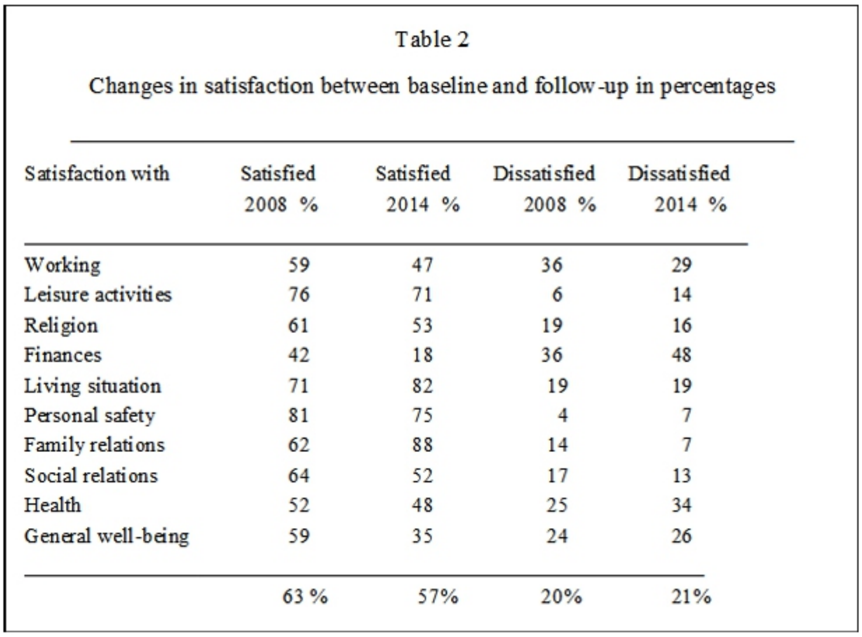

Table 2

Changes in satisfaction between baseline and follow-up in percentages

Satisfaction with	Satisfied 2008 %	Satisfied 2014 %	Dissatisfied 2008 %	Dissatisfied 2014 %
Working	59	47	36	29
Leisure activities	76	71	6	14
Religion	61	53	19	16
Finances	42	18	36	48
Living situation	71	82	19	19
Personal safety	81	75	4	7
Family relations	62	88	14	7
Social relations	64	52	17	13
Health	52	48	25	34
General well-being	59	35	24	26
	63 %	57%	20%	21%

Most subjects access their satisfaction poorer now than at baseline or 6% less satisfaction on the average. Only on two areas they assess their satisfaction better at follow up. Over a quarter, 26% were more satisfied with family relations at follow up and 11% were more satisfied with their living situation. Less satisfaction was regarding finances as 24% fewer were satisfied at follow up. The same difference is in their assessment on general well being, but there were 24% fewer that assessed their satisfaction with general well being at follow up than at baseline. On the whole, dissatisfaction with quality of life was the same between baseline and follow-up, but had changed between domains. Subjects assessed less dissatisfaction on four domains: a) work, b) religion, c) family relations and d) social relations but more dissatisfaction concerning: a) finances, b) general well being, c) health, d) leisure activities and e) personal safety. Nearly one fifth or 19% were dissatisfied with their living situation.

The results of the subjective LQoLP ratings, divided in 9 life domains, is shown in Table 3 and the changes between baseline and follow-up.

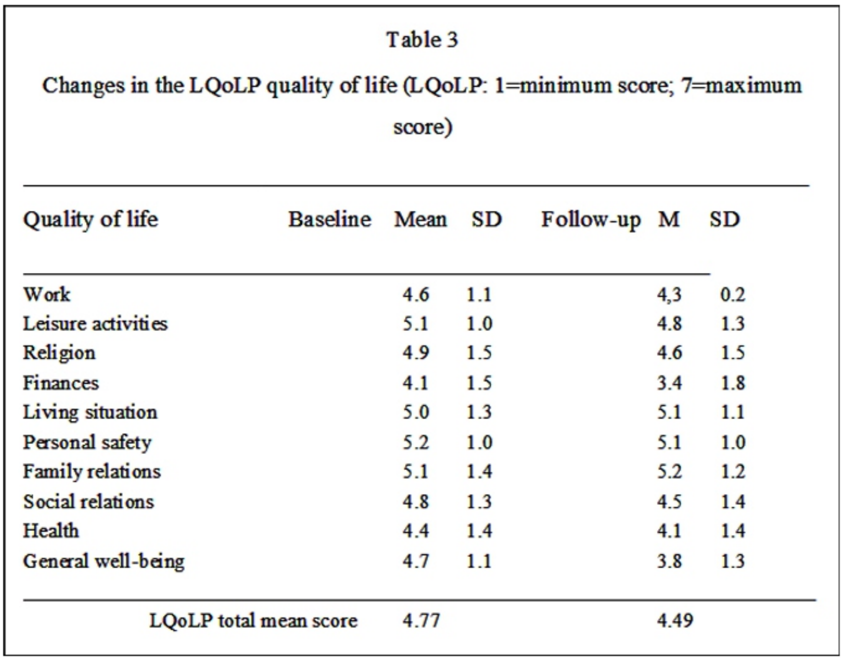

Table 3

Changes in the LQoLP quality of life (LQoLP: 1=minimum score; 7=maximum score)

Quality of life	Baseline Mean	SD	Follow-up M	SD
Work	4.6	1.1	4,3	0.2
Leisure activities	5.1	1.0	4.8	1.3
Religion	4.9	1.5	4.6	1.5
Finances	4.1	1.5	3.4	1.8
Living situation	5.0	1.3	5.1	1.1
Personal safety	5.2	1.0	5.1	1.0
Family relations	5.1	1.4	5.2	1.2
Social relations	4.8	1.3	4.5	1.4
Health	4.4	1.4	4.1	1.4
General well-being	4.7	1.1	3.8	1.3
LQoLP total mean score	4.77		4.49	

The subjects LQoLP total mean score is higher (+0.28) at baseline than at follow-up, although the differerence was not statistically significant, p = > 0.05, which might be because of the small sample size. On two domains their assessment at follow-up was higher: a) family relations (+0.1)and b) living situation (+0.1). Most difference from baseline to follow up, although not significant was on general well being (-0.9) p => 0.05 and finances (-0.7) p => 0.05.

Needs for care

As shown in Table 4, the total number of needs for care did not differ between baseline and follow-up.

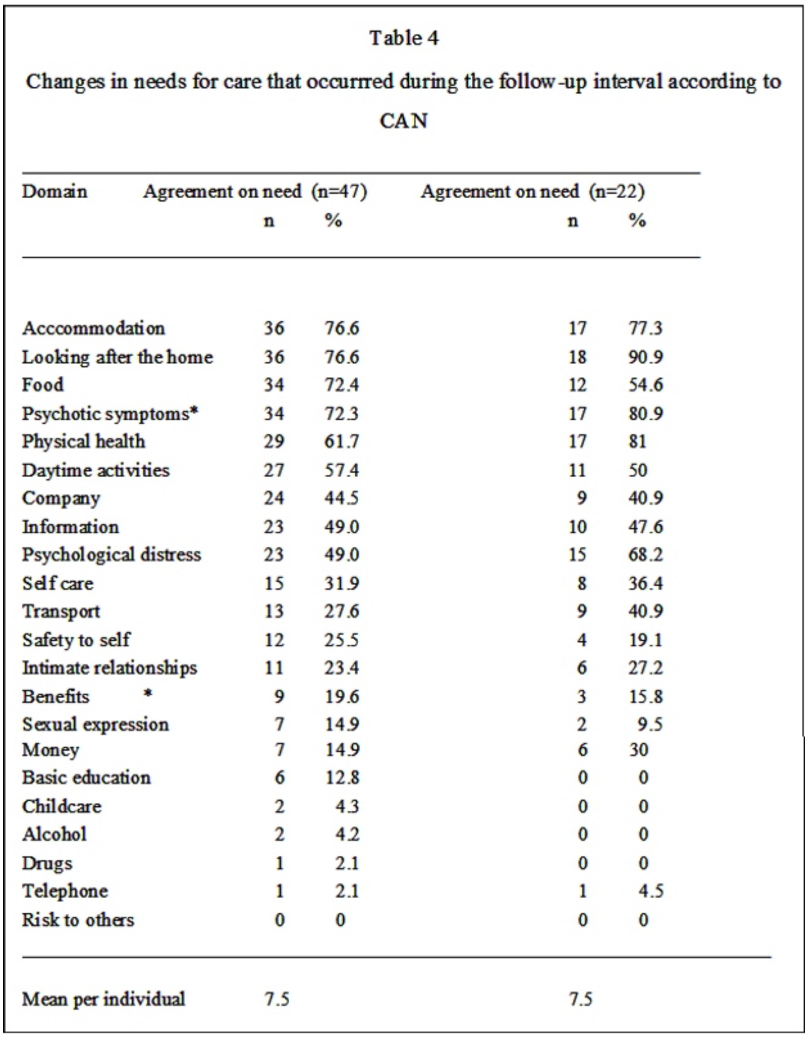

Table 4

Changes in needs for care that occurred during the follow-up interval according to CAN

Domain	Agreement on need (n=47) n	%	Agreement on need (n=22) n	%
Acccommodation	36	76.6	17	77.3
Looking after the home	36	76.6	18	90.9
Food	34	72.4	12	54.6
Psychotic symptoms*	34	72.3	17	80.9
Physical health	29	61.7	17	81
Daytime activities	27	57.4	11	50
Company	24	44.5	9	40.9
Information	23	49.0	10	47.6
Psychological distress	23	49.0	15	68.2
Self care	15	31.9	8	36.4
Transport	13	27.6	9	40.9
Safety to self	12	25.5	4	19.1
Intimate relationships	11	23.4	6	27.2
Benefits *	9	19.6	3	15.8
Sexual expression	7	14.9	2	9.5
Money	7	14.9	6	30
Basic education	6	12.8	0	0
Childcare	2	4.3	0	0
Alcohol	2	4.2	0	0
Drugs	1	2.1	0	0
Telephone	1	2.1	1	4.5
Risk to others	0	0	0	0
Mean per individual	7.5		7.5	

Needs are listed after proportion of assessed need at baseline on each area, with the highest proportion on the top of the list.

At the level of the CAN domains, an increase was at follow-up in: a) physical health, b) psychological distress,c) looking after the home, d)money and e)transport. On the other hand there was decrease in: a) food, b) safety to self and c) daytime activities. Little changes were detected in other domains.

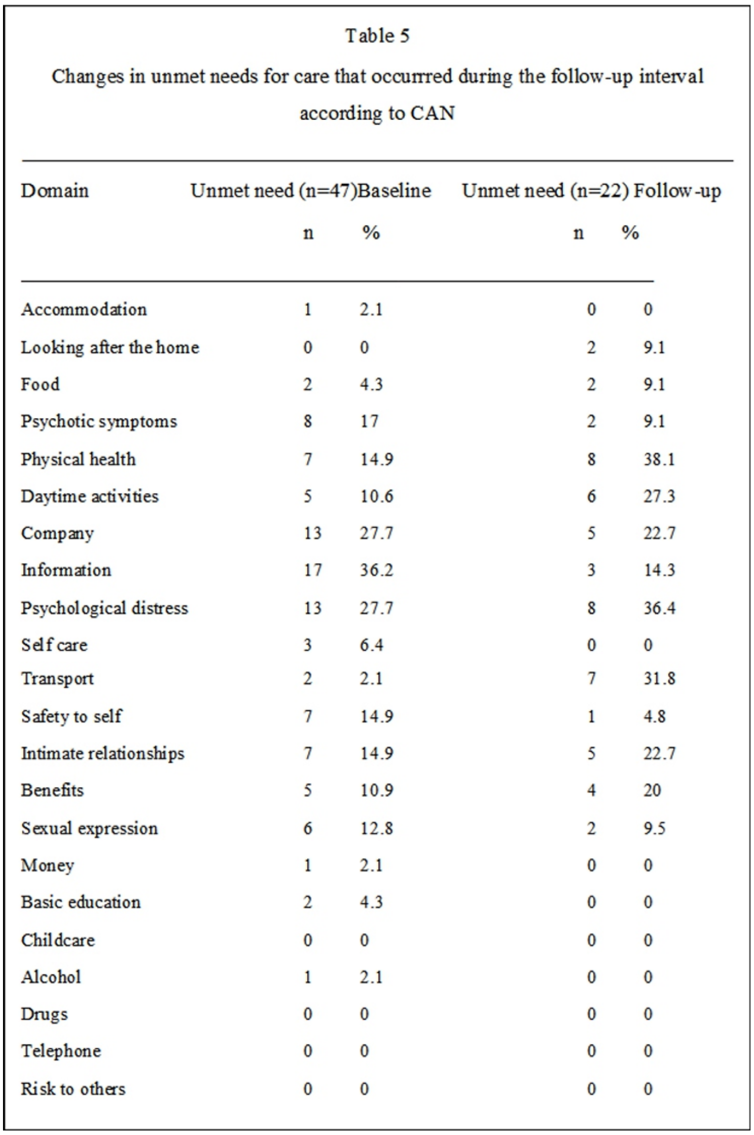

Table 5

Changes in unmet needs for care that occurred during the follow-up interval according to CAN

Domain	Unmet need (n=47)Baseline		Unmet need (n=22) Follow-up	
	n	%	n	%
Accommodation	1	2.1	0	0
Looking after the home	0	0	2	9.1
Food	2	4.3	2	9.1
Psychotic symptoms	8	17	2	9.1
Physical health	7	14.9	8	38.1
Daytime activities	5	10.6	6	27.3
Company	13	27.7	5	22.7
Information	17	36.2	3	14.3
Psychological distress	13	27.7	8	36.4
Self care	3	6.4	0	0
Transport	2	2.1	7	31.8
Safety to self	7	14.9	1	4.8
Intimate relationships	7	14.9	5	22.7
Benefits	5	10.9	4	20
Sexual expression	6	12.8	2	9.5
Money	1	2.1	0	0
Basic education	2	4.3	0	0
Childcare	0	0	0	0
Alcohol	1	2.1	0	0
Drugs	0	0	0	0
Telephone	0	0	0	0
Risk to others	0	0	0	0

Results of changes in unmet needs for care are shown in Table 5. In most domains the unmet proportion tended to be less favourable at follow-up, with the most clear-cut deterioration in the area of: a) transport, b) phys ical health, c) daytime activities, d) looking after the home, e) psychological distress, f) benefits, g) intimate relationships and h) food. Only four domains were favourable at baseline: a) information, b) self care, c) psychotic symptoms and d) safety to self. These results might indicate that no effective intervention had been applied to these needs after the clinic was closed.

The correlation of overall quality of life and unmet needs showed that a higher quality of life was assessed when there were fewer unmet needs , i.e. r = - 0.408 (p<0.01).

Subjectice versus interviewer assessment of global quality of life

The LQoLP scale includes a global well-being scale, Cantril´s ladder, and subjects mark their position in life on the 10 steps ladder from “could not be worse“ to “could not be better“. After the interview the interviewer

answers also on a ten point scale his opinion on the subjects quality of life.

Table 6 shows correlation between the subjects assments and the interviewer with LQoLP total quality of life.

Table 6

Correlation in subjective assessment of patients and interviewer with LQoLP total quality of life

	Patients	Interviewer
Correlation with LQoLP total quality of life (4.77)	0.62**	0.43**

**= P<0.01

Higher correlation was in the patients assessment on their quality of life with LQoLP total score (r = 0.62) than in the interviewers assment and where they see their position in life. Patients assessed their position in life on Cantril´s ladder as higher (6.12) than the interviewer (5.7). Patient‘s assessment ranged from 1-10 or on the whole scale but the interviewer assessed their position in life from 2-8.

Needs for care identified by key worker and patients

Needs identified by key worker and patients and their agreement concerning the presence of a need, met needs and unmet needs is shown in Table 7.

Table 7

Identified needs by a key worker and a patient

	Patient (n = 47)	Key-worker (n = 47)
Met need	5.4	6.3
Unmet need	2.1	1.1
Total needs	7.5	7.4

From 22 different domains of needs, patients assessed that they have on the average needs in 7.5 domains and that is in accordance with the key worker‘s assessment (7.4). But they disagree concerning the number of met and unmet needs. A key worker assessed more needs fulfilled and fewer unmet compared with the patient‘s assessment. Furthermore a key worker and patients identify needs in different domains as is shown in Table 8.

Table 8

Needs for care identified by a key worker and a patients

Patient	%	Key-worker	%
Accomodation	76,6	Psychotic symptoms	94,8
Looking after the home	76,6	Accomodation	84,2
Food	72,4	Physical health	68,4
Psychotic symptoms	72,3	Company	65,8
Physical health	61,7	Looking after the home	63,2

The domains in table 8 are listed after the highest prevalence of a need and the highest is on the top. Among the five highest domains, both the key-worker and the patient assessed a) accomodation, b) looking after the home, c) psychotic symptoms and d) physical illness. On the other hand, according to patients 72.4% of them identified a need for assistance concerning food, but the key-worker identified only 32.5% patients that needed assistance because of food. The key worker identified 65.8% of the patients in need for social relations but only 44.5% patients identified need for that domain.

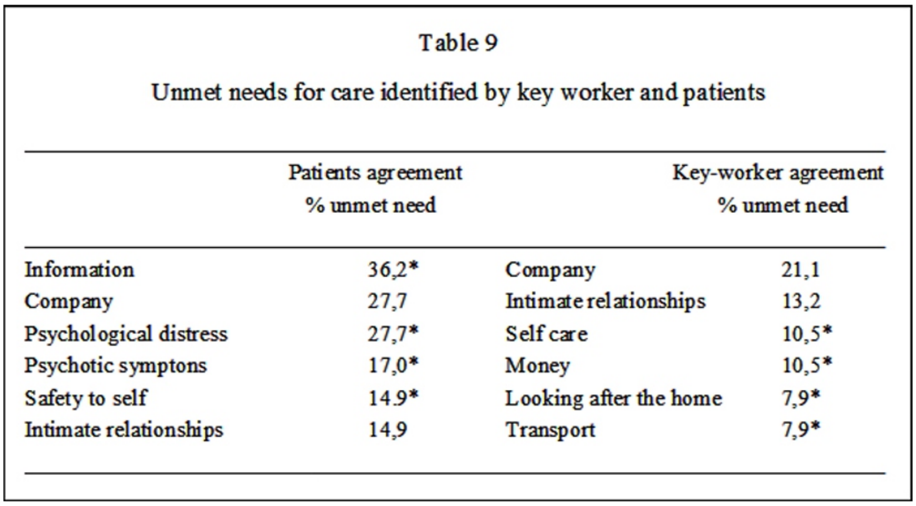

Table 9

Unmet needs for care identified by key worker and patients

	Patients agreement % unmet need		Key-worker agreement % unmet need
Information	36,2*	Company	21,1
Company	27,7	Intimate relationships	13,2
Psychological distress	27,7*	Self care	10,5*
Psychotic symptons	17,0*	Money	10,5*
Safety to self	14.9*	Looking after the home	7,9*
Intimate relationships	14,9	Transport	7,9*

There was also inconsistency in the identification of unmet needs with patients and key workers. According to the patients the highest prevalence of unmet need was found in the domains of a) information about treatment and condition, b) company, c) psychological distress, d) psychotic symptoms, e) safety to self and f) intimate relationships. The key worker identified also company and intimate relationships but beside that he identified a) self care, b) money, c) looking after the home and d) transport. Where the percentages is marked with *there is an inconsistency in the assessment of patients and the key-worker. The highest prevalence of unmet needs according to the patients was information about treatment (36,2 %) but the key-worker assessed only 2.3% unfulfilled needs on this domain. There was consistency in assessment of an unmet need for social relationships and intimate relationships with both parts. The key worker assessed psychotic symptoms as better taken care of, than patient. The same is valid for psychological distress and safety to self. The key worker assessed more unmet needs for a) self care, b) money, c) looking after the home and d) transport than the patients did. The results showed that the patients felt that they were not informed about their treatment but that it was not the case with the key worker. This raises the question, of how is the patient´s experience of receiving information and services different from the experience of those who provide it?

Predictors of quality of life

The correlation of overall quality of life and unmet needs showed that a higher quality of life was assessed when there were fewer unmet needs. Multiple stepwise regression analysis was used to investigate the associations between the number of unmet needs according to CAN , self-esteem according to the Rosenberg scale (which is included in the Lancashire scale) and the LQoLP total score, which was used as the dependent variable as shown in Table 10.

Table 10

Results of stepwise regression for influence of unmet needs and self-esteem on quality of life.

Variables	β SD in parenthesis	β SD in parenthesis	β SD in parenthesis
	Equation 1	Equation 2	Equation 3
Unmet needs β	-2.725* (0.129)	-1.522 (0.859)	
Self-esteem β		-.121** (0.033)	
Self-esteem β			-140* (0.131)
R2	0.17	0.33	0.31

*p<0,05 **p<0,01

The results of stepwise regression showed that the better self-esteem an individual had, the better quality of life the respondents considered themselves to be enjoying (β = 0,121 ** (p < 0,001). R2 = 0.33 (p < 0.001).

Discussion

The aim of this study was to investigate the influence that the closing down of a mental clinic in Iceland had on the quality of life and on the needs of the individuals who attended it. The group in this study represented patients who were treated by specialized mental health services and who received comprehensive treatment in settings that prioritised the continuity of care. Their mean age at baseline was 54 years and their duration of the illness was 23 years on the average and most of them had longitudinal service utilisation. At baseline 81% of subjects lived in the same building as the clinic resided. At follow-up 29% of them had moved away. Most of them had moved to nursing homes where they could get more services after the clinic was closed.

The patient‘s physical health had detoriated at the follow up. They visited doctors because of physical health more often than before, but the number of visits to doctors because of mental health was similar as before. Considerable difference was in the frequency of visits to psychiatric doctors in this study compared to the other Nordic Countries. Only 54% of the Icelandic participants visited a doctor because of mental illness the preceding year, compared to 81% of the Nordic participants (Hansson et al., 2003). This indicates that follow-up from psychiatric doctors is much better in the other Nordic countries than in Iceland. Other social characteristics of this group is that 53% of the Icelandic subjects had children but only 25% in the other Nordic countries. Possible explanation could be that all the subjects in the other Nordic countries had schizophrenia but only half of the patients in Iceland had schizophrenia. Another characteristic is friendship. At baseline 85% of subjects reported that they had a close friend but only 61% of the subjects in the other Nordic countries. Also 94% of subjects reported that they had a reliable friend (or someone they could turn to) but only 63% of the subjects in the other Nordic countries. At follow-up the subjects reported that they had fewer friends. Nearly three fourth or 73% reported that they had a close friend and 67% reported that they had a reliable friend. The Nordic study showed that friendship explained 4.9% of the variance in quality of life of the patients (Hansson et al., 1999). The difference in the subject's friendship in this study might lie in the closing of the clinic, since the subjects could always contact the clinicians who worked there and considered them to be their friends.

Six subjects from baseline had deceased and two deceased soon after the follow-up, four women and four men. The deceased women´s mean age was 69 years which is 14.7 years younger than among Icelandic women in general. Mean age of the deceased men was 60 years which is 17.7 years shorter than the mean age among the Icelandic men in general (Hagstofa Íslands, 2014). Reasearch on people that was discharged from mental hospitals from 1987-2006 in Danmark, Finland and Sweden (Laursen et al. 2011) showed that inspite of positive development, the men lived on the average 20 years shorter than other men and the women lived on the average 15 years shorter than than other women. The age at decease of women and men in this study seems to be in accordance with the results of this study that was conducted in Danmark, Finland and Sweden. According to the psychiatrists Eisenberg and Laurence (2010), deinstitionalization has led to prosperity for most patients, although many of them have been abandoned, homeless and without care. Studies suggest that continuity in medication, secure residence and access to appropriate social support in everyday life are the factors that contribute to the improvement and maintenance of quality of life for people with mental illness (Matthíasson, 2007). The results of this study indicate that there has not been a continuity in treatment with this group after the clinic in Hátúni closed down. The quality of life of the participants had deteroriated from baseline measure 4.77 to 4.49, two years after the clinic was closed. At baseline, their quality of life was measured as the highest for people with severe and long term mental illness compared to other nations. However at the follow-up their quality of life had declined and was among the lowest (Evans o.fl., 2000; Hansson o.fl., 2003; Slade o.fl., 2004; Schneider, Wooff, Carpenter, Brandon og McNiven, 2002). The subject's estimate of their quality of life had especially detoriated on the domains of general well-being, finances and social relations. They reported better quality of life on only two domains of ten; family relations and living situation. These results are in accordance with the long-term results of Knight (2009) in quality of life of "young long-term ill" and "old long-term mentally ill" in North England. Those results showed in five year interim, that there was less satisfaction with family relations and more satisfaction with health among the young ones, but the reverse was true for the old ones. In spite of reporting better satisfaction with family relation at follow-up than at baseline in this study, subjects report fewer visits to their family at follow up than before. But half of the subjects who had visited their family every month (n=16), visited the family more seldom than monthly at follow up. This raises the question about the nature of the relationship between patients and their relatives. These results might indicate that the relations with their families are not of the same nature as relations with peers. It is possible that relatives use comments about their lifestyle or surroundings that the patients dislike.

Ten subjects from this study participated in a qualitative study (Svavarsdóttir, Ólafsdóttir, Sturludóttir and Júlíusdóttir, 2012) where they reported that they felt they were not able to talk about their state of health and illness with other than people who had the same problem or clinicians that has earned their trust. They appreciated much to be able to discuss their matters with others who dealt with psychiatric illness and in environments where confidence was insured. This indicates that they prefer to communicate with other people with mental illness about their psychiatric illness. As a part of deinstitionalization the community has strongly emphasized that mentally ill people adjust to community. An example of that process is found in articles in magazines as "Geðhjálp" (Help for heople with mental illness) that is published by organization that work for people with mental illness. A number of articles have been puclished in that magazine concerning how bad it was for the disabled to live together in buildings like Hátún, but that was the residence of most of the subjects in this study. The severity in the opinions of Geðhjálp´s members can be seen in Indriðadóttir´s (2008) article, who was a member in Geðhjálp and former television reporter in Iceland. In that article she said that "the buildings for the disabled are examples of a storage room for the disabled. There disabled people are piled up in a sort of "ghetto." The service limited, finances limited. Slum for ill people." In this article is also Geðhjálp´s vision about accomodation for the mentally ill in the future. It is emphasized that it is necessity to stop using this building as for now and provide apartments in ordinary districts. One of the authors of this article was working at Hátún at that time and believes that this was well meant, but the inhabitants in Hátún seemed very hurt to hear and read about their homes in this manner.

Social worker´s experience of supporting mentally ill patients living in ordinary apartments among people that were not disabled, was on the other hand not always favourable. For example when something came up in the multi-apartment buildings, usually the first one to blame for it were the mentally ill. Also the inhabitants were frightened if their children were in the elevator alone with the mentally ill person. Thus the community seems not be ready to adjust to the diversity in behaviour of the long-term mentally ill and the mentally ill often don´t feel comfortable within the general community. What the inhabitants in Hátún appreciate the most is the solidarity that inhabitants show each other and there they don´t have the feeling that they are "different" as they tend to feel in the general community (Svavarsdóttir et al., 2012).
Studies show that there is a relationship between how mentally ill people assess their quality of life and how their needs are fulfilled (Bengtson-Tops et al., 2005; Hofer et al., 2004; Pinikahana et al.., 2002). The same relationship was found in this study, better quality of life was assessed at baseline and unmet needs were also lower at baseline than at follow up.

Subjects and their key worker assessed equal number of needs on the average, but they disagree concerning the number of met and unmet needs. Key worker assessed more needs fulfilled and fewer unmet, compared with the patients assessments. Furthermore the key worker and the patients identified needs in different domains. These results are similar to results of many studies that show little correspondence in their assessment (Middelboe et al., 1998). Furthermore, they demonstrate that key worker and patient give similar estimates for the number of needs but that patients find more needs unmet than the key worker (Slade et al., 1996). Subjective assessment of clinicians and patients reflect different points of view and should therefore not be identical (Warner et al. 1998), but rather give holistic information about each patient. For this reason the clinic in Hátún used the two evaluations, both the patient's and the key worker's. However their assessment of information on treatment and condition reflects big mismatch as the key worker assessed only 2.3% needs unmet but the patients assessed 36.2% of needs unmet. The results showed that the patients felt that they were not informed about their treatment but that it was not the case with the key worker. This raises the question, of how is the patient´s experience of receiving information and services different from the experience of those who provide it? A possible explanation for this mismatch is that when people are depressed, they have difficulty focusing and concentrating and that effects their ability to receive information. Patients in Eiríksdóttir´s (2009) study also assessed that information on treatment and condition were their most unfulfilled needs. These findings lead us to the view that clinicians should reconsider their methods in giving informations to patients, as the patients don´t seem to learn the informations they are given.

The one factor that most influenced quality of life in this study was self-esteem. Self-esteem proved to influence quality of life of these subjects more than number of unmet needs. A similar trend is found in the Nordic study of Hansson et al., (1999), but they investigated the relationship between social and clinical characteristics and total quality of life. It turned out that the subjects health explained the most part of the variance (36.5%) but other factors that explained the variance were self-esteem, depression and friendship. In an Italian study there was also a relationship between higher self-esteem and better temperament on one hand and general quality of life on the other (Ruggeri et al., 2001).

Friendship with another person is of great importance to most people and there has been much change among the former patients that attended the clinic. Now there are 12% fewer that state they have a close friend and 27% fewer state that they have a reliable friend (someone they can turn to). The explanation here is the closing of the clinic. At baseline when patients were asked about their friendship they often mentioned clinicians from the clinic to be both their close and reliable friend, that they could always turn to. Most of the subjects had received services from the clinic for a long period of time. These factors clearly seem to influence their detoriated quality of life at follow up because of the closing of the clinic.

Future Remarks

When quality of life and unmet needs as estimated by the subjects are compared between the years 2008 and 2013, the results show deterioration on some dimensions after the clinic was closed. A greater number of subjects estimated that more needs are unmet after the closing. Of special interest is the loss of friendship that subjects report at follow up because of the closing down of the clinic. Results strongly indicate that a continuum in service for this group has not been achieved after the clinic was closed and no effective intervention has been applied to address these problems. Furthermore it seems obvious that personality related factors such as self-esteem also play a role in the appraisal of subjective quality of life, which implies that factors like these are important to consider in clinical and social interventions for patients with serious mental illness in order to improve the quality of life for these persons.

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Rehabilitation for students diagnosed with depression and/or anxiety disorder - feasibility and perceived impact of OPI group rehabilitation program in Finland

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ABSTRACT

The OPI mental health rehabilitation program is a new form of outpatient group rehabilitation for adolescents and young adults aged 16–25 years studying in vocational schools and diagnosed with mood or anxiety disorders. This study aimed at investigating the feasibility and perceived impact of the program on participants' learning and functional capacities, quality of life and severity of depression.

The data (n=70) were collected using questionnaires and with focus group interviews. Quality of life was measured with the Eurohis-8 scale, severity of depression with RBDI.

Quality of life and learning capacities were increased and severity of depression was reduced among participants during the rehabilitation. Positive outcomes were associated with timely occurrence of the rehabilitation, co-operation with the mental health service responsible for the treatment during the program and with well-functioning interaction between client and counsellor. Peer support was experienced as the most remarkable benefit of the program among

among participants.

KEY WORDS: supported education, depression, anxiety, young people, recovery

Introduction:

Young people with mental health problems experience barriers to entering, maintaining and completing education (Kessler et al. 1995). Mental disorders affect student's motivation, concentration and ability to appropriately engage in social interactions which are all critical factor in academic success (Padron 2006). There is a need for increased understanding and support of students with psychiatric disorders. This kind of achievement is important not only for prevention of social exclusion among young people with mental health problems but also for recovery. Education can be seen as an important factor in the process of recovery (Mansbach-Kleinfeld et al. 2007).

To support students with mental health problems, supported education programmes are undertaken, commonly in partnership between variety of stakeholders: public mental health services, families, education institutions and rehabilitation agencies (Mowbray et al. 2005; Best et al. 2008). The purpose of supported education is to increase the ability of people with psychiatric disabilities to access and participate in post-secondary education by providing necessary support (Unger 1990). There is a variety of different models among these programmes but only limited evidence of effectiveness of this kind of programmes (Mowbray et al. 2005; Rogers et al. 2010).

Depression is the most common mental disorder among young people and one of the major causes of work disability, too (Alonso et al. 2011; Bruffaerts et al. 2012). In Finland, increased number of premature work disability retirements among young people due to depression disorder has raised concerns (Raitasalo and Maaniemi 2011). As a contribution to support working capability of young people, the Social Insurance Institution of Finland (Kela) has recently focused on developing and funding rehabilitation programs targeted at young people with psychiatric disorders and/or risk for social exclusion. One of these newly developed programs is the OPI rehabilitation program targeted at young people aged of 16–25 years who are studying in vocational schools and are diagnosed with depression and/or anxiety disorder.

OPI enables students with depression and/or anxiety disorder to attend rehabilitation alongside vocational education. The program aims at supporting participants in their studies, teaching coping skills and promoting their general well-being. Cooperation between rehabilitation service provider and school create a foundation for the program.

The aim of the study was to investigate the feasibility and perceived impact of the OPI rehabilitation program on participants' learning and functional capacities, quality of life and severity of depression.

Materials and methods

OPI

OPI is a group based rehabilitation course for students diagnosed with depression and/or anxiety disorder. The length of each rehabilitation course is 18 months including a follow up period of 6 months.

The participants are able to participate in the program alongside vocational school during school semesters. During 2011−2013, eight courses were undertaken by two rehabilitation service providers in Finland. Each course had up to 12 participants. Referrals to the program were made by the school health service, school social worker or community health services. The courses were led by two counselors (psychologist/psychiatric nurse and social psychologist/social worker).

OPI consisted of group sessions (6 x 3 days) and six one-to-one sessions. It was also possible to invite e.g. the school social worker, parents or other relevant people to take part in some of the one-to-one sessions. Commonly, the school social worker acted as a link between the school and service provider, launching and maintaining dialog and consultation between these two parties, in collaboration with the client.

The program manual gave the guidelines in executing the program. The program was based on cognitive-behavioral, solution-focused approach. The topics for group sessions were most commonly the following: negative thought stopping, relaxation, cognitive-behavioral therapy techniques and practical exercises, self esteem, stress management strategies, relapse and early warning signs.

Methods

The study design included pre- and post tests among participants, process evaluation and focus group interviews. Altogether 80 students participated in the program and of these, 70 participated in the study.

Data were gathered with questionnaires among participants at three different points in time: at baseline (n=69), in 12 months (n=59) and in18 months (n=56). Quality of life was measured with the Eurohis-QOL-8-item index (Power 2003) and severity of depression with the short form of the Beck Depression Inventory (RBDI). RBDI has 13 questions for depression and one for anxiety (Raitasalo 2007). The depression score can range from zero to 39 points. Five to seven points refer to mild depression, eight to fifteen points to moderate depression, and over sixteen points to severe depression. Learning capacities were investigated with 12 questions used earlier in the Finnish School Health Promotion Study (http://www.thl.fi/fi/web/thlfi-en/research-and-expertwork/population-studies/school-health-promotion-study). Sum score of learning capacities ranging from 12 to 48 was calculated, higher scores indicating more problems with learning. The questionnaires included also a question about self-rated health with a scale 0-10, higher rates indicating better state of health.

In the process evaluation, data about each program participant were gathered from counselors using questionnaires including questions about the commitment (amount of non-attendance) and progress of each participant, interaction between counsellor and client (easygoing, confidential, open, reciprocal; scale 1=not at all, 2=only a little, 3=some, 4=pretty and 5=very), co-operation with the health care service responsible for the treatment (yes/no), and if the rehabilitation occurred at the right time considering the state of health of the client (strongly agree/ agree/neutral/ disagree/strongly disagree), among others. Further, the counsellors were asked to assess the impact of rehabilitation on learning capacities and psychological symptoms of the client (Scale 1=not at all, 2=some, 3=quite strong, 4=very strong, 5= can not say).

In the end of each course, focus group interviews (Krueger & Casey 2000) were conducted among program participants by two researchers. In the interviews, themes like experiences on participating in the program as well as perceived benefits and feasibility of the program were discussed. The length of the interviews were from 40 minutes to 2 hours. Altogether 47 students participated in the interviews (38 females and 9 males)

Data analysis

Descriptive statistics were used to report the data. Paired t-tests were used to determine whether there were any differences between baseline and follow-up measures. Linear mixed models were used to test if certain variables (gender, age, attendance, co-operation with health care service, severity of depression) were associated with these changes. In the process evaluation data, variables were dichotomized and analysed with Chi-square for testing if the co-operation with the health care service (yes vs. no), positive interaction between counsellor and client (strongly agree vs. other alternatives) and timely occurrence of rehabilitation (strongly agree vs. other alternatives) were associated with positive outcomes of rehabilitation (at least quite strong positive impact vs. less impact) assessed by the counsellors. Statistical analyses were performed using the PASW Statistics 18.0 program. The level of significance was set at 0.05.

Focus group interviews were recorded with the permission of the respondents and transcribed. The length of recording was 9 hours and 25 minutes (transcribed in 159 pages, single line spacing, Times New Roman 12). The data was analysed using content analysis.

Ethical approval for the study was granted by the ethics committee of The Hospital District of Helsinki and Uusimaa and the National Institute for Health and Welfare.

Participants

All study participants (n=70, 81 % females and 19 % males) were students in two different vocational schools in Finland (16-29 years, mean age 19), all with diagnosed depression and/or anxiety disorder. According to RBDI at baseline, 26 percent of them had severe, 48 percent moderate, 12 percent mild and 14 percent minimal depression. At baseline, 66 per cent of them had serious difficulties in preparing for the exams and 62 per cent in doing homework. Almost half of participants (48 %) were referred to the program by the school health service, 28 per cent by community health services and 22 per cent by school social worker.

Results

During the rehabilitation, severity of depression was reduced and quality of life, learning capacities as well as self-rated health were improved among study participants (Table 1). Changes in time were not associated with gender, age, severity of depression at baseline, use of other mental health services during the rehabilitation or participants' commitment and attendance in the program.

Table 1. Learning capacities (total score), quality of life (Eurohis-QOL-8) and severity of depression (RBDI) at baseline, after 12 months and after 18 months

	n	Mean	p-value[1]
Sum score of learning capacities			
Baseline	65	2,49	
After 12 months	54	2,54	
After 18 months	42	2,05	p <.001, t = 4,727, df = 38

Eurohis-QOL-8			
Baseline	68	2,77	
After 12 months	59	2,77	
After 18 months	52	3,11	p=.001, t=-3.681, df=50
RBDI			
Baseline	66	12,48	
After 12 months	60	11,42	
After 18 months	53	8,55	p = .001, t = 3,530, df = 49
Self-rated health (0-10)			
Baseline	69	4,81	
After 12 months	59	5,37	
After 18 months	56	6,21	p < .001, t = -4,510, df = 44

1Paired t-tests between baseline and after 18 months

Among the participants, 87 per cent were at least moderately satisfied with the program and 73 per cent felt that they had achieved their goals set for the program, particularly those, who felt the program occurred at the right time (p=.041).

According to the assessments of the counsellors, 63 per cent of participants would have needed rehabilitation already at earlier stage. Among 68 per cent, symptoms were reduced and among 59 per cent learning capacities improved during the rehabilitation assessed by the counsellors. Assessments of improved learning capacities were associated with timely occurrence of the rehabilitation (p=.017). Assessments of reduced symptoms were associated with timely occurrence of the rehabilitation (p=.009), co-operation with the mental health service responsible for the treatment during the program (p=.006) as well as with easygoing (p=.036) and reciprocal (p=.011) interaction between the client and counsellor.

Results from the focus group interviews among participants indicated several benefits of the program. Peer support was seen as one of the most important benefits of the program. In group sessions with peers, students had the possibility to talk with other in similar conditions. It was a relief for many to realize that other experience the same problems and are struggling, too. Group sessions offered the possibility to talk about serious matters, but also to laugh together.

"It’s so cool that even if we talk about rough things and cry together and something like that, but after a coffee break we can have fun and laugh together. I mean, you don’t have to be sad all day, even if you have just handled very deep stuff and talked about rough issues."

Participants reported improved learning capacities and empowerment.. Non-attendance from the school was reduced among program participants and for some students dropping out the school could have been prevented due to the program. Further, skills and capacities to manage daily life were improved. OPI gave the schedule for the day and the reason to stand up in the morning

”I don't know how this has affected my mood but just to come here and when I'm in this group... when I come here, I actually have a good day. It keeps me going. I have something else to do than just sitting at home."

Further, participants reported improved mental health literacy. Knowledge about mental illness, its symptoms and early warn signs was increased. Seeking help and telling other about problems had become easier. Selfstigma was reduced.

OPI had a positive impact also in social skills. Acting in social situations with other people in school or elsewhere had become easier.

”These group sessions have been beneficial, as I have had problems specifically with social situations. The sessions had make me stronger and it is much easier for me to be myself in groups."

Positive atmosphere and progress in recovery enhanced self-esteem. For many students, rehabilitation offered, among other things, also a possibility to take a breath in the middle of school stress.

Discussion

The findings of this study suggest that OPI is a feasible, acceptable and beneficial program in supporting students with depression and/or anxiety disorder. Peer support through group-based rehabilitation seemed to be one of the most important benefits of the OPI.

Group work has been recommended as an effective intervention in various settings to address mental health (Matsunaga et al. 2010), also among young people (Sommers-Flanagan et al. 2000; Paone et al. 2008). In line with previous results (Newbold et al. 2013), this study showed that group-based interventions have the possibility to relieve symptoms of depression by lessening the stigma of mental illness and by increasing social contact. OPI participants felt understood and connected with each other by having the diagnosis of depression, which reduced their feelings of isolation and "otherness". In group-based rehabilitation programs participants have the possibility to hear about strategies experienced useful by the others and observe others' progress, which may bring hope for their own recovery. For many, it may be easier to accept new practices and techniques to cope from peers than from a health care professional.

Besides peer support, the benefits of group work can be obtained in enhancing communication skills and in expanding participants' ability to view issues from others' perspectives, similar to the study of Paone et al. (2008). Structured groups provide a safe environment to learn and practice new skills (Sommers-Flanagan et al. 2008).

Group-based programs do not necessarily suit for everyone. Group work can be stressful and overwhelming for some. Some participants had concerns about group work and they didn't want to participate in the OPI program or they dropped out after the first session. However, OPI allowed "silent participation", too. Some participants did not want to contribute in the group discussion but they still had the opportunity to hear the perspectives and views of those who did. This opportunity for “silent participation” was experienced as important among program participants.

Group interactions were not always experienced as positive. Sometimes some participants took more opportunity to talk than others. It is important to keep the number of participants small enough so that all have the opportunity to contribute. Further, the role of the counsellor in directing the discussion is of crucial importance.

Similar to previous study (Newbold et al. 2013), the findings suggest that a rehabilitation program like OPI has the possibility to facilitate participants recovery through social factors such as group belonging, support and acceptance, guidance and normalisation. The study also showed that most of the students had a need for support already at an earlier stage. Timely occurrence of the rehabilitation was associated with positive outcomes assessed by the counsellors. Further, co-operation with the mental health services responsible for the treatment and well-functioning communication between the client and counsellor played an important role in the progress of the participants.

Group-based programs have been suggested as a lower cost, less time-demanding alternative to individual treatment (McCrone et al. 2005; Johnson 2012). However, it is important that participants seeking for rehabilitation are screened for inclusion before the groups are formed. In this way, participants most likely to respond to group-based approaches and least likely to suffer adverse effects from this kind of setting are identified. Further, it is important to guarantee that individual sessions are available for those who require them. In OPI, oneto-one sessions were included in the program. This possibility was seen as important among participants

Collaboration with the school - particularly with school social worker and school health service - played an important role in the OPI program. Besides screening for potential participants, they served as a link between the school and rehabilitation providing dialog and consultation between these two parties, in collaboration with the client. Furthermore, it is important that the rehabilitation course fits into the rhythm of the school day.

A weakness of the study design was the lack of a control condition. The observed changes cannot exclusively be attributed to the intervention. However, positive impacts of the program became quite clear in the focus group interviews. A notable strength of the study was the use of mixed methods collecting quantitative as well qualitative data.

OPI seems to be beneficial and feasible program which can be applied in preventing the marginalization of young people with mental health problems. It represents an innovative approach of co-operation between mental health services and school system in Finland. So far, the results and experiences of this group-based program and its perceived impact are promising. The Social Insurance Institution of Finland will establish and disseminate the program in whole country.

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Premchand: A Prolific Novelist

1*Surendra Kumar Gupta

India has been the cradle of Ganga-Yamuni culture. The culture in which humanity dominates the minds of the people. There is no room for violence, and humanity creates peace. All religions and cultures are respected here and thoughts are accommodated. Premchand was a precious jewel of this culture. The novelist and short-story writer Premchand is considered to be the first major novelist in Hindi and Urdu of the twentieth century.

Born on 31 July 1880 in Lamhi, a village in Varanasi, Premchand's actual name was Dhanpat Rai Shrivastava. He belonged to the Kayastha family who used to hold important positions at that time, especially during the Mughal period. His grandfather Guru Sahai himself was a Patwari (land record keeper) and uncle Mahabir a big landowner. His father Ajaib Lal was a post office clerk. But beyond the identity of the ancestors, Premchand made his unique identity - an identity of an author who preferred Hindustani language over Hindi and Urdu as medium of expression. It was his extraordinary style of writing in composite culture that made him the samraat (emperor) of Hindi novels. Though we saw some names in the world of novel even much before Premchand such as Pariksha Guru by Lala Shrinivas Das(1882), Chatidrakanta Santati by Devaki Nandan Khatri (1890), Upanyas, a journal launched by Kishorilal Goswami (1998) in which his sixty five novels were published. But all these were like fables, away from the social issues and reality. It was Premchand's pen which made social reality its subject matter. He not only provided literature to the society but picked up the characters from the society itself and explained them in their work.

His distinctive style of writing made him stand a part. He did not adopt Sanskrit-influenced Hindi or Persianised Urdu, but adopted the Hindi-Urdu confluence as his companion and was proud of it. Today we consider it to be the common heritage of Hindi and Urdu. He said, Just as the language of English people is English, Japanese of Japan, Iranian of Iran, Chinese of China, it is not only appropriate to call the national language of India -Indian but necessary to do the same with the same weight. His prolific style of writing coupled with the reflection of problems of ordinary people in society reached out to the general public. Premchand once said, We will have to raise the standard of our literature, so that it can serve the society more usefully…our literature will discuss and assess every aspect of life and we will no longer be satisfied with eating the leftovers of other languages and literatures. We will ourselves increase the capital of our literature.

The composite culture started in his early days of childhood when he started learning Persian and Urdu in a Madrasa in Lalpur near Lamhi. He studied Persian for around eight years from a Maulvi whose teaching had a profound effect on his mind as a result his writings became a model of Hindu-Muslim solidarity. He found Hindi also a useful communication language as there was a major part of the society who used Hindi.

The characters of his writings reflected the general class of society and exposed many facets of social evils such as cast system, feudal system, gender discremination, widowhood, child marriage, poverty, prostitution etc. Once he said, we have to redefine the parameters of beauty. His grip on every aspect of life was so deep that he seemed to be a part of it. Reality and in-depth knowledge of other religions made his writings apart. The way he described in his short-story fictional work Eidgah is not just about the festival of some people but the reflection of feelings for which his writings are still known. The legend recognized the feelings of a poor little child who did not care about his child-like hobbies of buying sweets and toys at the tender age but to alleviate the suffering of his old grandmother. The child felt proud to buy a pair of tongs for her. He reasoned for his act that the toys and sweets would not last for long and were not very good for health too but the tongs were as it would remove the pain of old grandmother she felt while pulling roties from the oven every day. Her hands often got scalded. Her fingers would not burn with the use of these tongs.

His another story Hajj-e- Akbar is a perfect subject of hindu-muslim unity. It touches the heights, even an ordinary Muslim may not have such a deep knowledge about the religious matter as what is to be prefered over the other in the extraordinary circumstances. In the story, a poor muslim woman wished to go and perform Hajj. She saved her hard earned money for the purpose. When the time arrived to go for it, she found that her neighbour who was as poor as she was afflicted with a deadly disease but had no money for the treatment. That woman happened to be a hindu and that time Hajj coincidentally was the Hajj-e- Akbar (more virtuous). But she preferred to spend her money on the treatment of that poor hindu lady instead of going for Hajj. This is not only the unity for which Indian culture is known but also the grasp on the deep rooted issues of the society.

Religion had never stopped his pen. For example, in his short novel, ‘Asrar e Ma'abid’, he exposed the bitter reality of how people have sold their consciences even in the house of God. The so-called Messiah (priest) had fallen so low that he did not even spare the innocent and distressed women. The novel was published in a series in the Benares-based Urdu weekly ‘Awaz-e-Khalk’ from October 1903 to February 1905. The novel is still considered a masterpiece in the literary world. Premchand did not want only to present the problems found in the society, their solution became his goal.

He wrote extensively for national integrity also and became known for his patriotism. His work ‘Soz-e-Watan’ was published in 1907 from Kanpur. The volume contained his short story Duniya Ka sabse Anmol Ratan (The most precious possession in the world) where the most precious possession of the heroine was not the jewel or like materials but that drop of blood which is shed for the sake of mother land. The story was full of patriotic fervour, urged the people to participate in Indian freedom struggle from the colonial rule. When it came to the notice of the British officials, they banned it. When the copies of Soz-e-watan were burnt Premchand himself was also the witness. He had been asked then to submit for the government clearance whatever he wrote. Once he stated, whatever I write, on any subject - may be even on elephant tusk - I must submit to the district collector. It is not once or twice a year that I write. It is my daily work. If every month a manuscript is sent to him, he is sure to feel that I am slack in my official duty. This forced him to change his pen name from Nawab Rai to Premchand to remain an avid writer. He said,

“Nawabrai” is now dead for some times. It was Dayanarayan Nigam who suggested him the peudoname Premchand. Premchand was not the slave of languages but that of poverty, hunger, feudal system from which he wanted the society to get rid of. He did not dream of a Hindu or Muslim society but a society in which rich and poor of all religions could live together with dignity and respect. He was Upanyas Samrat. Love and passion for the poor and middle class, pain for the women, patriotism for the nation, and national unity for religious diversity were the benchmark of his work. To spread this message of love, dignity and respect to every member of the society he adopted the unique style of writing. He did not miss any opportunity to do so, rather created to do so. This is the reason why his drama Karbala was so well-received even when it was far from reality. He proved that if a man is true, not even religious walls can stop him to help He wrote dramas like Karbala on one hand, on the other, his patriotism did not restrain him from criticizing those who opposed Khilafat movement.

Proficiency in Urdu language earned him the status of a perfect journalist. Premchand was an avid reader too. Undoubtedly, he himself was a prolific writer but also appreciated the work of others. Once he wrote to Nigam I am still undecided what style to adopt. Sometimes I follow Bankim and sometimes Azad. Recently, I have read Count Tolstoy and since then I am in his influence. This is my weakness, what else… He regarded Russian writer Leo Tolstoy, a great wizard of pen. In his review of Tolstoy's novel Anna Karenina in 1933 he stated, His compositional skills and imagination were beyond human. There is no fraction or part of life on which his sharp eyes did not rest. And when something came into his mind, it ended by exceeding the limits of the human. He was able to depict with the same greatness and the same truth a picture of the upper layers of society as well as one of the lower ones, without falling into stereotypes or any sign of ignorant inexperience… He also did translations of some of his short stories such as How much Land Does a Man Need. The God-Child etc. and published under the name Prem Prabhakar. His writings are still read with great zeal and enthusiasm. It is said that Premchand took the literature to the common man by describing their problems through his writings. According to a web site he is counted among the 60 famous personalities of India.

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Revisiting the Efficient Market Hypothesis: An Empirical Investigation of Indian Capital Markets (2001-2014)

K. S. Giridharan

ABSTRACT

This study critically evaluates the weak-form efficiency of the Indian stock market from 2001 to 2014, deploying a focused analytical lens on the NSE's NIFTY index along with six vital sectoral indices: Pharmaceuticals, Information Technology, Multinational Corporations, Banking, Fast-Moving Consumer Goods, and Nifty Junior. With a robust methodological framework, the investigation applies rigorous univariate time series analysis techniques to interrogate the indices' return patterns. This includes advanced statistical tests such as run tests for detecting dependencies, unit root tests for assessing stationarity, and autocorrelation functions (ACF) coupled with correlograms for measuring the predictability of stock returns. The research fills a critical gap in literature by providing empirical insights into the market dynamics of an emerging economy. The evidence gathered points to significant anomalies that challenge the notion of weak-form efficiency in the Indian stock markets during the assessed period. The findings have substantial implications for investors, policymakers, and scholars, calling for reconsidering the prevalent investment strategies and regulatory frameworks.

Keywords: Market Efficiency, Efficient Market Hypothesis, Random Walk Theory, Runs Test, Autocorrelation, Indian Stock Market, Time Series Analysis, Emerging Economy, Stock Market Dynamics, Statistical Methods in Finance.

INTRODUCTION

The Efficient Market Hypothesis (EMH) stands as cornerstone in understanding financial markets, influencing our grasp of pricing dynamics in equity markets and cost of equity capital. Within framework of capital market theory, concept of market efficiency is critical, serving as barometer for extent to which stock prices instantly and accurately reflect all available and pertinent information.

EMH is inextricably linked to random walk theory and is differentiated into three distinct levels of efficiency: weak, semistrong, and strong. Each level is defined by scope of information reflected in stock prices. Weak form asserts that stock prices encapsulate all historical price and volume data, rendering technical analysis ineffective in outperforming market. When all public information, such as annual earnings and stock splits, is considered, market is described as semi-strong efficient, suggesting that prices adjust swiftly to new public disclosures. Under this form, neither technical nor fundamental analysis offers an edge in achieving excess returns. In its most potent form, EMH posits that all information, public or private (insider knowledge), is already reflected in stock prices, condition for which empirical support is scant, implying that even insider information cannot provide investors with competitive advantage.

The efficiency of equity markets carries significant weight for investment strategies. In efficient market, seeking undervalued assets would be an exercise in futility, as prices of assets will reflect market's best estimate for risk and expected return of asset, taking into account what is known about assets at time. Therefore, there will be no undervalued assets offering higher-than-expected returns or overvalued assets offering lower-than-expected returns. All assets will be appropriately priced in market, offering an optimal reward to risk. However, if markets were inefficient, investors would be better off trying to spot winners and losers. Correct identification of miss-priced assets will enhance the portfolio's overall performance.

Understanding of efficiency of emerging markets is becoming more critical as consequence of integration with more developed markets and free movement of investments across national boundaries. India is one of fastest growing emerging economies in world. At this transitional stage, it is necessary to assess level of efficiency of Indian equity market in order to establish its longer-term role in process of economic development.

The paper is divided into sections: section 2 is about Literature Review, section 3 is about Objective and Methodology, section 4 talks about Analysis and Interpretation, and section 5 concludes.

LITERATURE REVIEW

Fama (1970) presented a formal review of theory and evidence for market efficiency and revised it further based on research developments (Fama 1991). Fama attempted to organise growing empirical evidence on theory and presented efficient market theory regarding current market price, fully reflecting all available information and expected return based upon this price, which is consistent with its risk. Fama also divided market efficiency into three sub-hypotheses depending on the information set involved: (1) weak form efficiency, (2) semi-strong form efficiency and (3) strong form efficiency.

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Poshakwale (1996) showed that Indian stock market was weak and inefficient; he used daily BSE index data for period 1987 to 1994. Hiremath & Kamaiah (2010) find that Indian stock markets are weak in efficiency but not always. Their tests showed that CNX Nifty Junior, CNX 500, CNX Bank Nifty, BSE 500, BSE Midcap and BSE Small cap reject random walk hypothesis, and return series are characterised by presence of linear dependencies.

Patrick, A. & Sushama, R. (2011) have compared weak form of NSE and NYSE efficiency and presented evidence of efficient form of NSE and inefficient form of NYSE. From autocorrelation analysis and runs test, it was concluded that series of stock indices of NSE is an unbiased random time series. In contrast, stock indices of NYSE are biased random time series.

More recently, R. Rajesh Ram Kumar (2012) analysed market efficiency of sectoral indices of BSE, India and found that returns of 8 indices out of 12 Indices, namely, BSE Automobile Index, BSE Bankex, BSE Capital Goods Index, BSE Consumer Durables Index, BSE Health Care Index, BSE Metal Index, BSE PSU Index, and BSE Realty Index followed normal distribution and earned better return at 5 per cent significant level.

OBJECTIVES AND METHODOLOGY

Objective:

This study aims to rigorously examine the efficiency of the Indian equity markets under the Efficient Market Hypothesis (EMH) framework, precisely its weak form. The weak form efficiency, the random walk theory, posits that asset prices fully incorporate all past market information, such as historical prices and volumes. To this end, the study seeks to:

1. Assess the presence of weak form efficiency in the Indian equity markets.
2. Evaluate the weak form efficiency across various sectoral indices of the National Stock Exchange (NSE).

Hypotheses:

To test the weak form efficiency, the following hypotheses are established:

- Null hypothesis (H0): Stock price changes are random, implying weak form efficiency.
- Alternative hypothesis (H1): Stock price changes are not random, suggesting inefficiency.

Data:

The study analyses Daily Index Returns from January 2, 2001, to December 30, 2014. The dataset comprises 2744 observations and focuses on log returns (continuously compounding returns), calculated using the formula:

$$r \approx \log(1+R_t)=\log(P_t-1P_t)$$

Data for this analysis is sourced from the Nifty and six major sectoral indices: Nifty Junior, Pharma, MNC, IT, Bank, and FMCG, as listed on the National Stock Exchange of India (www.nseindia.com). The software Eviews 7 is utilised to conduct the empirical analyses.

Methodology:

Stationarity Tests:

Unit Root Test - The study employs the Augmented Dickey-Fuller (ADF) test to evaluate the presence of unit roots in the time series data of the stock market indices. This involves an autoregressive model and subsequent regression of the first differences of the time series on its lagged value to test the null hypothesis that the series contains a unit root (is nonstationary).

The model equation is: $\Delta Y_t=\gamma 0+\gamma_1 Y_t-1+\beta\sum\Delta Y_t-i+\varepsilon t$ Where:

- $\Delta\Delta$ denotes the first difference operator.
- $\gamma 0,\gamma 1,\beta\gamma 0,\gamma 1,\beta$ are coefficients to be estimated.
- $YtYt$ is the non-stationary time series.
- $\varepsilon t\varepsilon t$ is the error term at time t.

The tau statistic obtained from this test is compared against critical values derived from Dickey and Fuller's Monte Carlo simulations. Rejection of the null hypothesis occurs if the test statistic is significantly harmful.

The Durbin-Watson (DW) statistic is also calculated to address the potential autocorrelation issue. A DW statistic approximately equal to 2 signals no autocorrelation, validating the reliability of the test results.

Autocorrelation Analysis:

Autocorrelation, often called serial correlation, measures the degree to which current values in a time series are related to their historical values, separated by a specific interval or lag. This statistical phenomenon is particularly relevant in the context of time-ordered data, where it measures the internal relatedness within the sequence of observations.

In financial time series analysis, autocorrelation is instrumental in assessing the randomness of variables within return series, hence offering insights into the market's efficiency. For a market adhering to the principles of the Efficient Market Hypothesis, especially in its weak form, the expectation is that the series of price changes would not exhibit significant autocorrelation; the past movements or trends would bear no predictive power over future price changes.

To detect and quantify autocorrelation within the study's scope, the Autocorrelation Function (ACF) and correlograms are utilised. These tools facilitate the examination of correlation coefficients across various time lags (in this case, 1 to 16 days) to ascertain whether they statistically deviate from zero. Non-zero autocorrelations would suggest patterns or trends in stock prices, contrary to the random walk theory.

To refine the analysis, the study employs the Ljung-Box statistic, a comprehensive measure to test the overall significance of autocorrelations up to a given lag, and the Durbin-Watson statistic, which assesses the presence of first-order autocorrelation. These statistical methods aim to provide a robust test of the null hypothesis, which posits that the observed series is purely random, exhibiting zero autocorrelation.

Autocorrelation Function Assessment:

The autocorrelation function (ACF) test is a fundamental analytical tool to ascertain the correlation between present and past values within a time series. When applied to a stock return series, it evaluates whether the sequence of returns is influenced by its past values. This phenomenon would imply a deviation from the theoretical randomness expected in an efficient market.

The ACF test gauges the linear relationship between time-series observations separated by k periods (lag k). Each autocorrelation coefficient quantifies the extent to which current observations are related to past observations within the time series.

To calculate an autocorrelation coefficient at lag k, the following formula is employed, which is derived from the ordinary Pearson correlation coefficient 'r':

$$r_k = \frac{\sum_{t=k+1}^{n}(Y_t - \bar{Y})(Y_{t-k} - \bar{Y})}{\sum_{t=1}^{n}(Y_t - Y)^2}$$

Where:

- wor$_k$ is the autocorrelation coefficient at lag k,
- Y_tY_t is the value of the time series at time t,
- $\bar{Y}$ Is the mean of the time series, and
- n is the number of observations in the time series.

The test involves computing work for different values of k to identify if the series displays significant autocorrelation at any lag. In financial markets, the absence of significant autocorrelation at any lag supports the weak form of the Efficient Market Hypothesis, indicating that past prices do not provide helpful information for predicting future prices. Conversely, significant autocorrelation may suggest the presence of patterns or trends that could potentially be exploited for prediction or gain, thereby challenging the notion of market efficiency. The correlogram, a graphical representation that plots the autocorrelation coefficients (rkrk) against the lag number (k), provides a visual insight into the temporal dependence structure of a time series. This plot can reveal the rate at which the autocorrelations decrease as the lag increases, which is particularly useful for identifying the presence of a unit root in the series.

For a time series with a unit root, the autocorrelation function (ACF) will typically start at one and decay slowly, indicating a high level of persistence in the series. The partial autocorrelation function (PACF), on the other hand, will show a spike at lag 1 (and at lag two if there are two unit roots) and cut off to zero afterwards.

The serial correlation matrices are another tool that measures the correlation between price changes in consecutive periods. A serial correlation of zero implies that consecutive price changes are independent, supporting the weak-form Efficient Market Hypothesis (EMH). Conversely, a significant positive serial correlation may suggest momentum in the market, contradicting the EMH.

The Runs test, also known as the Geary test for randomness, is a non-parametric test that assesses the randomness of a sequence by comparing the number of observed runs (a sequence of positive or negative returns) to the number expected in a random sequence. This test is robust as it does not require the data to be normally distributed or have constant variance.

A run is a sequence of increasing or decreasing values, and the Runs test evaluates whether the sequence contains too many or too few runs compared to what would be expected in a random process. The null hypothesis of the Runs test is that the series is random.

The test statistic ZZ is calculated as follows:

$$Z = \frac{R - E(R)}{V(R)}$$

Where:

- RR is the observed number of runs,
- E(R)E® is the expected number of runs under the null hypothesis,
- V(R)V(R) is the variance of the number of runs.

The expected number of runs, E(R)E(R), can be calculated using the formula:

$$E(R) = 1 + \frac{2N_1N_2}{N_1+N_2}$$

N1N1 and N2N2 are the numbers of positive and negative changes in the time series, respectively.

If the observed number of runs significantly differs from the expected number, the null hypothesis of randomness is rejected. A negative ZZ-value suggests a clustering of returns (positive autocorrelation), while a positive ZZ-value indicates over-dispersion (negative autocorrelation). Thus, the Runs test provides an additional measure to validate or refute the random walk model in the context of market efficiency analysis.

The formula for the expected number of runs under complete randomness is typically given by the following equation:

In this equation:

$$E(R) = \frac{2n_an_b}{n_a+n_b} + 1$$

.........Equ. 4

- nn is the total number of observations in the series.
- nana represents the number of observations above the mean or median.
- nbnb represents the number of observations below the mean or median.
- To evaluate the variance of the number of runs, you would use the formula:

$$V(R) = \frac{2n_an_b(2n_an_b-n)}{(n_a+n_b)^2(n_a+n_b-1)}$$

.........Equ. 5

With these, the standardised test statistic (Z-statistic) that follows the standard normal distribution asymptotically can be calculated by:

Where:

• RR is the observed number of runs.
• E(R)E® is the expected number of runs (from Equation 4).
• V(R)V® is the variance of the number of runs (from Equation 5).

When the absolute value of the Z-statistic is enormous (usually taken as larger than 1.96 or smaller than -1.96 at a 5% significance level), the null hypothesis that the sequence of observations is random (i.e., no autocorrelation) is rejected. A sizeable positive Z-value indicates that the sequence has fewer runs than expected (positive autocorrelation), whereas a sizeable negative Z-value indicates more runs than expected (negative autocorrelation).

Analysis and Interpretations

Descriptive Statistics

Table 1 presents the descriptive statistics for the indices. Notably, kurtosis values suggest that the distribution of returns for all selected indices deviates from a normal distribution. Specifically, the data show leptokurtosis, indicating a "peakedness" higher than a normal distribution, and negative skewness, meaning the tail on the left side of the probability density function is longer or fatter than the right.

Stationarity and Unit Root Tests

The Augmented Dickey-Fuller (ADF) test results in Table 2 confirm that the null hypothesis of a unit root (nonstationarity) in the returns of the selected indices can be rejected. This implies that the time series for each index is stationary. The significance is evidenced by the test statistics being more negative than the critical values for all indices under study.

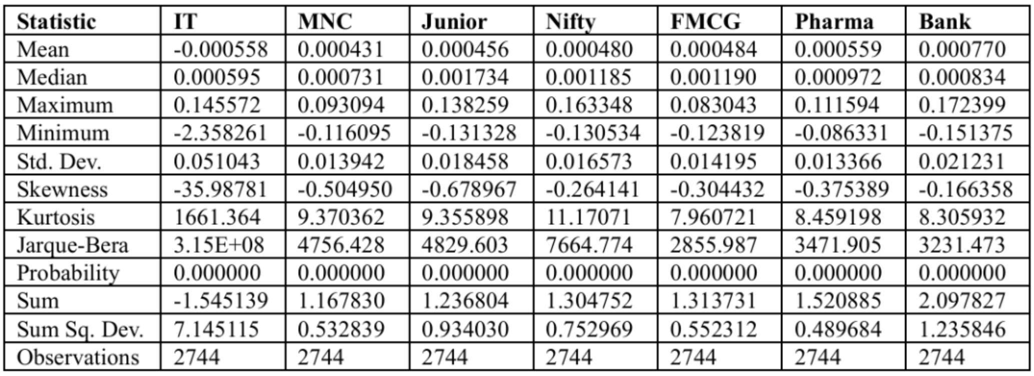
Autocorrelation Analysis

The examination of ACF correlograms and the Ljung-Box (LQ) statistic, detailed in Table 3, reveal zero probability for the series to be non-stationary or random. This supports the acceptance of the alternative hypothesis that the series is stationary with the presence of serial correlations.

Runs Test for Randomness

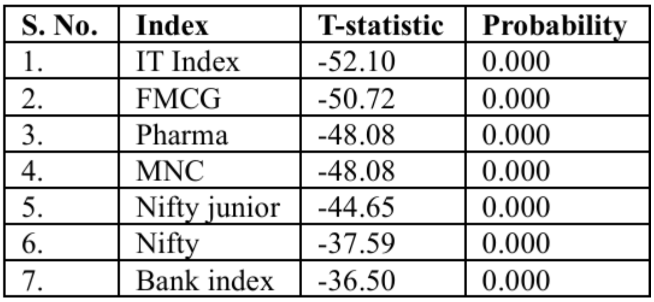
According to the runs test for randomness results shown in Table 4, we reject the null hypothesis of randomness in the return series for all the indices except for the IT index. This suggests a pattern or trend in the data that deviates from randomness. However, when analysing individual years in Table 5, it appears that in 2001 and 2005, the NIFTY exhibited a random walk, implying efficiency in those years. Conversely, during other years, the index showed signs of nonrandomness, pointing to inefficiencies within the market.

Table 1: Descriptive Statistics of Selected Market Indices



Statistic	IT	MNC	Junior	Nifty	FMCG	Pharma	Bank
Mean	-0.000558	0.000431	0.000456	0.000480	0.000484	0.000559	0.000770
Median	0.000595	0.000731	0.001734	0.001185	0.001190	0.000972	0.000834
Maximum	0.145572	0.093094	0.138259	0.163348	0.083043	0.111594	0.172399
Minimum	-2.358261	-0.116095	-0.131328	-0.130534	-0.123819	-0.086331	-0.151375
Std. Dev.	0.051043	0.013942	0.018458	0.016573	0.014195	0.013366	0.021231
Skewness	-35.98781	-0.504950	-0.678967	-0.264141	-0.304432	-0.375389	-0.166358
Kurtosis	1661.364	9.370362	9.355898	11.17071	7.960721	8.459198	8.305932
Jarque-Bera	3.15E+08	4756.428	4829.603	7664.774	2855.987	3471.905	3231.473
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	-1.545139	1.167830	1.236804	1.304752	1.313731	1.520885	2.097827
Sum Sq. Dev.	7.145115	0.532839	0.934030	0.752969	0.552312	0.489684	1.235846
Observations	2744	2744	2744	2744	2744	2744	2744

Table 2: Augmented Dickey-Fuller Unit Root Test Results



S. No.	Index	T-statistic	Probability
1.	IT Index	-52.10	0.000
2.	FMCG	-50.72	0.000
3.	Pharma	-48.08	0.000
4.	MNC	-48.08	0.000
5.	Nifty junior	-44.65	0.000
6.	Nifty	-37.59	0.000
7.	Bank index	-36.50	0.000

Table 3: Autocorrelation Test Results for Nifty Index

Lag	Autocorrelation (AC)	Partial Autocorrelation (PAC)	Q-Statistic	Probability
1	0.075	0.075	15.520	0.000
2	-0.049	-0.055	22.019	0.000
3	-0.005	0.003	22.094	0.000
4	0.018	0.015	22.963	0.000
5	-0.012	-0.015	23.359	0.000
6	-0.053	-0.049	30.978	0.000
7	0.008	0.015	31.160	0.000
8	0.045	0.038	36.766	0.000
9	0.020	0.015	37.905	0.000
10	0.026	0.030	39.819	0.000
11	-0.010	-0.014	40.080	0.000
12	-0.008	-0.008	40.277	0.000
13	0.034	0.036	43.462	0.000
14	0.061	0.060	53.858	0.000
15	-0.007	-0.011	53.996	0.000
16	-0.000	0.008	53.996	0.000

Note: The "AC" and "PAC" values are rounded to three decimal places. The "Q-Statistic" and "Probability" values indicate significant autocorrelation at all considered lags, with p-values of 0.000 suggesting rejection of the null hypothesis that the Nifty time series is not stationary.

Lag	Autocorrelation (AC)	Partial Autocorrelation (PAC)	Q-Statistic	Probability
1	0.158	0.158	68.327	0.000
2	-0.018	-0.044	69.251	0.000
3	0.027	0.038	71.222	0.000
4	0.005	-0.007	71.286	0.000
5	-0.012	-0.010	71.674	0.000
6	-0.032	-0.030	74.441	0.000
7	0.006	0.016	74.539	0.000
8	0.032	0.028	77.446	0.000
9	0.050	0.044	84.387	0.000
10	0.052	0.039	91.870	0.000
11	0.005	-0.010	91.932	0.000
12	-0.007	-0.007	92.073	0.000
13	0.033	0.035	95.146	0.000
14	0.080	0.073	112.650	0.000
15	0.012	-0.006	113.080	0.000
16	0.023	0.028	114.520	0.000

Note: The "AC" and "PAC" values are rounded to three decimal places. The "Q-Statistic" and "Probability" values indicate significant autocorrelation at various lags. A probability of 0.000 suggests rejecting the null hypothesis, indicating that the Nifty Junior time series is stationary.

Table 4: Autocorrelation Test Results for Nifty Pharma

Lag	Autocorrelation (AC)	Partial Autocorrelation (PAC)	Q-Statistic	Probability
1	0.085	0.085	20.030	0.000
2	0.009	0.001	20.236	0.000
3	0.021	0.020	21.457	0.000
4	0.018	0.015	22.396	0.000
5	-0.010	-0.013	22.691	0.000
6	-0.025	-0.024	24.467	0.000
7	0.001	0.004	24.469	0.001

8	0.003	0.003	24.501	0.002
9	0.017	0.018	25.266	0.003
10	0.024	0.022	26.802	0.003
11	-0.017	-0.022	27.588	0.004
12	-0.012	-0.010	27.990	0.006
13	0.070	0.071	41.377	0.000
14	0.028	0.017	43.596	0.000
15	-0.025	-0.028	45.368	0.000
16	-0.018	-0.015	46.235	0.000

The "AC" and "PAC" values indicate the autocorrelation at each lag for the Nifty Pharma index. The "Q-Statistic" and "Probability" columns suggest that there is significant autocorrelation at various lags, as indicated by the probability values being very low or 0.000, thus rejecting the null hypothesis of no autocorrelation and implying that the time series is stationary.

Table 5: Autocorrelation Test Results for Nifty FMCG

Lag	Autocorrelation (AC)	Partial Autocorrelation (PAC)	Q-Statistic	Probability
1	0.032	0.032	2.7878	0.095
2	-0.042	-0.043	7.7298	0.021
3	-0.023	-0.021	9.2442	0.026
4	0.017	0.017	10.082	0.039
5	-0.003	-0.006	10.113	0.072
6	-0.005	-0.003	10.169	0.118
7	-0.009	-0.009	10.412	0.166
8	-0.002	-0.002	10.424	0.237
9	0.030	0.030	12.962	0.164
10	0.027	0.025	14.952	0.134
11	-0.029	-0.028	17.246	0.101
12	-0.004	0.001	17.301	0.139
13	0.011	0.008	17.608	0.173
14	0.056	0.054	26.350	0.023
15	0.003	0.001	26.372	0.034
16	-0.034	-0.029	29.488	0.021

In this table, the AC and PAC values indicate the level of autocorrelation for the Nifty FMCG index at each given lag. The Q-Statistic represents the result of the Ljung-Box Q test, which tests the null hypothesis that the data is independently distributed. Probabilities less than the typical significance level of 0.05 suggest that we reject the null hypothesis of randomness at those lags, indicating a significant autocorrelation.

Table 6: Autocorrelation Test Results for Nifty IT

Lag	Autocorrelation (AC)	Partial Autocorrelation (PAC)	Q-Statistic	Probability
1	0.005	0.005	0.0673	0.795
2	-0.013	-0.013	0.5521	0.759
3	-0.011	-0.011	0.9137	0.822
4	-0.012	-0.012	1.3191	0.858
5	-0.004	-0.004	1.3679	0.928
6	0.002	0.001	1.3742	0.967
7	-0.006	-0.007	1.4805	0.983
8	-0.032	-0.033	4.3674	0.823
9	0.044	0.044	9.6311	0.381
10	0.027	0.025	11.611	0.312
11	0.013	0.013	12.073	0.358

12	-0.013	-0.013	12.559	0.402
13	0.011	0.013	12.868	0.458
14	0.012	0.013	13.274	0.505
15	-0.005	-0.006	13.355	0.575
16	-0.008	-0.008	13.514	0.635

This table presents the autocorrelation and partial autocorrelation coefficients for the Nifty IT index at different lags. The Q-Statistic is from the Ljung-Box Q test and measures whether the autocorrelations up to that lag are significantly different from zero. Probabilities above 0.05 typically indicate that the null hypothesis of no autocorrelation cannot be rejected at the 95% confidence level. For Nifty IT, none of the lags have a probability value below 0.05, suggesting that the time series generally lacks significant autocorrelation at all tested lags, consistent with a stationary process according to this test.

Table 7: Autocorrelation Test Results for MNC

Lag	Autocorrelation (AC)	Partial Autocorrelation (PAC)	Q-Statistic	Probability
1	0.087	0.087	20.987	0.000
2	-0.025	-0.033	22.730	0.000
3	0.007	0.013	22.881	0.000
4	-0.010	-0.013	23.175	0.000
5	0.005	0.008	23.240	0.000
6	-0.023	-0.025	24.635	0.000
7	-0.009	-0.004	24.860	0.001
8	0.033	0.032	27.772	0.001
9	0.026	0.021	29.640	0.001
10	0.007	0.004	29.767	0.001
11	-0.005	-0.005	29.826	0.002
12	0.012	0.013	30.219	0.003
13	0.046	0.044	36.050	0.001
14	0.061	0.056	46.334	0.000
15	0.008	0.002	46.523	0.000
16	-0.004	-0.003	46.574	0.000

This table presents the autocorrelation and partial autocorrelation coefficients for the MNC index at different lags. The Q-Statistic is from the Ljung-Box Q test, which tests whether there is significant evidence for non-zero autocorrelations at lag k (for k=1,2,...,16 in this case). We reject the null hypothesis that no autocorrelation is present with all probability (Prob) values at or very close to zero. This indicates that there are autocorrelations at different lags significantly different from zero, implying that past values correlate statistically with future values in this time series.

Table 8: Run Test for Randomness for Nifty and Sectoral Indices

Index	Test Value	Cases < Test Value	Cases >= Test Value	Total Cases	Number of Runs	Z-Value	Asymp. Sig. (2-tailed)
Nifty	0.0004754910	1312	1432	2744	1294	-2.922	0.003
Junior	0.0004507284	1273	1471	2744	1192	-6.674	0.000
IT	-0.0005630991	1293	1451	2744	1331	-1.435	0.151
Bank	0.0007645124	1365	1379	2744	1284	-3.397	0.001
Pharma	0.0005542565	1327	1417	2744	1270	-3.881	0.000
FMCG	0.0004787630	1370	1374	2744	1302	-2.711	0.007
MNC	0.0004255922	1333	1411	2744	1291	-3.092	0.002

Explanation:

The Runs Test for Randomness is a non-parametric test to decide if a random process generates a data series. The null hypothesis for this test is that the data are random.

- **Test Value:** A predetermined constant used for classification purposes.
- **Cases < Test Value:** The number of observations below the test value.
- **Cases >= Test Value:** The number of observations at or above the test value.
- **Total Cases:** The total number of observations.
- **Number of Runs:** A 'run' is a sequence of consecutive items above or all below the median. This column represents the count of such sequences.
- **Z-Value:** The Runs Test test statistic follows a standard normal distribution under the null hypothesis.
- **Asymp. Sig. (2-tailed):** The p-value corresponding to the test statistic. A low p-value (typically ≤ 0.05) indicates that you can reject the null hypothesis.

Interpretation:

- **Nifty, Bank, Pharma, FMCG, and MNC:** The Asymp. Sig. (2-tailed) values are less than 0.05, indicating that the null hypothesis of randomness can be rejected. This suggests that these series are not random and, thus, may not support the notion of efficient capital markets.
- **Junior:** With a very low Asymp. Sig. (2-tailed) value (0.000) firmly rejects the null hypothesis of randomness, indicating that this index series is likely not random.
- **IT:** The Asymp. Sig. (2-tailed) value is more significant than 0.05, indicating that the null hypothesis of randomness cannot be rejected. Therefore, this series could be considered random, which aligns with the notion of efficient capital markets for this particular index.

This table implies that except for the IT index, all other indices show patterns inconsistent with randomness, suggesting some predictability in their price movements, which would be considered an anomaly in efficient capital markets.

Table 9: Annual Run Test for Randomness Results for Nifty Index

Nifty Year	Cases < Test Value	Cases >= Test Value	Total Cases	Number of Runs	Z	Asymp. Sig. (2-tailed)
2001	123	124	247	105	-2.49	0.013
2002	121	130	251	114	-1.56	0.118
2003	118	136	254	115	-1.56	0.118
2004	118	136	254	127	-0.05	0.963
2005	121	130	251	111	-1.94	0.052
2006	110	140	250	113	-1.44	0.150
2007	129	120	249	121	-0.55	0.581
2008	118	128	246	118	-0.74	0.458
2009	128	115	243	129	0.88	0.377
2010	116	136	252	135	1.12	0.264
2011	131	116	247	116	-1.03	0.303
2012	127	120	247	122	-0.85	0.395
2013	125	122	247	118	-0.65	0.515
2014	132	115	247	113	-1.25	0.211

Conclusion

The results derived from the run tests provide a compelling narrative about the state of the Indian stock market, echoing a sentiment often associated with emerging economies' markets – that of inefficiency in the weak form. This inefficiency contrasts with developed markets, where information is rapidly absorbed and reflected in stock prices, supporting the efficient market hypothesis. For investors, the implication of such a market characteristic is significant. The usual strategy of investing in index funds, predicated on the belief that it is impossible to outperform the market consistently, may not hold water in the Indian context. The inefficiency observed suggests that unexploited opportunities could exist for those willing to engage in more active and potentially more sophisticated investment strategies. These opportunities could arise from various inefficiencies, such as delayed dissemination of information, slower reaction times of market participants, or periodic mispricing of securities.

The results also indicate an essential role for Indian market regulators and policymakers. There is a clear indication that efforts need to be ramped up to bolster the market's efficiency. This can be achieved through various measures, such as ensuring greater transparency, enforcing stringent disclosure requirements, and improving the overall regulatory framework to prevent manipulation and promote fair trading practices. By enhancing the efficiency of the market, not only is the market's integrity upheld, but it also becomes more attractive to both domestic and international investors. Furthermore, there is a direct link between financial market development and economic growth. Efficient capital markets lead to optimal allocation of resources, which in turn drives productivity and growth. As such, the Indian market's inefficiency presents a challenge and an opportunity for economic progress. Policymakers can indirectly stimulate broader economic development by focusing on creating a more efficient market environment.

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